ATTACHMENT I

TEST AMERICA ANALYTICAL RESULTS FOR SEDIMENT

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 200-27452-2

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
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4/15/2015 9:59 AM

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 200-27452-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/08/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.0 C.

GEOTECHNICAL

The following samples are not amenable to Liquid Limits, Plastic Limits, and Plasticity Index determination due to the physical properties of the samples: TS-2ST-SED (200-27452-3), TS-2MT-SED (200-27452-4) and TS-2NT-SED (200-27452-5). Values of zero, zero, and NP have been reported respectively for each determination.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 200-27452-2

Client Sample ID: WBREF-B-SED — Lab Sample ID: 200-27452-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	LEAN-CLAY-W-SAND				NONE	1		D2487	Total/NA
Group Symbol	CL				NONE	1		D2487	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	21.2				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	0.0				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	0.5				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	20.7				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	57.0				%	1		D422	Total/NA
Clay	21.8				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	99.7				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	99.5				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	99.0				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	98.3				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	97.3				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	78.8				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	38.8				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	30.3				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	28.2				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	23.9				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	21.8				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	18.1				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	16.0				% Passing	1		D422	Total/NA
Liquid Limit	31				NONE	1		D4318	Total/NA
Plastic Limit	21				NONE	1		D4318	Total/NA
Plasticity Index	9				NONE	1		D4318	Total/NA

Client Sample ID: TS-1-SED — Lab Sample ID: 200-27452-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	SI-SAND				NONE	1		D2487	Total/NA
Group Symbol	SM				NONE	1		D2487	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	60.0				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	2.5				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	12.1				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	45.4				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-1-SED (Continued)

Lab Sample ID: 200-27452-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silt	27.6				%	1		D422	Total/NA
Clay	12.4				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	97.5				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	93.8				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	85.4				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	74.0				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	68.3				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	65.1				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	40.0				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	24.4				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	18.4				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	16.4				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	14.4				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	12.4				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	10				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	9.0				% Passing	1		D422	Total/NA
Liquid Limit	22				NONE	1		D4318	Total/NA
Plastic Limit	21				NONE	1		D4318	Total/NA
Plasticity Index	1				NONE	1		D4318	Total/NA

Client Sample ID: TS-2ST-SED

Lab Sample ID: 200-27452-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	PG-SAND-W -SILT				NONE	1		D2487	Total/NA
Group Symbol	SP-SM				NONE	1		D2487	Total/NA
Gravel	5.5				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	87.9				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	7.5				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	47.3				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	33.1				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	2.9				%	1		D422	Total/NA
Clay	3.7				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	94.5				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	87.0				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	70.9				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	39.7				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	15.8				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	11.0				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	9.3				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	6.6				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	6.1				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	5.5				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	4.9				% Passing	1		D422	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-2ST-SED (Continued) — Lab Sample ID: 200-27452-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hydrometer Reading 4 - Percent Finer	4.3				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	3.7				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	3.3				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	3.0				% Passing	1		D422	Total/NA
Liquid Limit	0				NONE	1		D4318	Total/NA
Plastic Limit	0				NONE	1		D4318	Total/NA
Plasticity Index	NP				NONE	1		D4318	Total/NA

Client Sample ID: TS-2MT-SED — Lab Sample ID: 200-27452-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	PG-SAND-W-SILT				NONE	1		D2487	Total/NA
Group Symbol	SP-SM				NONE	1		D2487	Total/NA
Gravel	5.2				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	89.1				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	5.7				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	28.4				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	55.0				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	96.4				% Passing	1		D422	Total/NA
Silt	3.1				%	1		D422	Total/NA
Clay	2.7				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	94.8				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	89.1				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	79.6				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	60.7				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	20.1				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	11.9				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	9.3				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	5.7				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	4.6				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	4.0				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	3.5				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	3.2				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	2.7				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	2.2				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	2.2				% Passing	1		D422	Total/NA
Liquid Limit	0				NONE	1		D4318	Total/NA
Plastic Limit	0				NONE	1		D4318	Total/NA
Plasticity Index	NP				NONE	1		D4318	Total/NA

Client Sample ID: TS-2NT-SED — Lab Sample ID: 200-27452-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	WG-SAND-W-SILT				NONE	1		D2487	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-2NT-SED (Continued)

Lab Sample ID: 200-27452-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Symbol	SW-SM				NONE	1		D2487	Total/NA
Gravel	3.8				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	89.5				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	6.1				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	43.2				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	40.2				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	99.0				% Passing	1		D422	Total/NA
Silt	3.8				%	1		D422	Total/NA
Clay	2.9				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	96.2				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	90.1				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	74.3				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	46.9				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	18.9				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	15.6				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	12.9				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	6.7				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	5.1				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	4.0				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	3.5				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	3.2				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	2.9				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	2.5				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	2.2				% Passing	1		D422	Total/NA
Liquid Limit	0				NONE	1		D4318	Total/NA
Plastic Limit	0				NONE	1		D4318	Total/NA
Plasticity Index	NP				NONE	1		D4318	Total/NA

Client Sample ID: TS-3ST-SED

Lab Sample ID: 200-27452-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	SI-SAND				NONE	1		D2487	Total/NA
Group Symbol	SM				NONE	1		D2487	Total/NA
Gravel	2.0				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	66.6				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	2.4				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	7.8				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	56.4				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	17.8				%	1		D422	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-3ST-SED (Continued)

Lab Sample ID: 200-27452-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Clay	13.6				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	98.0				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	95.6				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	92.2				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	87.8				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	81.9				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	72.0				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	61.3				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	31.4				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	26.6				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	20.1				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	18.2				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	17.3				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	13.6				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	11.2				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	9.1				% Passing	1		D422	Total/NA
Liquid Limit	26				NONE	1		D4318	Total/NA
Plastic Limit	23				NONE	1		D4318	Total/NA
Plasticity Index	2				NONE	1		D4318	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: WBREF-B-SED

Lab Sample ID: 200-27452-1

Date Collected: 04/06/15 11:00

Matrix: Sediment

Date Received: 04/08/15 10:00

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	LEAN-CLAY -W-SAND				NONE			04/08/15 16:15	1
Group Symbol	CL				NONE			04/08/15 16:15	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			04/08/15 15:09	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/08/15 15:09	1
Sand	21.2				%			04/08/15 15:09	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/08/15 15:09	1
Coarse Sand	0.0				%			04/08/15 15:09	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/08/15 15:09	1
Medium Sand	0.5				%			04/08/15 15:09	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/08/15 15:09	1
Fine Sand	20.7				%			04/08/15 15:09	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/08/15 15:09	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/08/15 15:09	1
Silt	57.0				%			04/08/15 15:09	1
Clay	21.8				%			04/08/15 15:09	1
Sieve Size #4 - Percent Finer	100.0				% Passing			04/08/15 15:09	1
Sieve Size #10 - Percent Finer	100.0				% Passing			04/08/15 15:09	1
Sieve Size #20 - Percent Finer	99.7				% Passing			04/08/15 15:09	1
Sieve Size #40 - Percent Finer	99.5				% Passing			04/08/15 15:09	1
Sieve Size #60 - Percent Finer	99.0				% Passing			04/08/15 15:09	1
Sieve Size #80 - Percent Finer	98.3				% Passing			04/08/15 15:09	1
Sieve Size #100 - Percent Finer	97.3				% Passing			04/08/15 15:09	1
Sieve Size #200 - Percent Finer	78.8				% Passing			04/08/15 15:09	1
Hydrometer Reading 1 - Percent Finer	38.8				% Passing			04/08/15 15:09	1
Hydrometer Reading 2 - Percent Finer	30.3				% Passing			04/08/15 15:09	1
Hydrometer Reading 3 - Percent Finer	28.2				% Passing			04/08/15 15:09	1
Hydrometer Reading 4 - Percent Finer	23.9				% Passing			04/08/15 15:09	1
Hydrometer Reading 5 - Percent Finer	21.8				% Passing			04/08/15 15:09	1
Hydrometer Reading 6 - Percent Finer	18.1				% Passing			04/08/15 15:09	1
Hydrometer Reading 7 - Percent Finer	16.0				% Passing			04/08/15 15:09	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	31				NONE			04/08/15 16:14	1
Plastic Limit	21				NONE			04/08/15 16:14	1
Plasticity Index	9				NONE			04/08/15 16:14	1

Client Sample ID: TS-1-SED

Date Collected: 04/06/15 14:00
Date Received: 04/08/15 10:00

Lab Sample ID: 200-27452-2

Matrix: Sediment

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	SI-SAND				NONE			04/08/15 16:15	1
Group Symbol	SM				NONE			04/08/15 16:15	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			04/08/15 15:16	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/08/15 15:16	1
Sand	60.0				%			04/08/15 15:16	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/08/15 15:16	1
Coarse Sand	2.5				%			04/08/15 15:16	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/08/15 15:16	1
Medium Sand	12.1				%			04/08/15 15:16	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/08/15 15:16	1
Fine Sand	45.4				%			04/08/15 15:16	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/08/15 15:16	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/08/15 15:16	1
Silt	27.6				%			04/08/15 15:16	1
Clay	12.4				%			04/08/15 15:16	1
Sieve Size #4 - Percent Finer	100.0				% Passing			04/08/15 15:16	1
Sieve Size #10 - Percent Finer	97.5				% Passing			04/08/15 15:16	1
Sieve Size #20 - Percent Finer	93.8				% Passing			04/08/15 15:16	1
Sieve Size #40 - Percent Finer	85.4				% Passing			04/08/15 15:16	1
Sieve Size #60 - Percent Finer	74.0				% Passing			04/08/15 15:16	1
Sieve Size #80 - Percent Finer	68.3				% Passing			04/08/15 15:16	1
Sieve Size #100 - Percent Finer	65.1				% Passing			04/08/15 15:16	1
Sieve Size #200 - Percent Finer	40.0				% Passing			04/08/15 15:16	1
Hydrometer Reading 1 - Percent Finer	24.4				% Passing			04/08/15 15:16	1
Hydrometer Reading 2 - Percent Finer	18.4				% Passing			04/08/15 15:16	1
Hydrometer Reading 3 - Percent Finer	16.4				% Passing			04/08/15 15:16	1
Hydrometer Reading 4 - Percent Finer	14.4				% Passing			04/08/15 15:16	1
Hydrometer Reading 5 - Percent Finer	12.4				% Passing			04/08/15 15:16	1
Hydrometer Reading 6 - Percent Finer	10				% Passing			04/08/15 15:16	1
Hydrometer Reading 7 - Percent Finer	9.0				% Passing			04/08/15 15:16	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	22				NONE			04/08/15 16:14	1
Plastic Limit	21				NONE			04/08/15 16:14	1
Plasticity Index	1				NONE			04/08/15 16:14	1

Client Sample ID: TS-2ST-SED

Lab Sample ID: 200-27452-3

Date Collected: 04/06/15 16:00

Matrix: Sediment

Date Received: 04/08/15 10:00

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	PG-SAND-W-SILT				NONE			04/08/15 16:15	1
Group Symbol	SP-SM				NONE			04/08/15 16:15	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	5.5				%			04/08/15 15:18	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/08/15 15:18	1
Sand	87.9				%			04/08/15 15:18	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/08/15 15:18	1
Coarse Sand	7.5				%			04/08/15 15:18	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/08/15 15:18	1
Medium Sand	47.3				%			04/08/15 15:18	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/08/15 15:18	1
Fine Sand	33.1				%			04/08/15 15:18	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/08/15 15:18	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/08/15 15:18	1
Silt	2.9				%			04/08/15 15:18	1
Clay	3.7				%			04/08/15 15:18	1
Sieve Size #4 - Percent Finer	94.5				% Passing			04/08/15 15:18	1
Sieve Size #10 - Percent Finer	87.0				% Passing			04/08/15 15:18	1
Sieve Size #20 - Percent Finer	70.9				% Passing			04/08/15 15:18	1
Sieve Size #40 - Percent Finer	39.7				% Passing			04/08/15 15:18	1
Sieve Size #60 - Percent Finer	15.8				% Passing			04/08/15 15:18	1
Sieve Size #80 - Percent Finer	11.0				% Passing			04/08/15 15:18	1
Sieve Size #100 - Percent Finer	9.3				% Passing			04/08/15 15:18	1
Sieve Size #200 - Percent Finer	6.6				% Passing			04/08/15 15:18	1
Hydrometer Reading 1 - Percent Finer	6.1				% Passing			04/08/15 15:18	1
Hydrometer Reading 2 - Percent Finer	5.5				% Passing			04/08/15 15:18	1
Hydrometer Reading 3 - Percent Finer	4.9				% Passing			04/08/15 15:18	1
Hydrometer Reading 4 - Percent Finer	4.3				% Passing			04/08/15 15:18	1
Hydrometer Reading 5 - Percent Finer	3.7				% Passing			04/08/15 15:18	1
Hydrometer Reading 6 - Percent Finer	3.3				% Passing			04/08/15 15:18	1
Hydrometer Reading 7 - Percent Finer	3.0				% Passing			04/08/15 15:18	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	0				NONE			04/08/15 16:14	1
Plastic Limit	0				NONE			04/08/15 16:14	1
Plasticity Index	NP				NONE			04/08/15 16:14	1

Client Sample ID: TS-2MT-SED

Date Collected: 04/07/15 10:45
Date Received: 04/08/15 10:00

Lab Sample ID: 200-27452-4

Matrix: Sediment

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	PG-SAND-W-SILT				NONE			04/08/15 16:15	1
Group Symbol	SP-SM				NONE			04/08/15 16:15	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	5.2				%			04/08/15 15:20	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/08/15 15:20	1
Sand	89.1				%			04/08/15 15:20	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/08/15 15:20	1
Coarse Sand	5.7				%			04/08/15 15:20	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/08/15 15:20	1
Medium Sand	28.4				%			04/08/15 15:20	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/08/15 15:20	1
Fine Sand	55.0				%			04/08/15 15:20	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/08/15 15:20	1
Sieve Size 0.375 inch - Percent Finer	96.4				% Passing			04/08/15 15:20	1
Silt	3.1				%			04/08/15 15:20	1
Clay	2.7				%			04/08/15 15:20	1
Sieve Size #4 - Percent Finer	94.8				% Passing			04/08/15 15:20	1
Sieve Size #10 - Percent Finer	89.1				% Passing			04/08/15 15:20	1
Sieve Size #20 - Percent Finer	79.6				% Passing			04/08/15 15:20	1
Sieve Size #40 - Percent Finer	60.7				% Passing			04/08/15 15:20	1
Sieve Size #60 - Percent Finer	20.1				% Passing			04/08/15 15:20	1
Sieve Size #80 - Percent Finer	11.9				% Passing			04/08/15 15:20	1
Sieve Size #100 - Percent Finer	9.3				% Passing			04/08/15 15:20	1
Sieve Size #200 - Percent Finer	5.7				% Passing			04/08/15 15:20	1
Hydrometer Reading 1 - Percent Finer	4.6				% Passing			04/08/15 15:20	1
Hydrometer Reading 2 - Percent Finer	4.0				% Passing			04/08/15 15:20	1
Hydrometer Reading 3 - Percent Finer	3.5				% Passing			04/08/15 15:20	1
Hydrometer Reading 4 - Percent Finer	3.2				% Passing			04/08/15 15:20	1
Hydrometer Reading 5 - Percent Finer	2.7				% Passing			04/08/15 15:20	1
Hydrometer Reading 6 - Percent Finer	2.2				% Passing			04/08/15 15:20	1
Hydrometer Reading 7 - Percent Finer	2.2				% Passing			04/08/15 15:20	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	0				NONE			04/08/15 16:14	1
Plastic Limit	0				NONE			04/08/15 16:14	1
Plasticity Index	NP				NONE			04/08/15 16:14	1

Client Sample ID: TS-2NT-SED

Date Collected: 04/07/15 14:00
Date Received: 04/08/15 10:00

Lab Sample ID: 200-27452-5

Matrix: Sediment

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	WG-SAND-W-SILT				NONE			04/08/15 16:15	1
Group Symbol	SW-SM				NONE			04/08/15 16:15	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	3.8				%			04/08/15 15:22	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/08/15 15:22	1
Sand	89.5				%			04/08/15 15:22	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/08/15 15:22	1
Coarse Sand	6.1				%			04/08/15 15:22	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/08/15 15:22	1
Medium Sand	43.2				%			04/08/15 15:22	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/08/15 15:22	1
Fine Sand	40.2				%			04/08/15 15:22	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/08/15 15:22	1
Sieve Size 0.375 inch - Percent Finer	99.0				% Passing			04/08/15 15:22	1
Silt	3.8				%			04/08/15 15:22	1
Clay	2.9				%			04/08/15 15:22	1
Sieve Size #4 - Percent Finer	96.2				% Passing			04/08/15 15:22	1
Sieve Size #10 - Percent Finer	90.1				% Passing			04/08/15 15:22	1
Sieve Size #20 - Percent Finer	74.3				% Passing			04/08/15 15:22	1
Sieve Size #40 - Percent Finer	46.9				% Passing			04/08/15 15:22	1
Sieve Size #60 - Percent Finer	18.9				% Passing			04/08/15 15:22	1
Sieve Size #80 - Percent Finer	15.6				% Passing			04/08/15 15:22	1
Sieve Size #100 - Percent Finer	12.9				% Passing			04/08/15 15:22	1
Sieve Size #200 - Percent Finer	6.7				% Passing			04/08/15 15:22	1
Hydrometer Reading 1 - Percent Finer	5.1				% Passing			04/08/15 15:22	1
Hydrometer Reading 2 - Percent Finer	4.0				% Passing			04/08/15 15:22	1
Hydrometer Reading 3 - Percent Finer	3.5				% Passing			04/08/15 15:22	1
Hydrometer Reading 4 - Percent Finer	3.2				% Passing			04/08/15 15:22	1
Hydrometer Reading 5 - Percent Finer	2.9				% Passing			04/08/15 15:22	1
Hydrometer Reading 6 - Percent Finer	2.5				% Passing			04/08/15 15:22	1
Hydrometer Reading 7 - Percent Finer	2.2				% Passing			04/08/15 15:22	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	0				NONE			04/08/15 16:14	1
Plastic Limit	0				NONE			04/08/15 16:14	1
Plasticity Index	NP				NONE			04/08/15 16:14	1

Client Sample ID: TS-3ST-SED

Date Collected: 04/07/15 16:00
Date Received: 04/08/15 10:00

Lab Sample ID: 200-27452-6

Matrix: Sediment

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	SI-SAND				NONE			04/08/15 16:15	1
Group Symbol	SM				NONE			04/08/15 16:15	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	2.0				%			04/08/15 15:23	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/08/15 15:23	1
Sand	66.6				%			04/08/15 15:23	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/08/15 15:23	1
Coarse Sand	2.4				%			04/08/15 15:23	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/08/15 15:23	1
Medium Sand	7.8				%			04/08/15 15:23	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/08/15 15:23	1
Fine Sand	56.4				%			04/08/15 15:23	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/08/15 15:23	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/08/15 15:23	1
Silt	17.8				%			04/08/15 15:23	1
Clay	13.6				%			04/08/15 15:23	1
Sieve Size #4 - Percent Finer	98.0				% Passing			04/08/15 15:23	1
Sieve Size #10 - Percent Finer	95.6				% Passing			04/08/15 15:23	1
Sieve Size #20 - Percent Finer	92.2				% Passing			04/08/15 15:23	1
Sieve Size #40 - Percent Finer	87.8				% Passing			04/08/15 15:23	1
Sieve Size #60 - Percent Finer	81.9				% Passing			04/08/15 15:23	1
Sieve Size #80 - Percent Finer	72.0				% Passing			04/08/15 15:23	1
Sieve Size #100 - Percent Finer	61.3				% Passing			04/08/15 15:23	1
Sieve Size #200 - Percent Finer	31.4				% Passing			04/08/15 15:23	1
Hydrometer Reading 1 - Percent Finer	26.6				% Passing			04/08/15 15:23	1
Hydrometer Reading 2 - Percent Finer	20.1				% Passing			04/08/15 15:23	1
Hydrometer Reading 3 - Percent Finer	18.2				% Passing			04/08/15 15:23	1
Hydrometer Reading 4 - Percent Finer	17.3				% Passing			04/08/15 15:23	1
Hydrometer Reading 5 - Percent Finer	13.6				% Passing			04/08/15 15:23	1
Hydrometer Reading 6 - Percent Finer	11.2				% Passing			04/08/15 15:23	1
Hydrometer Reading 7 - Percent Finer	9.1				% Passing			04/08/15 15:23	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	26				NONE			04/08/15 16:14	1
Plastic Limit	23				NONE			04/08/15 16:14	1
Plasticity Index	2				NONE			04/08/15 16:14	1

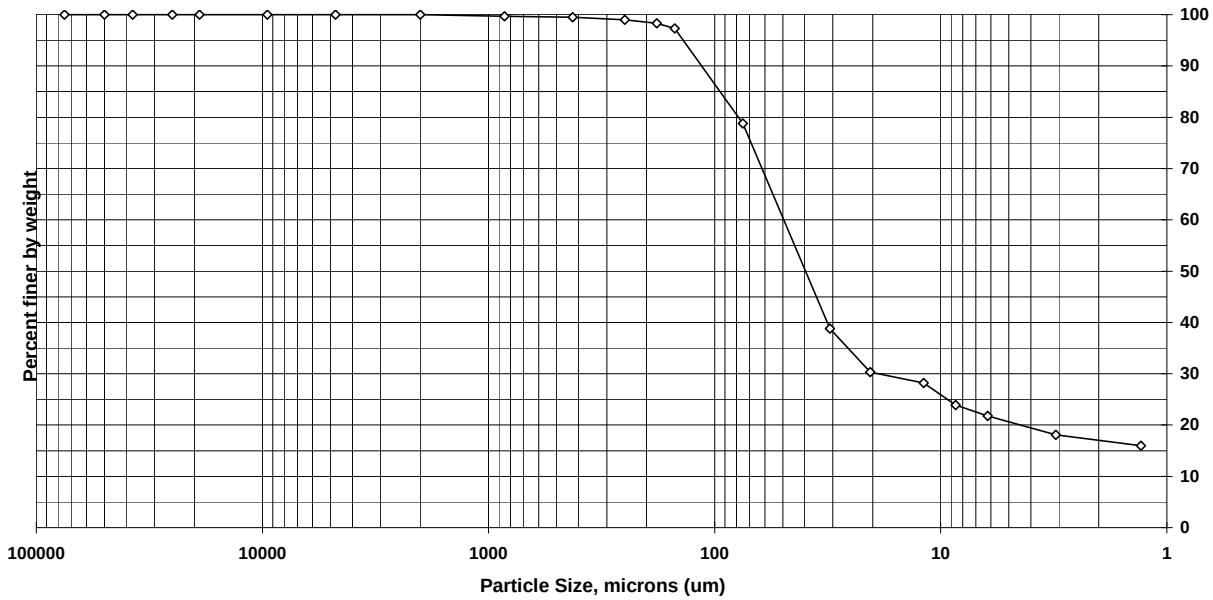
Particle Size of Soils by ASTM D422

				Date Received:	4/8/2015
Sample ID:	WBREF-B-SED	**Percent Solids:**	70.7%	**Start Date:**	4/8/2015
Lab ID:	200-27452-A-1	**Specific Gravity:**	2.650	**End Date:**	4/14/2015

Shape (> #10): na

Non-soil material: na

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.7	0.3
#40	425	99.5	0.2
#60	250	99.0	0.5
#80	180	98.3	0.7
#100	150	97.3	1.0
#200	75	78.8	18.5
Hyd1	30.9	38.8	40.0
Hyd2	20.5	30.3	8.5
Hyd3	11.9	28.2	2.1
Hyd4	8.6	23.9	4.3
Hyd5	6.2	21.8	2.1
Hyd6	3.1	18.1	3.7
Hyd7	1.3	16.0	2.1

Soil Classification	Percent of sample
Gravel	0.0
Sand	21.2
Coarse Sand	0.0
Medium Sand	0.5
Fine Sand	20.7
Silt	57.0
Clay	21.8

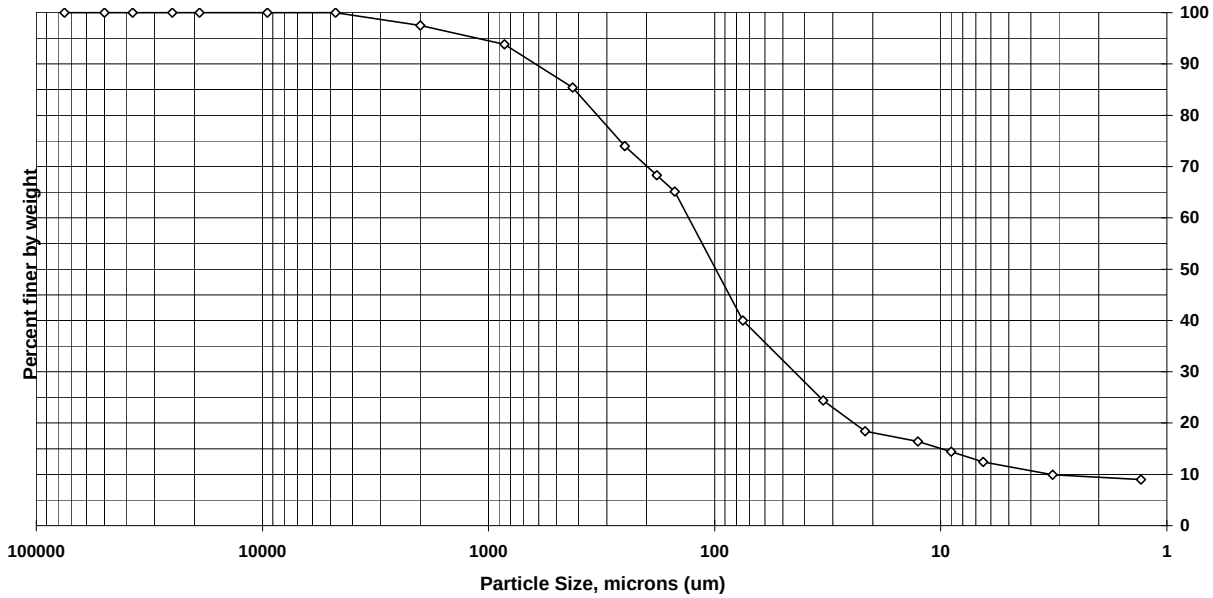
Particle Size of Soils by ASTM D422

				Date Received:	4/8/2015
Sample ID:	TS-1-SED	**Percent Solids:**	73.1%	**Start Date:**	4/8/2015
Lab ID:	200-27452-A-2	**Specific Gravity:**	2.650	**End Date:**	4/14/2015

Shape (> #10): subangular

Non-soil material: shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	97.5	2.5
#20	850	93.8	3.7
#40	425	85.4	8.4
#60	250	74.0	11.4
#80	180	68.3	5.7
#100	150	65.1	3.2
#200	75	40.0	25.1
Hyd1	33.1	24.4	15.6
Hyd2	21.6	18.4	6.0
Hyd3	12.6	16.4	2.0
Hyd4	9	14.4	2.0
Hyd5	6.5	12.4	2.0
Hyd6	3.2	10.0	2.5
Hyd7	1.3	9.0	1.0

Soil Classification	Percent of sample
Gravel	0.0
Sand	60.0
Coarse Sand	2.5
Medium Sand	12.1
Fine Sand	45.4
Silt	27.6
Clay	12.4

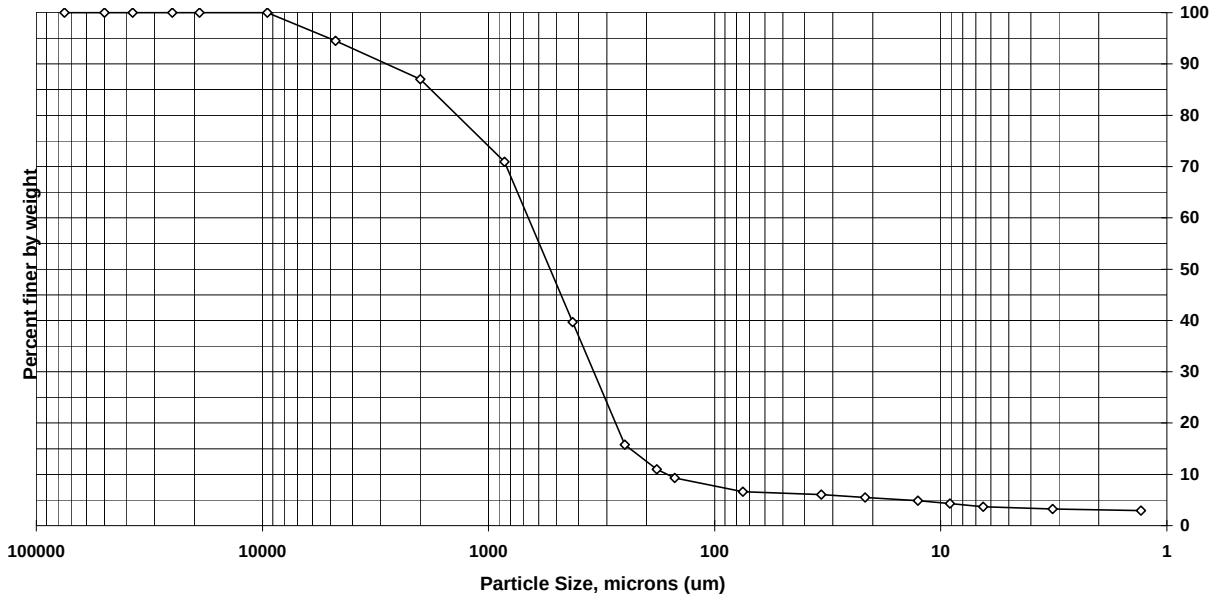
Particle Size of Soils by ASTM D422

				Date Received:	4/8/2015
Sample ID:	TS-2ST-SED	**Percent Solids:**	85.1%	**Start Date:**	4/8/2015
Lab ID:	200-27452-A-3	**Specific Gravity:**	2.650	**End Date:**	4/14/2015

Shape (> #10): subangular

Non-soil material: shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	94.5	5.5
#10	2000	87.0	7.5
#20	850	70.9	16.1
#40	425	39.7	31.2
#60	250	15.8	23.9
#80	180	11.0	4.8
#100	150	9.3	1.7
#200	75	6.6	2.7
Hyd1	33.8	6.1	0.5
Hyd2	21.6	5.5	0.6
Hyd3	12.6	4.9	0.6
Hyd4	9.1	4.3	0.6
Hyd5	6.5	3.7	0.6
Hyd6	3.2	3.3	0.4
Hyd7	1.3	3.0	0.3

Soil Classification	Percent of sample
Gravel	5.5
Sand	87.9
Coarse Sand	7.5
Medium Sand	47.3
Fine Sand	33.1
Silt	2.9
Clay	3.7

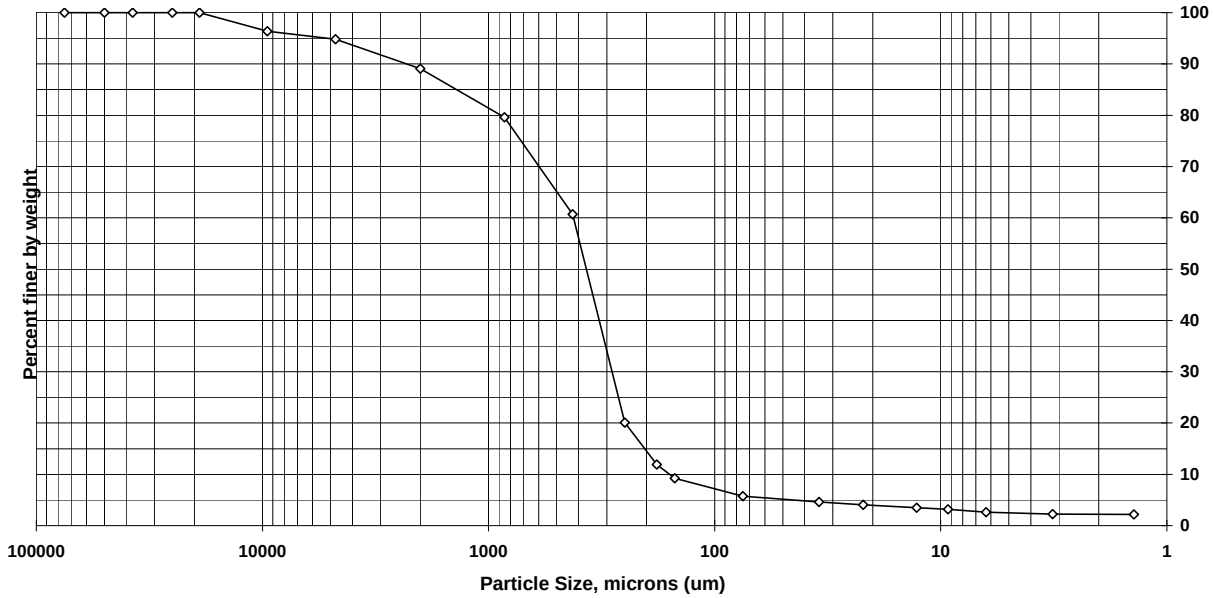
Particle Size of Soils by ASTM D422

				Date Received:	4/8/2015
Sample ID:	TS-2MT-SED	**Percent Solids:**	83.5%	**Start Date:**	4/8/2015
Lab ID:	200-27452-A-4	**Specific Gravity:**	2.650	**End Date:**	4/14/2015

Shape (> #10): subangular

Non-soil material: shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	96.4	3.6
#4	4750	94.8	1.6
#10	2000	89.1	5.7
#20	850	79.6	9.5
#40	425	60.7	18.9
#60	250	20.1	40.6
#80	180	11.9	8.2
#100	150	9.3	2.6
#200	75	5.7	3.5
Hyd1	34.5	4.6	1.1
Hyd2	22	4.0	0.6
Hyd3	12.8	3.5	0.6
Hyd4	9.3	3.2	0.3
Hyd5	6.3	2.7	0.6
Hyd6	3.2	2.2	0.4
Hyd7	1.4	2.2	0.1

Soil Classification	Percent of sample
Gravel	5.2
Sand	89.1
Coarse Sand	5.7
Medium Sand	28.4
Fine Sand	55.0
Silt	3.1
Clay	2.7

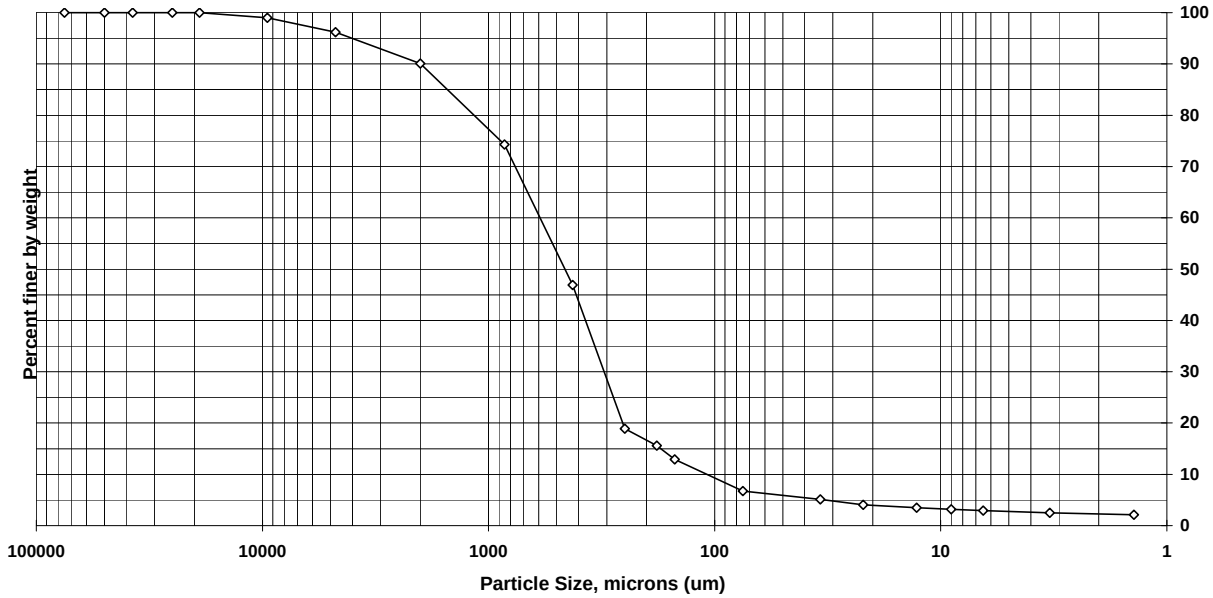
Particle Size of Soils by ASTM D422

				Date Received:	4/8/2015
Sample ID:	TS-2NT-SED	**Percent Solids:**	85.9%	**Start Date:**	4/8/2015
Lab ID:	200-27452-A-5	**Specific Gravity:**	2.650	**End Date:**	4/14/2015

Shape (> #10): subangular

Non-soil material: shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	99.0	1.0
#4	4750	96.2	2.8
#10	2000	90.1	6.1
#20	850	74.3	15.8
#40	425	46.9	27.4
#60	250	18.9	28.0
#80	180	15.6	3.3
#100	150	12.9	2.7
#200	75	6.7	6.2
Hyd1	34.1	5.1	1.6
Hyd2	22	4.0	1.1
Hyd3	12.8	3.5	0.6
Hyd4	9	3.2	0.3
Hyd5	6.5	2.9	0.3
Hyd6	3.3	2.5	0.4
Hyd7	1.4	2.2	0.3

Soil Classification	Percent of sample
Gravel	3.8
Sand	89.5
Coarse Sand	6.1
Medium Sand	43.2
Fine Sand	40.2
Silt	3.8
Clay	2.9

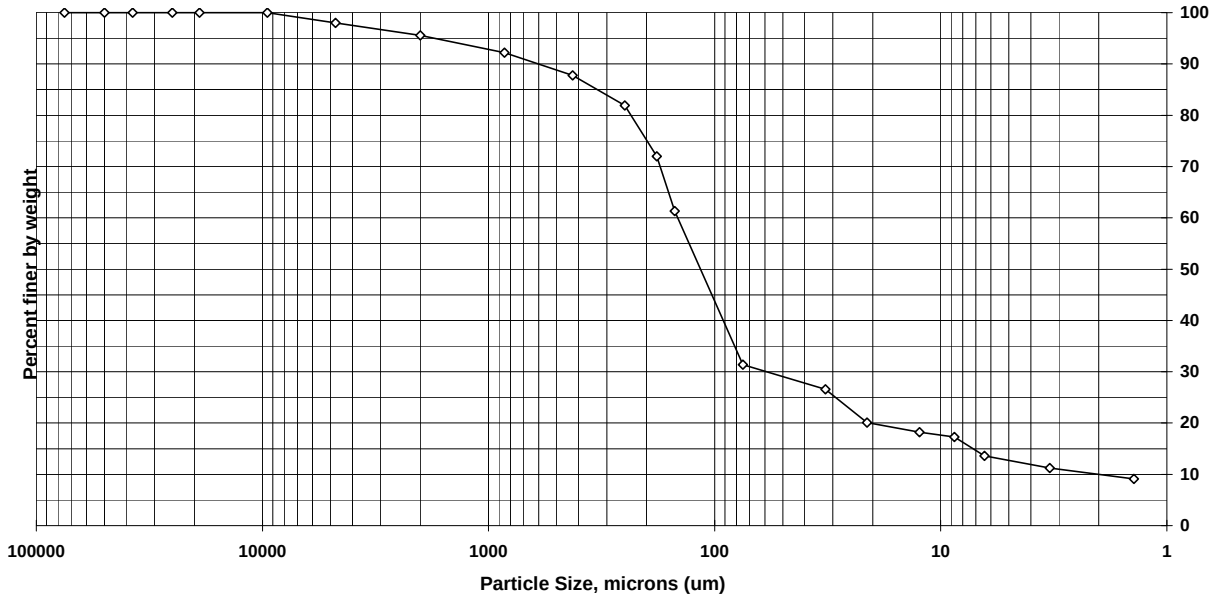
Particle Size of Soils by ASTM D422

				Date Received:	4/8/2015
Sample ID:	TS-3ST-SED	**Percent Solids:**	77.4%	**Start Date:**	4/8/2015
Lab ID:	200-27452-A-6	**Specific Gravity:**	2.650	**End Date:**	4/14/2015

Shape (> #10): subangular

Non-soil material: shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	98.0	2.0
#10	2000	95.6	2.4
#20	850	92.2	3.4
#40	425	87.8	4.4
#60	250	81.9	5.9
#80	180	72.0	9.9
#100	150	61.3	10.7
#200	75	31.4	29.9
Hyd1	32.4	26.6	4.8
Hyd2	21.2	20.1	6.5
Hyd3	12.4	18.2	1.9
Hyd4	8.7	17.3	0.9
Hyd5	6.4	13.6	3.7
Hyd6	3.3	11.2	2.4
Hyd7	1.4	9.1	2.1

Soil Classification	Percent of sample
Gravel	2.0
Sand	66.6
Coarse Sand	2.4
Medium Sand	7.8
Fine Sand	56.4
Silt	17.8
Clay	13.6

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	WBREF-B-SED
Lab Sample ID	200-27452-A-1

Date Received	4/8/2015
Start Date	04/08/2015 15:09
End Date	04/14/2015 11:09

Dry Weight Determination

Tin Weight	4.32	g
Wet Sample + Tin	362.92	g
Dry Sample + Tin	257.66	g
% Moisture	29.35	%

Non-soil material:	na
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	04/08/2015 15:09
Date/Time out of oven	04/09/2015 10:08

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	52.91	159.74	106.83
Sample Weight (Oven Dried)			75.5

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			0
Sample <#10			75.5
% Passing #10			70.7

Hydrometer Data

Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000			0.00	g	100.0	Sand	Coarse
#20	850	381.87	382.10	0.23	g	99.7	Sand	Medium
#40	425	355.90	356.08	0.18	g	99.5	Sand	Medium
#60	250	353.66	354.03	0.37	g	99.0	Sand	Fine
#80	180	339.73	340.23	0.50	g	98.3	Sand	Fine
#100	150	330.21	330.99	0.78	g	97.3	Sand	Fine
#200	75	323.37	337.30	13.93	g	78.8	Sand	Fine
				0.00	g	78.8		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	75.5

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0210	22.0	30.9	38.8	Silt	
5	5	1.0170	22.0	20.5	30.3	Silt	
15	15	1.0160	22.0	11.9	28.2	Silt	
30	30	1.0140	22.0	8.6	23.9	Silt	
60	59	1.0130	22.0	6.2	21.8	Silt	
250	256	1.0115	21.0	3.1	18.1	Clay	
1440	1440	1.0105	21.0	1.3	16	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-1-SED
Lab Sample ID	200-27452-A-2

Date Received	4/8/2015
Start Date	04/08/2015 15:16
End Date	04/14/2015 11:26

Dry Weight Determination

Tin Weight	4.16	g
Wet Sample + Tin	352.24	g
Dry Sample + Tin	258.66	g
% Moisture	26.88	%

Non-soil material:	shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/08/2015 15:16
Date/Time out of oven	04/09/2015 10:08

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	51.39	161.72	110.33
Sample Weight (Oven Dried)			80.7

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			2.05
Sample <#10			78.7
% Passing #10			71.3

Hydrometer Data

Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	462.86	464.91	2.05	g	97.5	Sand	Coarse
#20	850	381.87	384.86	2.99	g	93.8	Sand	Medium
#40	425	355.90	362.71	6.81	g	85.4	Sand	Medium
#60	250	353.66	362.88	9.22	g	74.0	Sand	Fine
#80	180	339.73	344.34	4.61	g	68.3	Sand	Fine
#100	150	330.21	332.83	2.62	g	65.1	Sand	Fine
#200	75	323.37	343.59	20.22	g	40.0	Sand	Fine
				0.00	g	40.0		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	80.7

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0150	22.0	33.1	24.4	Silt	
5	5	1.0120	22.0	21.6	18.4	Silt	
15	15	1.0110	22.0	12.6	16.4	Silt	
30	30	1.0100	22.0	9	14.4	Silt	
60	58	1.0090	22.0	6.5	12.4	Silt	
250	256	1.0080	21.0	3.2	9.95	Clay	
1440	1440	1.0075	21.0	1.3	8.96	Clay	

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Sediment Grain Size - D422

Client	
Client Sample ID	TS-2ST-SED
Lab Sample ID	200-27452-A-3

Date Received	4/8/2015
Start Date	04/08/2015 15:18
End Date	04/14/2015 11:42

Dry Weight Determination

Tin Weight	4.27	g
Wet Sample + Tin	225.50	g
Dry Sample + Tin	192.44	g
% Moisture	14.94	%

Non-soil material:	shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/08/2015 15:18
Date/Time out of oven	04/09/2015 10:08

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	47.02	367.33	320.31
Sample Weight (Oven Dried)			272

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			35.4
Sample <#10			237
% Passing #10			74

Hydrometer Data	
Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	503.17	15.03	g	94.5	Gravel	
#10	2000	462.86	483.20	20.34	g	87.0	Sand	Coarse
#20	850	381.87	425.75	43.88	g	70.9	Sand	Medium
#40	425	355.90	440.78	84.88	g	39.7	Sand	Medium
#60	250	353.66	418.79	65.13	g	15.8	Sand	Fine
#80	180	339.73	352.69	12.96	g	11.0	Sand	Fine
#100	150	330.21	334.87	4.66	g	9.3	Sand	Fine
#200	75	323.37	330.70	7.33	g	6.6	Sand	Fine
				0.00	g	6.6		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	272

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0130	22.0	33.8	6.05	Silt	
5	5	1.0120	22.0	21.6	5.46	Silt	
15	15	1.0110	22.0	12.6	4.87	Silt	
30	29	1.0100	22.0	9.1	4.28	Silt	
60	58	1.0090	22.0	6.5	3.69	Silt	
250	250	1.0085	21.0	3.2	3.25	Clay	
1440	1434	1.0080	21.0	1.3	2.95	Clay	

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Sediment Grain Size - D422

Client	
Client Sample ID	TS-2MT-SED
Lab Sample ID	200-27452-A-4

Date Received	4/8/2015
Start Date	04/08/2015 15:20
End Date	04/14/2015 11:56

Dry Weight Determination

Tin Weight	4.37	g
Wet Sample + Tin	269.43	g
Dry Sample + Tin	225.65	g
% Moisture	16.52	%

Non-soil material:	shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/08/2015 15:20
Date/Time out of oven	04/09/2015 10:09

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	50.25	395.52	345.27
Sample Weight (Oven Dried)			288

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			31.5
Sample <#10			257
% Passing #10			74.4

Hydrometer Data

Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500	447.40	457.74	10.34	g	96.4	Gravel	
#4	4750	488.14	492.77	4.63	g	94.8	Gravel	
#10	2000	462.86	479.35	16.49	g	89.1	Sand	Coarse
#20	850	381.87	409.34	27.47	g	79.6	Sand	Medium
#40	425	355.90	410.29	54.39	g	60.7	Sand	Medium
#60	250	353.66	470.70	117.04	g	20.1	Sand	Fine
#80	180	339.73	363.41	23.68	g	11.9	Sand	Fine
#100	150	330.21	337.81	7.60	g	9.3	Sand	Fine
#200	75	323.37	333.57	10.20	g	5.7	Sand	Fine
				0.00	g	5.7		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	288

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0110	22.0	34.5	4.6	Silt	
5	5	1.0100	22.0	22	4.04	Silt	
15	15	1.0090	22.0	12.8	3.49	Silt	
30	29	1.0085	22.0	9.3	3.21	Silt	
60	63	1.0075	22.0	6.3	2.65	Silt	
250	250	1.0070	21.0	3.2	2.23	Clay	
1440	1434	1.0070	20.5	1.4	2.16	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-2NT-SED
Lab Sample ID	200-27452-A-5

Date Received	4/8/2015
Start Date	04/08/2015 15:22
End Date	04/14/2015 12:00

Dry Weight Determination

Tin Weight	4.20	g
Wet Sample + Tin	264.43	g
Dry Sample + Tin	227.77	g
% Moisture	14.09	%

Non-soil material:	shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/08/2015 15:22
Date/Time out of oven	04/09/2015 10:09

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	57.96	394.82	336.86
Sample Weight (Oven Dried)			289

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			28.3
Sample <#10			261
% Passing #10			77.5

Hydrometer Data	
Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500	447.40	450.17	2.77	g	99.0	Gravel	
#4	4750	488.14	496.17	8.03	g	96.2	Gravel	
#10	2000	462.86	480.37	17.51	g	90.1	Sand	Coarse
#20	850	381.87	427.61	45.74	g	74.3	Sand	Medium
#40	425	355.90	435.23	79.33	g	46.9	Sand	Medium
#60	250	353.66	434.58	80.92	g	18.9	Sand	Fine
#80	180	339.73	349.38	9.65	g	15.6	Sand	Fine
#100	150	330.21	338.08	7.87	g	12.9	Sand	Fine
#200	75	323.37	341.21	17.84	g	6.7	Sand	Fine
				0.00	g	6.7		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	289

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0120	22.0	34.1	5.14	Silt	
5	5	1.0100	22.0	22	4.03	Silt	
15	15	1.0090	22.0	12.8	3.47	Silt	
30	31	1.0085	22.0	9	3.2	Silt	
60	60	1.0080	22.0	6.5	2.92	Silt	
250	240	1.0075	21.0	3.3	2.5	Clay	
1440	1424	1.0070	20.5	1.4	2.15	Clay	

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Sediment Grain Size - D422

Client	
Client Sample ID	TS-3ST-SED
Lab Sample ID	200-27452-A-6

Date Received	4/8/2015
Start Date	04/08/2015 15:23
End Date	04/14/2015 12:09

Dry Weight Determination

Tin Weight	4.22	g
Wet Sample + Tin	314.56	g
Dry Sample + Tin	244.31	g
% Moisture	22.64	%

Non-soil material:	shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/08/2015 15:23
Date/Time out of oven	04/09/2015 10:09

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	47.82	158.88	111.06
Sample Weight (Oven Dried)			85.9

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			3.84
Sample <#10			82.1
% Passing #10			73.9

Hydrometer Data

Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	489.88	1.74	g	98.0	Gravel	
#10	2000	462.86	464.96	2.10	g	95.6	Sand	Coarse
#20	850	381.87	384.83	2.96	g	92.2	Sand	Medium
#40	425	355.90	359.69	3.79	g	87.8	Sand	Medium
#60	250	353.66	358.70	5.04	g	81.9	Sand	Fine
#80	180	339.73	348.25	8.52	g	72.0	Sand	Fine
#100	150	330.21	339.41	9.20	g	61.3	Sand	Fine
#200	75	323.37	349.09	25.72	g	31.4	Sand	Fine
				0.00	g	31.4		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	85.9

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0170	22.0	32.4	26.6	Silt	
5	5	1.0135	22.0	21.2	20.1	Silt	
15	15	1.0125	22.0	12.4	18.2	Silt	
30	31	1.0120	22.0	8.7	17.3	Silt	
60	59	1.0100	22.0	6.4	13.6	Silt	
250	234	1.0090	21.0	3.3	11.2	Clay	
1440	1418	1.0080	20.5	1.4	9.11	Clay	

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): 15204.01, 0009

Page 1 of 1

Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Butyl Tins Unger Method	Total Solids SW846	Specific Gravity ASTM D854	Unified Soil Classification System (Includes Atterberg Limits) ASTM D2487
4/6/15	1100		X	WBREF - B - SED	1	X	X	X	X
4/6/15	1400		X	TS: 1 - SED	2	X	X	X	X
4/6/15	1600		X	TS - 2ST - SED	2	X	X	X	X
4/7/15	1045		X	TS - 2NT - SED	1	X	X	X	X
4/7/15	1400		X	TS - 2NT - SED	1	X	X	X	X
4/7/15	1600		X	TS - 3ST - SED	1	X	X	X	X

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Burlington
30 Community Dr
Suite 11
South Burlington, VT 05403

phone: (802) 660-1990

ATTN: Kirk Young

Remarks

5 DAY TAT FOR GRAIN SIZE

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	4/7/15 1700			
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	**OCEAN SEDIMENT** **Parallel Thimble Shoal**
	4/7/15 1730	TABV	4/8/15 1000	

UPS CampusShip: View/Print Label

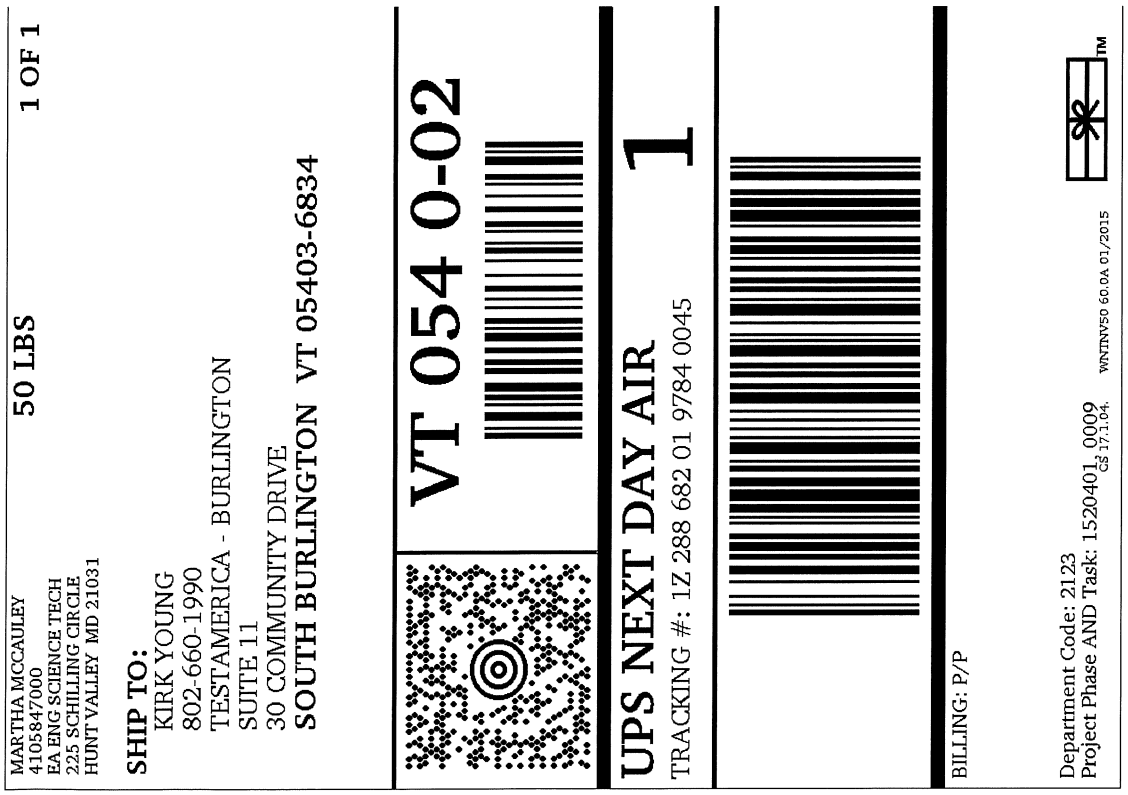
1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE



Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 200-27452-2

Login Number: 27452

List Source: TestAmerica Burlington

List Number: 1

Creator: Young, Joseph W

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Not present
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.0ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:	
Log In #: 200-27452	Method: D422
Client: TA PITTSBURGH.	LAB IDs: 200-27452 1 THRU 6

Samples associated with this log-in were placed into storage on 4/8/2015 (Date) 1230 (Time[2]) by:Joseph Young

Sample Custodian Signature

Storage Location: WK5 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: ☒ Refrigeration Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
✓		200-27452, 1-6	4/8/15	1400	✓	✓		Scott 2	Scott 2	GED
✓		" "	"	1530			✓	Scott 2	Scott 2	WI

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:	
Log In #: 200-27452	Method: D854
Client: TA PITTSBURGH.	LAB IDs: 200-27452 1 THRU 6

Samples associated with this log-in were placed into storage on 4/8/2015 (Date) 1230 (Time[2]) by:Joseph Young

Sample Custodian Signature

Storage Location: WK5 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: ☒ Refrigeration Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
✓		200-27452 1-6	4/8/15	1400	✓	✓		Scott 2	Scott 2	GFO
✓		" "	" "	1530			✓	Scott 2	Scott 2	WI

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 200-27490-2

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
4/16/2015 10:48 AM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
04/16/2015

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 200-27490-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/10/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.8 C.

GEOTECH

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 200-27490-2

Client Sample ID: TS-2NB-SED — Lab Sample ID: 200-27490-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	CL-SAND				NONE	1		D2487	Total/NA
Group Symbol	SC				NONE	1		D2487	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	52.2				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	2.4				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	8.1				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	41.7				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	30.2				%	1		D422	Total/NA
Clay	17.6				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	97.6				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	93.1				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	89.5				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	83.9				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	78.0				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	73.6				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	47.8				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	36.8				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	26.1				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	21.9				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	19.7				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	17.6				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	12.8				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	9.6				% Passing	1		D422	Total/NA
Liquid Limit	32				NONE	1		D4318	Total/NA
Plastic Limit	21				NONE	1		D4318	Total/NA
Plasticity Index	12				NONE	1		D4318	Total/NA

Client Sample ID: TS-4NT-SED — Lab Sample ID: 200-27490-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	CL-SAND				NONE	1		D2487	Total/NA
Group Symbol	SC				NONE	1		D2487	Total/NA
Gravel	2.8				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	56.2				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	1.7				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	14.1				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	40.4				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-4NT-SED (Continued)

Lab Sample ID: 200-27490-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silt	19.9				%	1		D422	Total/NA
Clay	21.1				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	97.2				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	95.5				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	91.4				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	81.4				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	67.3				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	56.9				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	51.4				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	41.0				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	32.8				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	29.2				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	23.8				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	22.9				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	21.1				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	16.2				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	12.6				% Passing	1		D422	Total/NA
Liquid Limit	29				NONE	1		D4318	Total/NA
Plastic Limit	17				NONE	1		D4318	Total/NA
Plasticity Index	12				NONE	1		D4318	Total/NA

Client Sample ID: TS-2SB-SED

Lab Sample ID: 200-27490-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	SI-SAND				NONE	1		D2487	Total/NA
Group Symbol	SM				NONE	1		D2487	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	68.8				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	4.7				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	21.0				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	43.1				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	19.6				%	1		D422	Total/NA
Clay	11.6				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	95.3				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	87.7				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	74.3				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	64.7				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	59.2				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	54.6				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	31.2				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	24.1				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	18.7				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	14.6				% Passing	1		D422	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-2SB-SED (Continued)

Lab Sample ID: 200-27490-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hydrometer Reading 4 - Percent Finer	12.2				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	11.6				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	8.3				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	6.5				% Passing	1		D422	Total/NA
Liquid Limit	25				NONE	1		D4318	Total/NA
Plastic Limit	22				NONE	1		D4318	Total/NA
Plasticity Index	3				NONE	1		D4318	Total/NA

Client Sample ID: TS-3NT-SED

Lab Sample ID: 200-27490-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	CL-SAND				NONE	1		D2487	Total/NA
Group Symbol	SC				NONE	1		D2487	Total/NA
Gravel	8.8				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	45.7				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	6.3				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	11.0				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	28.4				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	26.4				%	1		D422	Total/NA
Clay	19.1				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	91.2				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	84.9				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	78.8				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	73.9				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	70.4				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	66.7				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	62.3				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	45.5				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	36.0				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	31.8				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	24.1				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	22.4				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	19.1				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	14.4				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	11.0				% Passing	1		D422	Total/NA
Liquid Limit	29				NONE	1		D4318	Total/NA
Plastic Limit	18				NONE	1		D4318	Total/NA
Plasticity Index	11				NONE	1		D4318	Total/NA

This Detection Summary does not include radiochemical test results.

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 200-27490-2

Client Sample ID: TS-2NB-SED
Date Collected: 04/09/15 11:30
Date Received: 04/10/15 10:10

Lab Sample ID: 200-27490-1
Matrix: Sediment

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	CL-SAND				NONE			04/10/15 16:32	1
Group Symbol	SC				NONE			04/10/15 16:32	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			04/10/15 13:55	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/10/15 13:55	1
Sand	52.2				%			04/10/15 13:55	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/10/15 13:55	1
Coarse Sand	2.4				%			04/10/15 13:55	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/10/15 13:55	1
Medium Sand	8.1				%			04/10/15 13:55	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/10/15 13:55	1
Fine Sand	41.7				%			04/10/15 13:55	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/10/15 13:55	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/10/15 13:55	1
Silt	30.2				%			04/10/15 13:55	1
Clay	17.6				%			04/10/15 13:55	1
Sieve Size #4 - Percent Finer	100.0				% Passing			04/10/15 13:55	1
Sieve Size #10 - Percent Finer	97.6				% Passing			04/10/15 13:55	1
Sieve Size #20 - Percent Finer	93.1				% Passing			04/10/15 13:55	1
Sieve Size #40 - Percent Finer	89.5				% Passing			04/10/15 13:55	1
Sieve Size #60 - Percent Finer	83.9				% Passing			04/10/15 13:55	1
Sieve Size #80 - Percent Finer	78.0				% Passing			04/10/15 13:55	1
Sieve Size #100 - Percent Finer	73.6				% Passing			04/10/15 13:55	1
Sieve Size #200 - Percent Finer	47.8				% Passing			04/10/15 13:55	1
Hydrometer Reading 1 - Percent Finer	36.8				% Passing			04/10/15 13:55	1
Hydrometer Reading 2 - Percent Finer	26.1				% Passing			04/10/15 13:55	1
Hydrometer Reading 3 - Percent Finer	21.9				% Passing			04/10/15 13:55	1
Hydrometer Reading 4 - Percent Finer	19.7				% Passing			04/10/15 13:55	1
Hydrometer Reading 5 - Percent Finer	17.6				% Passing			04/10/15 13:55	1
Hydrometer Reading 6 - Percent Finer	12.8				% Passing			04/10/15 13:55	1
Hydrometer Reading 7 - Percent Finer	9.6				% Passing			04/10/15 13:55	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	32				NONE			04/10/15 16:31	1
Plastic Limit	21				NONE			04/10/15 16:31	1
Plasticity Index	12				NONE			04/10/15 16:31	1

Client Sample ID: TS-4NT-SED

Lab Sample ID: 200-27490-4

Date Collected: 04/09/15 14:45

Matrix: Sediment

Date Received: 04/10/15 10:10

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	CL-SAND				NONE			04/10/15 16:32	1
Group Symbol	SC				NONE			04/10/15 16:32	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	2.8				%			04/10/15 14:03	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/10/15 14:03	1
Sand	56.2				%			04/10/15 14:03	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/10/15 14:03	1
Coarse Sand	1.7				%			04/10/15 14:03	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/10/15 14:03	1
Medium Sand	14.1				%			04/10/15 14:03	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/10/15 14:03	1
Fine Sand	40.4				%			04/10/15 14:03	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/10/15 14:03	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/10/15 14:03	1
Silt	19.9				%			04/10/15 14:03	1
Clay	21.1				%			04/10/15 14:03	1
Sieve Size #4 - Percent Finer	97.2				% Passing			04/10/15 14:03	1
Sieve Size #10 - Percent Finer	95.5				% Passing			04/10/15 14:03	1
Sieve Size #20 - Percent Finer	91.4				% Passing			04/10/15 14:03	1
Sieve Size #40 - Percent Finer	81.4				% Passing			04/10/15 14:03	1
Sieve Size #60 - Percent Finer	67.3				% Passing			04/10/15 14:03	1
Sieve Size #80 - Percent Finer	56.9				% Passing			04/10/15 14:03	1
Sieve Size #100 - Percent Finer	51.4				% Passing			04/10/15 14:03	1
Sieve Size #200 - Percent Finer	41.0				% Passing			04/10/15 14:03	1
Hydrometer Reading 1 - Percent Finer	32.8				% Passing			04/10/15 14:03	1
Hydrometer Reading 2 - Percent Finer	29.2				% Passing			04/10/15 14:03	1
Hydrometer Reading 3 - Percent Finer	23.8				% Passing			04/10/15 14:03	1
Hydrometer Reading 4 - Percent Finer	22.9				% Passing			04/10/15 14:03	1
Hydrometer Reading 5 - Percent Finer	21.1				% Passing			04/10/15 14:03	1
Hydrometer Reading 6 - Percent Finer	16.2				% Passing			04/10/15 14:03	1
Hydrometer Reading 7 - Percent Finer	12.6				% Passing			04/10/15 14:03	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	29				NONE			04/10/15 16:31	1
Plastic Limit	17				NONE			04/10/15 16:31	1
Plasticity Index	12				NONE			04/10/15 16:31	1

Client Sample ID: TS-2SB-SED

Lab Sample ID: 200-27490-5

Date Collected: 04/08/15 11:45

Matrix: Sediment

Date Received: 04/10/15 10:10

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	SI-SAND				NONE			04/10/15 16:32	1
Group Symbol	SM				NONE			04/10/15 16:32	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			04/10/15 14:06	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/10/15 14:06	1
Sand	68.8				%			04/10/15 14:06	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/10/15 14:06	1
Coarse Sand	4.7				%			04/10/15 14:06	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/10/15 14:06	1
Medium Sand	21.0				%			04/10/15 14:06	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/10/15 14:06	1
Fine Sand	43.1				%			04/10/15 14:06	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/10/15 14:06	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/10/15 14:06	1
Silt	19.6				%			04/10/15 14:06	1
Clay	11.6				%			04/10/15 14:06	1
Sieve Size #4 - Percent Finer	100.0				% Passing			04/10/15 14:06	1
Sieve Size #10 - Percent Finer	95.3				% Passing			04/10/15 14:06	1
Sieve Size #20 - Percent Finer	87.7				% Passing			04/10/15 14:06	1
Sieve Size #40 - Percent Finer	74.3				% Passing			04/10/15 14:06	1
Sieve Size #60 - Percent Finer	64.7				% Passing			04/10/15 14:06	1
Sieve Size #80 - Percent Finer	59.2				% Passing			04/10/15 14:06	1
Sieve Size #100 - Percent Finer	54.6				% Passing			04/10/15 14:06	1
Sieve Size #200 - Percent Finer	31.2				% Passing			04/10/15 14:06	1
Hydrometer Reading 1 - Percent Finer	24.1				% Passing			04/10/15 14:06	1
Hydrometer Reading 2 - Percent Finer	18.7				% Passing			04/10/15 14:06	1
Hydrometer Reading 3 - Percent Finer	14.6				% Passing			04/10/15 14:06	1
Hydrometer Reading 4 - Percent Finer	12.2				% Passing			04/10/15 14:06	1
Hydrometer Reading 5 - Percent Finer	11.6				% Passing			04/10/15 14:06	1
Hydrometer Reading 6 - Percent Finer	8.3				% Passing			04/10/15 14:06	1
Hydrometer Reading 7 - Percent Finer	6.5				% Passing			04/10/15 14:06	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	25				NONE			04/10/15 16:31	1
Plastic Limit	22				NONE			04/10/15 16:31	1
Plasticity Index	3				NONE			04/10/15 16:31	1

Client Sample ID: TS-3NT-SED

Date Collected: 04/08/15 15:00
Date Received: 04/10/15 10:10

Lab Sample ID: 200-27490-6

Matrix: Sediment

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	CL-SAND				NONE			04/10/15 16:32	1
Group Symbol	SC				NONE			04/10/15 16:32	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	8.8				%			04/10/15 14:08	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/10/15 14:08	1
Sand	45.7				%			04/10/15 14:08	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/10/15 14:08	1
Coarse Sand	6.3				%			04/10/15 14:08	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/10/15 14:08	1
Medium Sand	11.0				%			04/10/15 14:08	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/10/15 14:08	1
Fine Sand	28.4				%			04/10/15 14:08	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/10/15 14:08	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/10/15 14:08	1
Silt	26.4				%			04/10/15 14:08	1
Clay	19.1				%			04/10/15 14:08	1
Sieve Size #4 - Percent Finer	91.2				% Passing			04/10/15 14:08	1
Sieve Size #10 - Percent Finer	84.9				% Passing			04/10/15 14:08	1
Sieve Size #20 - Percent Finer	78.8				% Passing			04/10/15 14:08	1
Sieve Size #40 - Percent Finer	73.9				% Passing			04/10/15 14:08	1
Sieve Size #60 - Percent Finer	70.4				% Passing			04/10/15 14:08	1
Sieve Size #80 - Percent Finer	66.7				% Passing			04/10/15 14:08	1
Sieve Size #100 - Percent Finer	62.3				% Passing			04/10/15 14:08	1
Sieve Size #200 - Percent Finer	45.5				% Passing			04/10/15 14:08	1
Hydrometer Reading 1 - Percent Finer	36.0				% Passing			04/10/15 14:08	1
Hydrometer Reading 2 - Percent Finer	31.8				% Passing			04/10/15 14:08	1
Hydrometer Reading 3 - Percent Finer	24.1				% Passing			04/10/15 14:08	1
Hydrometer Reading 4 - Percent Finer	22.4				% Passing			04/10/15 14:08	1
Hydrometer Reading 5 - Percent Finer	19.1				% Passing			04/10/15 14:08	1
Hydrometer Reading 6 - Percent Finer	14.4				% Passing			04/10/15 14:08	1
Hydrometer Reading 7 - Percent Finer	11.0				% Passing			04/10/15 14:08	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	29				NONE			04/10/15 16:31	1
Plastic Limit	18				NONE			04/10/15 16:31	1
Plasticity Index	11				NONE			04/10/15 16:31	1

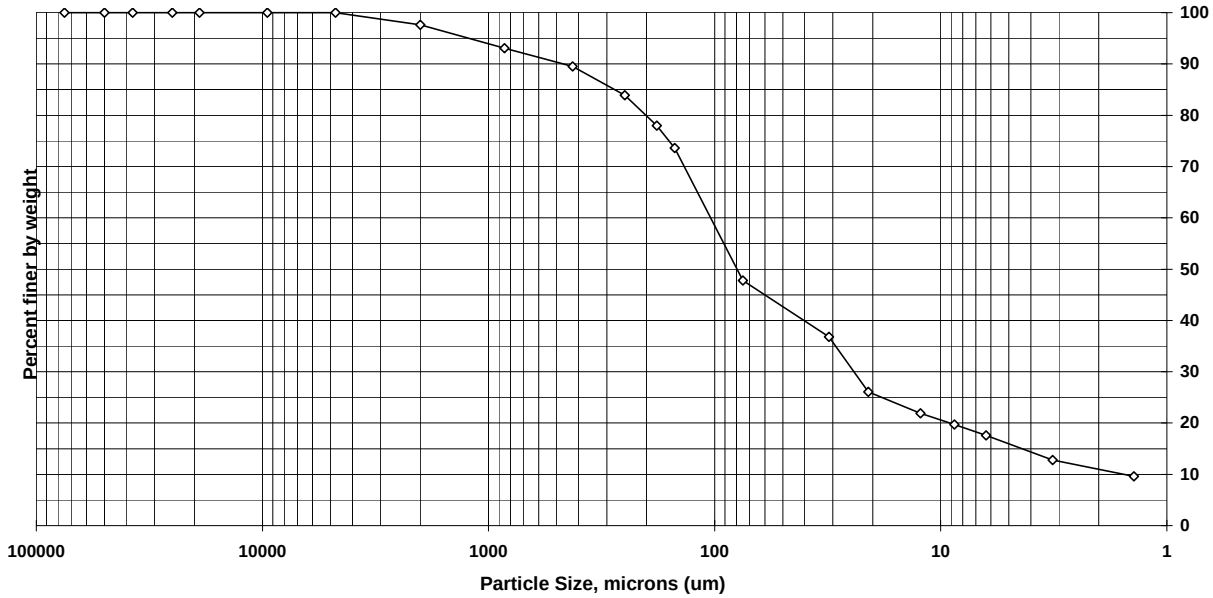
Particle Size of Soils by ASTM D422

				Date Received:	4/10/2015
Sample ID:	TS-2NB-SED	**Percent Solids:**	75.7%	**Start Date:**	4/10/2015
Lab ID:	200-27490-A-1	**Specific Gravity:**	2.650	**End Date:**	4/15/2015

Shape (> #10): subangular

Non-soil material: shell, plant

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	97.6	2.4
#20	850	93.1	4.5
#40	425	89.5	3.6
#60	250	83.9	5.6
#80	180	78.0	5.9
#100	150	73.6	4.4
#200	75	47.8	25.8
Hyd1	31.2	36.8	11.0
Hyd2	20.9	26.1	10.7
Hyd3	12.3	21.9	4.2
Hyd4	8.7	19.7	2.2
Hyd5	6.3	17.6	2.1
Hyd6	3.2	12.8	4.8
Hyd7	1.4	9.6	3.2

Soil Classification	Percent of sample
Gravel	0.0
Sand	52.2
Coarse Sand	2.4
Medium Sand	8.1
Fine Sand	41.7
Silt	30.2
Clay	17.6

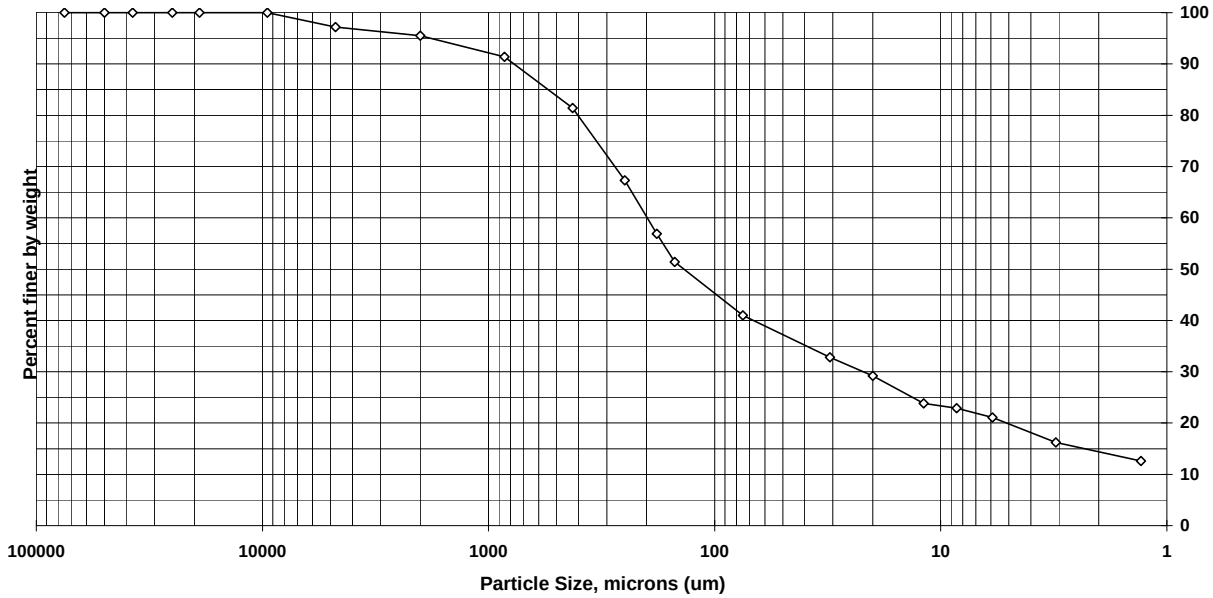
Particle Size of Soils by ASTM D422

				Date Received:	4/10/2015
Sample ID:	TS-4NT-SED	**Percent Solids:**	71.8%	**Start Date:**	4/10/2015
Lab ID:	200-27490-A-4	**Specific Gravity:**	2.650	**End Date:**	4/15/2015

Shape (> #10): subangular

Non-soil material: shell, plant

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	97.2	2.8
#10	2000	95.5	1.7
#20	850	91.4	4.1
#40	425	81.4	10.0
#60	250	67.3	14.1
#80	180	56.9	10.4
#100	150	51.4	5.5
#200	75	41.0	10.4
Hyd1	30.9	32.8	8.2
Hyd2	20	29.2	3.6
Hyd3	11.9	23.8	5.4
Hyd4	8.5	22.9	0.9
Hyd5	5.9	21.1	1.8
Hyd6	3.1	16.2	4.9
Hyd7	1.3	12.6	3.6

Soil Classification	Percent of sample
Gravel	2.8
Sand	56.2
Coarse Sand	1.7
Medium Sand	14.1
Fine Sand	40.4
Silt	19.9
Clay	21.1

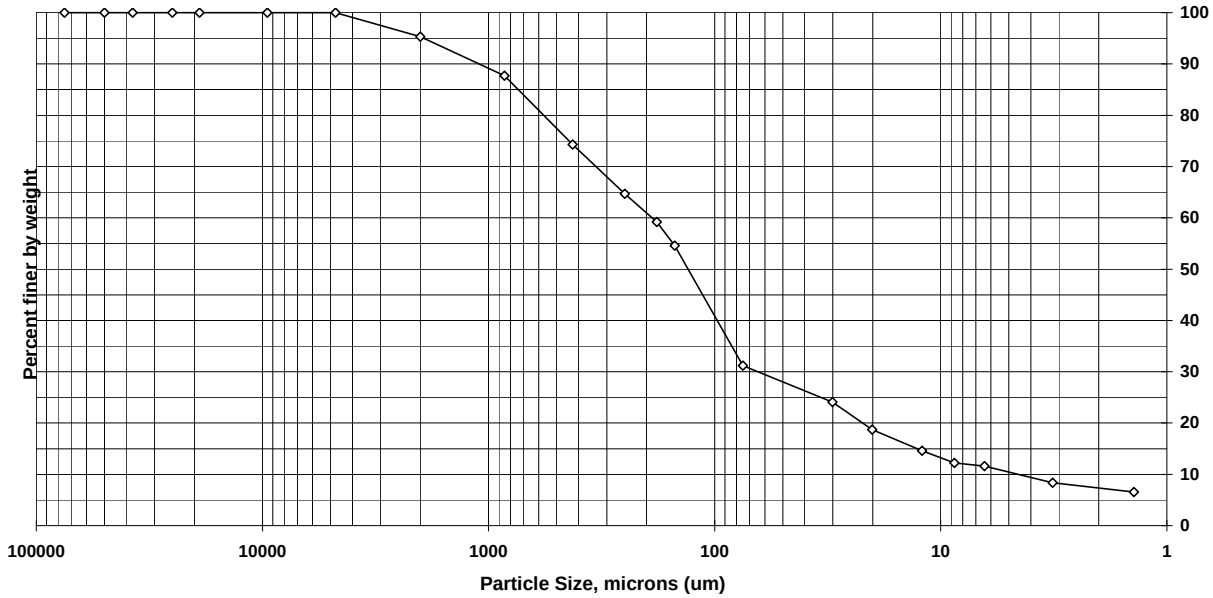
Particle Size of Soils by ASTM D422

				Date Received:	4/10/2015
Sample ID:	TS-2SB-SED	**Percent Solids:**	79.4%	**Start Date:**	4/10/2015
Lab ID:	200-27490-A-5	**Specific Gravity:**	2.650	**End Date:**	4/15/2015

Shape (> #10): subangular

Non-soil material: shell, plant

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	95.3	4.7
#20	850	87.7	7.6
#40	425	74.3	13.4
#60	250	64.7	9.6
#80	180	59.2	5.5
#100	150	54.6	4.6
#200	75	31.2	23.4
Hyd1	30.1	24.1	7.1
Hyd2	20.1	18.7	5.4
Hyd3	12.1	14.6	4.1
Hyd4	8.7	12.2	2.4
Hyd5	6.4	11.6	0.6
Hyd6	3.2	8.3	3.3
Hyd7	1.4	6.5	1.8

Soil Classification	Percent of sample
Gravel	0.0
Sand	68.8
Coarse Sand	4.7
Medium Sand	21.0
Fine Sand	43.1
Silt	19.6
Clay	11.6

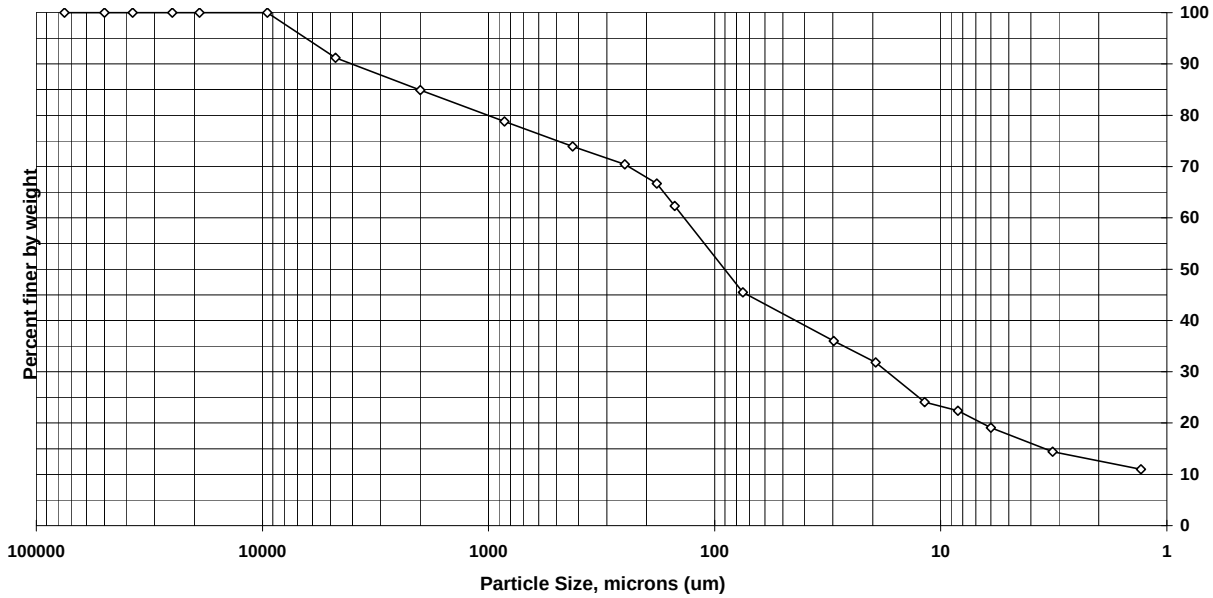
Particle Size of Soils by ASTM D422

				Date Received:	4/10/2015
Sample ID:	TS-3NT-SED	**Percent Solids:**	78.4%	**Start Date:**	4/10/2015
Lab ID:	200-27490-A-6	**Specific Gravity:**	2.650	**End Date:**	4/15/2015

Shape (> #10): subangular

Non-soil material: shell, plant

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	91.2	8.8
#10	2000	84.9	6.3
#20	850	78.8	6.1
#40	425	73.9	4.9
#60	250	70.4	3.5
#80	180	66.7	3.7
#100	150	62.3	4.4
#200	75	45.5	16.8
Hyd1	29.7	36.0	9.5
Hyd2	19.4	31.8	4.2
Hyd3	11.8	24.1	7.7
Hyd4	8.4	22.4	1.7
Hyd5	6	19.1	3.3
Hyd6	3.2	14.4	4.7
Hyd7	1.3	11.0	3.4

Soil Classification	Percent of sample
Gravel	8.8
Sand	45.7
Coarse Sand	6.3
Medium Sand	11.0
Fine Sand	28.4
Silt	26.4
Clay	19.1

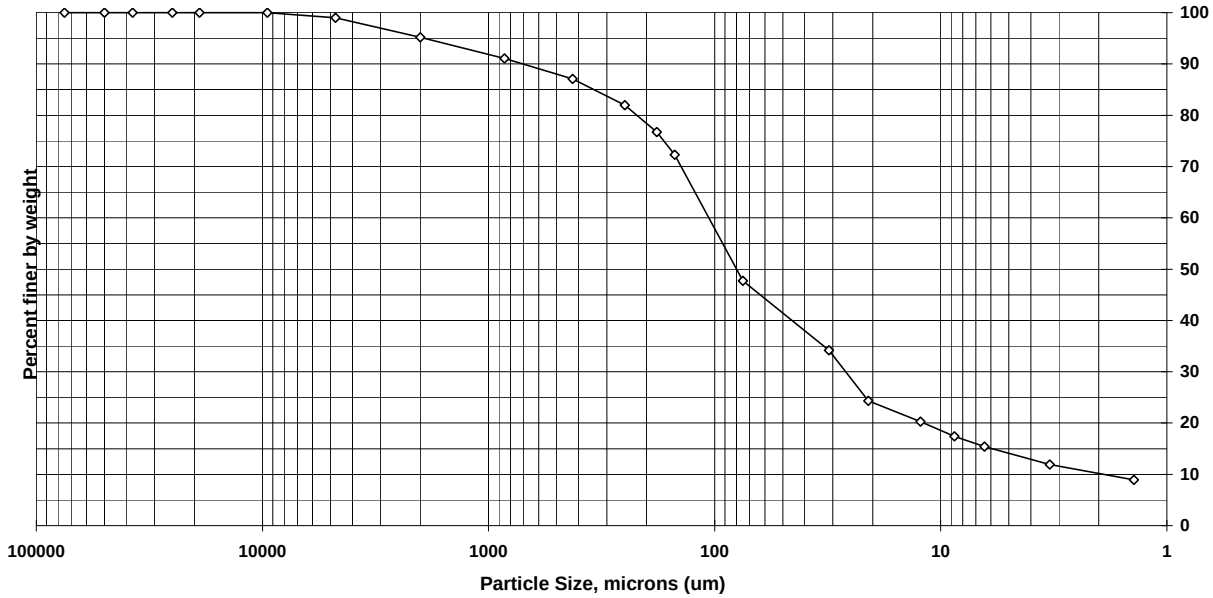
Particle Size of Soils by ASTM D422

				Date Received:	4/10/2015
Sample ID:	TS-2NB-SED	**Percent Solids:**	76.4%	**Start Date:**	4/13/2015
Lab ID:	200-27490-A-1 DU	**Specific Gravity:**	2.650	**End Date:**	4/15/2015

Shape (> #10): subangular

Non-soil material: plant,shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	99.0	1.0
#10	2000	95.2	3.8
#20	850	91.1	4.1
#40	425	87.1	4.0
#60	250	82.0	5.1
#80	180	76.7	5.3
#100	150	72.3	4.4
#200	75	47.7	24.6
Hyd1	31.2	34.2	13.5
Hyd2	20.9	24.3	9.9
Hyd3	12.3	20.3	4.0
Hyd4	8.7	17.4	2.9
Hyd5	6.4	15.4	2.0
Hyd6	3.3	11.9	3.5
Hyd7	1.4	8.9	3.0

Soil Classification	Percent of sample
Gravel	1.0
Sand	51.3
Coarse Sand	3.8
Medium Sand	8.1
Fine Sand	39.4
Silt	32.3
Clay	15.4

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-2NB-SED
Lab Sample ID	200-27490-A-1

Date Received	4/10/2015
Start Date	04/10/2015 13:55
End Date	04/15/2015 11:18

Dry Weight Determination

Tin Weight	4.36	g
Wet Sample + Tin	258.81	g
Dry Sample + Tin	197.01	g
% Moisture	24.29	%

Non-soil material:	shell, plant
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/10/2015 13:55
Date/Time out of oven	04/13/2015 9:12

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	47.72	147.24	99.52
Sample Weight (Oven Dried)			75.3

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			1.84
Sample <#10			73.5
% Passing #10			73.9

Hydrometer Data

Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	462.83	464.67	1.84	g	97.6	Sand	Coarse
#20	850	381.90	385.29	3.39	g	93.1	Sand	Medium
#40	425	356.72	359.41	2.69	g	89.5	Sand	Medium
#60	250	353.70	357.94	4.24	g	83.9	Sand	Fine
#80	180	339.56	343.97	4.41	g	78.0	Sand	Fine
#100	150	330.03	333.35	3.32	g	73.6	Sand	Fine
#200	75	323.27	342.68	19.41	g	47.8	Sand	Fine
				0.00	g	47.8		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	75.3

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0200	22.0	31.2	36.8	Silt	
5	5	1.0150	22.0	20.9	26.1	Silt	
15	15	1.0130	22.0	12.3	21.9	Silt	
30	31	1.0120	22.0	8.7	19.7	Silt	
60	60	1.0110	22.0	6.3	17.6	Silt	
250	240	1.0090	21.0	3.2	12.8	Clay	
1440	1424	1.0075	21.0	1.4	9.6	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-4NT-SED
Lab Sample ID	200-27490-A-4

Date Received	4/10/2015
Start Date	04/10/2015 14:03
End Date	04/15/2015 11:12

Dry Weight Determination

Tin Weight	4.16	g
Wet Sample + Tin	325.66	g
Dry Sample + Tin	235.08	g
% Moisture	28.17	%

Non-soil material:	shell, plant
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/10/2015 14:03
Date/Time out of oven	04/13/2015 9:14

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	57.96	182.31	124.35
Sample Weight (Oven Dried)			89.3

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			3.99
Sample <#10			85.3
% Passing #10			68.6

Hydrometer Data

Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	490.65	2.51	g	97.2	Gravel	
#10	2000	462.83	464.31	1.48	g	95.5	Sand	Coarse
#20	850	389.71	393.37	3.66	g	91.4	Sand	Medium
#40	425	368.41	377.30	8.89	g	81.4	Sand	Medium
#60	250	350.26	362.83	12.57	g	67.3	Sand	Fine
#80	180	332.37	341.65	9.28	g	56.9	Sand	Fine
#100	150	331.42	336.33	4.91	g	51.4	Sand	Fine
#200	75	330.90	340.18	9.28	g	41.0	Sand	Fine
				0.00	g	41.0		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	89.3

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0210	22.0	30.9	32.8	Silt	
5	5	1.0190	22.0	20	29.2	Silt	
15	15	1.0160	22.0	11.9	23.8	Silt	
30	30	1.0155	22.0	8.5	22.9	Silt	
60	63	1.0145	22.0	5.9	21.1	Silt	
250	253	1.0120	21.0	3.1	16.2	Clay	
1440	1400	1.0100	21.0	1.3	12.6	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-2SB-SED
Lab Sample ID	200-27490-A-5

Date Received	4/10/2015
Start Date	04/10/2015 14:06
End Date	04/15/2015 11:29

Dry Weight Determination

Tin Weight	4.26	g
Wet Sample + Tin	280.84	g
Dry Sample + Tin	223.86	g
% Moisture	20.60	%

Non-soil material:	shell, plant
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/10/2015 14:06
Date/Time out of oven	04/13/2015 9:14

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	58.12	228.66	170.54
Sample Weight (Oven Dried)			135

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			6.39
Sample <#10			129
% Passing #10			75.6

Hydrometer Data

Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	462.83	469.22	6.39	g	95.3	Sand	Coarse
#20	850	389.71	399.96	10.25	g	87.7	Sand	Medium
#40	425	368.41	386.51	18.10	g	74.3	Sand	Medium
#60	250	350.26	363.17	12.91	g	64.7	Sand	Fine
#80	180	332.37	339.82	7.45	g	59.2	Sand	Fine
#100	150	331.42	337.65	6.23	g	54.6	Sand	Fine
#200	75	330.90	362.50	31.60	g	31.2	Sand	Fine
				0.00	g	31.2		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	135

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0230	22.0	30.1	24.1	Silt	
5	5	1.0185	22.0	20.1	18.7	Silt	
15	15	1.0150	22.0	12.1	14.6	Silt	
30	30	1.0130	22.0	8.7	12.2	Silt	
60	57	1.0125	22.0	6.4	11.6	Silt	
250	247	1.0100	21.0	3.2	8.33	Clay	
1440	1394	1.0085	21.0	1.4	6.54	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-3NT-SED
Lab Sample ID	200-27490-A-6

Date Received	4/10/2015
Start Date	04/10/2015 14:08
End Date	04/15/2015 11:46

Dry Weight Determination

Tin Weight	4.27	g
Wet Sample + Tin	307.97	g
Dry Sample + Tin	242.26	g
% Moisture	21.64	%

Non-soil material:	shell, plant
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/10/2015 14:08
Date/Time out of oven	04/13/2015 9:14

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	47.81	168.75	120.94
Sample Weight (Oven Dried)			94.8

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			14.3
Sample <#10			80.5
% Passing #10			66.6

Hydrometer Data

Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	496.44	8.30	g	91.2	Gravel	
#10	2000	462.83	468.80	5.97	g	84.9	Sand	Coarse
#20	850	389.71	395.47	5.76	g	78.8	Sand	Medium
#40	425	368.41	373.08	4.67	g	73.9	Sand	Medium
#60	250	350.26	353.54	3.28	g	70.4	Sand	Fine
#80	180	332.37	335.90	3.53	g	66.7	Sand	Fine
#100	150	331.42	335.58	4.16	g	62.3	Sand	Fine
#200	75	330.90	346.81	15.91	g	45.5	Sand	Fine
				0.00	g	45.5		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	94.8

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0240	22.0	29.7	36	Silt	
5	5	1.0215	22.0	19.4	31.8	Silt	
15	15	1.0170	22.0	11.8	24.1	Silt	
30	30	1.0160	22.0	8.4	22.4	Silt	
60	63	1.0140	22.0	6	19.1	Silt	
250	241	1.0115	21.0	3.2	14.4	Clay	
1440	1388	1.0095	21.0	1.3	11	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-2NB-SED
Lab Sample ID	200-27490-A-1 DU

Date Received	4/10/2015
Start Date	04/13/2015 15:09
End Date	04/15/2015 11:31

Dry Weight Determination

Tin Weight	4.24	g
Wet Sample + Tin	204.30	g
Dry Sample + Tin	157.00	g
% Moisture	23.64	%

Non-soil material:	plant,shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/13/2015 15:09
Date/Time out of oven	04/14/2015 9:13

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	46.04	152.00	105.96
Sample Weight (Oven Dried)			80.9

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			3.88
Sample <#10			77
% Passing #10			72.7

Hydrometer Data

Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.14	488.96	0.82	g	99.0	Gravel	
#10	2000	462.81	465.87	3.06	g	95.2	Sand	Coarse
#20	850	381.90	385.25	3.35	g	91.1	Sand	Medium
#40	425	356.72	359.96	3.24	g	87.1	Sand	Medium
#60	250	353.70	357.86	4.16	g	82.0	Sand	Fine
#80	180	339.56	343.83	4.27	g	76.7	Sand	Fine
#100	150	330.03	333.56	3.53	g	72.3	Sand	Fine
#200	75	323.27	343.15	19.88	g	47.7	Sand	Fine
				0.00	g	47.7		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	80.9

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0200	22.0	31.2	34.2	Silt	
5	5	1.0150	22.0	20.9	24.3	Silt	
15	15	1.0130	22.0	12.3	20.3	Silt	
30	31	1.0115	22.0	8.7	17.4	Silt	
60	59	1.0105	22.0	6.4	15.4	Silt	
250	234	1.0090	21.0	3.3	11.9	Clay	
1440	1418	1.0075	21.0	1.4	8.93	Clay	

Method: D2487 - Classification of Soils for Engineering Purposes

Lab Sample ID: 200-27490-1DU
Matrix: Sediment
Analysis Batch: 86742

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Group Name				SI-CL-SAND		NONE					
Group Symbol				SC-SM		NONE					

Method: D422 - Grain Size

Lab Sample ID: 200-27490-1DU
Matrix: Sediment
Analysis Batch: 86890

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Gravel	0.0			1.0		%					
Sieve Size 3 inch - Percent Finer	100.0			100.0		% Passing					
Sand	52.2			51.3		%					
Sieve Size 2 inch - Percent Finer	100.0			100.0		% Passing					
Coarse Sand	2.4			3.8		%					
Sieve Size 1.5 inch - Percent Finer	100.0			100.0		% Passing					
Medium Sand	8.1			8.1		%					
Sieve Size 1 inch - Percent Finer	100.0			100.0		% Passing					
Fine Sand	41.7			39.4		%					
Sieve Size 0.75 inch - Percent Finer	100.0			100.0		% Passing					
Sieve Size 0.375 inch - Percent Finer	100.0			100.0		% Passing					
Silt	30.2			32.3		%					
Clay	17.6			15.4		%					
Sieve Size #4 - Percent Finer	100.0			99.0		% Passing					
Sieve Size #10 - Percent Finer	97.6			95.2		% Passing					
Sieve Size #20 - Percent Finer	93.1			91.1		% Passing					
Sieve Size #40 - Percent Finer	89.5			87.1		% Passing					
Sieve Size #60 - Percent Finer	83.9			82.0		% Passing					
Sieve Size #80 - Percent Finer	78.0			76.7		% Passing					
Sieve Size #100 - Percent Finer	73.6			72.3		% Passing					
Sieve Size #200 - Percent Finer	47.8			47.7		% Passing					
Hydrometer Reading 1 - Percent Finer	36.8			34.2		% Passing					
Hydrometer Reading 2 - Percent Finer	26.1			24.3		% Passing					
Hydrometer Reading 3 - Percent Finer	21.9			20.3		% Passing					
Hydrometer Reading 4 - Percent Finer	19.7			17.4		% Passing					
Hydrometer Reading 5 - Percent Finer	17.6			15.4		% Passing					
Hydrometer Reading 6 - Percent Finer	12.8			11.9		% Passing					
Hydrometer Reading 7 - Percent Finer	9.6			8.9		% Passing					

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 200-27490-2

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Lab Sample ID: 200-27490-1DU
Matrix: Sediment
Analysis Batch: 86741

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Liquid Limit	32			28		NONE				13	
Plastic Limit	21			22		NONE				5	
Plasticity Index	12			6		NONE				67	

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): 15204.01, 0009

Page 1 of 1

Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Butyl Tins Unger Method	Total Solids SW846	Specific Gravity ASTM D854	Unified Soil Classification System (Includes Atterberg Limits) ASTM D2487
4/9/15	1130		X	TS-2NB-SED	1	X	X	X	X
4/9/15	1140		X	TS-2NB-SED-MS	1	X	X	X	X
4/9/15	1145		X	TS-2NB-SED-MSD	1	X	X	X	X
4/9/15	1445		X	TS-4NT-SED	1	X	X	X	X
4/8/15	1145		X	TS-2SB-SED	1	X	X	X	X
4/8/15	1500		X	TS-3NT-SED	1	X	X	X	X

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Burlington
30 Community Dr
Suite 11
South Burlington, VT 05403

phone: (802) 660-1990

ATTN: Kirk Young

Remarks

5 DAY TAT FOR GRAIN SIZE

Sampled by: (Signature)	Date/Time
	4/9/15 1600
Relinquished by: (Signature)	Date/Time
	4/9/15 1700

Relinquished by: (Signature)	Date/Time
Received by Laboratory: (Signature)	Date/Time
TABJ ✓	4/10/15 1010

OCEAN SEDIMENT
Parallel Thimble Shoal

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

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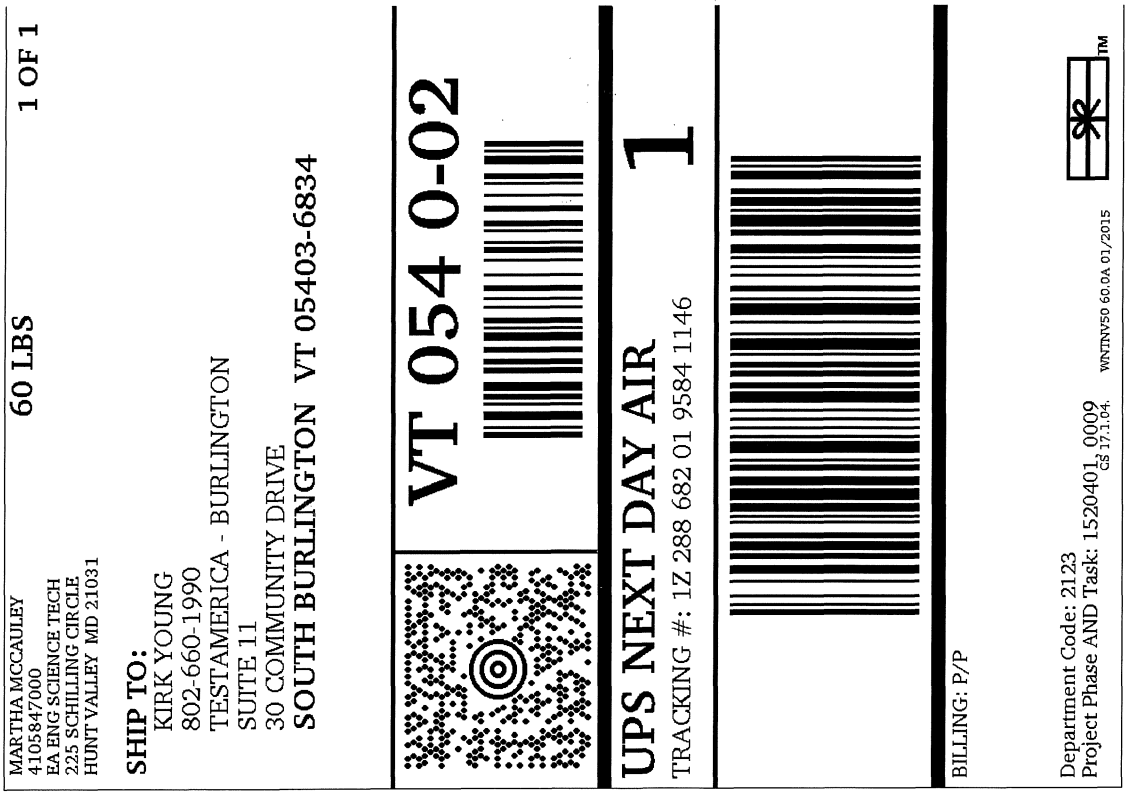

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 200-27490-2

Login Number: 27490

List Source: TestAmerica Burlington

List Number: 1

Creator: Goodrich, Kenneth L

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:	
Log In #: 200-27490	Method: ASTM D2487
Client: EA ENGINEERING	LAB IDs: ~~200-27490-1 to 6~~ 1DU, 4, 5, 6

Samples associated with this log-in were placed into storage on 4/10/2015 (Date) 1150 (Time[2]) by:Ken Goodrich

Sample Custodian Signature [signature]

Storage Location: WQ2 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: Refrigeration ☐ Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
✓		200-27490-1 to 6	4/10/15	1630	—	✓		[signature]	[signature]	GEO-WD
✓		4	4	1730			✓	[signature]	[signature]	WT

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:	
Log In #: 200-27490	Method: D4318
Client: EA ENGINEERING	LAB IDs: ~~200-27490-1 to 6~~ 1, 1DV, 4, 5, 6

Samples associated with this log-in were placed into storage on 4/10/2015 (Date) 1150 (Time[2]) by:Ken Goodrich

Sample Custodian Signature

Storage Location: WQ2 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: Refrigeration ☐ Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
✓		200-27490-1 TO 6	4/10/15	1630	✓	✓				6 to VB
✓		"	"	1730			✓			WT

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:

Log In #: 200-27490	Method: D422
Client: EA ENGINEERING	LAB IDs: 200-27490-1 to 6

Samples associated with this log-in were placed into storage on 4/10/2015 (Date) 1150 (Time[2]) by:Ken Goodrich

Sample Custodian Signature [signature]

Storage Location: WQ2 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: Refrigeration ☐ Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer Date	Transfer Time[2]	Purpose of Transfer			Relinquished By:	Received By:	Storage Location Prepared Sample[1]
Original	Prepared[1]				Prep	Analysis	Storage			
✓		200-27490,1-6	4/10/15	1300	✓	✓		Scott Z	Scott Z	GEO
✓		" "	" "	1400			✓	Scott Z	Scott Z	WF

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

Classifying Coarse-grained Soils (More Than 50% Retained on No.200 Sieve)

Group Name Result	Group Name	Group Symbol
WG gravel	Well-graded gravel	GW
WG gravel w sand	Well-graded gravel with sand	GW
PG gravel	Poorly graded gravel	GP
PG gravel w sand	Poorly graded gravel with sand	GP
WG gravel w silt	Well-graded gravel with silt	GW-GM
WG gravel w silt sand	Well-graded gravel with silt and sand	GW-GM
WG gravel w clay	Well-graded gravel with clay	GW-GC
WG gravel w clay sand	Well-graded gravel with clay and sand	GW-GC
PG gravel w silt	Poorly graded gravel with silt	GP-GM
PG gravel w silt sand	Poorly graded gravel with silt and sand	GP-GM
PG gravel w clay	Poorly graded gravel with clay	GP-GC
PG gravel w clay sand	Poorly graded gravel with clay and sand	GP-GC
Si gravel	Silty gravel	GM
Si gravel w sand	Silty gravel with sand	GM
Cl gravel	Clayey gravel	GC
Cl gravel w sand	Clayey gravel with sand	GC
Si Cl gravel	Silty, clayey gravel	GC-GM
Si Cl gravel w sand	Silty, clayey gravel with sand	GC-GM
WG sand	Well-graded sand	SW
WG sand w gravel	Well-graded sand with gravel	SW
PG sand	Poorly graded sand	SP
PG sand w gravel	Poorly graded sand with gravel	SP
WG sand w silt	Well-graded sand with silt	SW-SM
WG sand w silt gravel	Well-graded sand with silt and gravel	SW-SM
WG sand w clay	Well-graded sand with clay	SW-SC
WG sand w clay gravel	Well-graded sand with clay and gravel	SW-SC
PG sand w silt	Poorly graded sand with silt	SP-SM
PG sand w silt gravel	Poorly graded sand with silt and gravel	SP-SM
PG sand w clay	Poorly graded sand with clay	SP-SC
PG sand w clay gravel	Poorly graded sand with clay and gravel	SP-SC
Si sand	Silty sand	SM
Si sand gravel	Silty sand and gravel	SM
Cl sand	Clayey sand	SC
Cl sand w gravel	Clayey sand with gravel	SC
Si Cl sand	Silty, clayey sand	SC-SM
Si Cl sand w gravel	Silty, clayey sand with gravel	SC-SM

Classifying Fine-Grained Soil (50% or More Passes No. 200 sieve)

Group Name Result	Group Name	Group Symbol
Lean clay	Lean clay	CL
Lean clay w sand	Lean clay with sand	CL
Lean clay w gravel		CL
Sn lean clay	Sandy lean clay	CL
Sn lean clay w gravel	Sandy lean clay with gravel	CL
Gr lean clay	Gravelly lean clay	CL
Gr lean clay w sand	Gravelly lean clay with sand	CL
Si clay	Silty clay	CL-ML
Si clay w sand	Silty clay with sand	CL-ML
Si clay w gravel	Silty clay with gravel	CL-ML
Sn Si clay	Sandy silty clay	CL-ML
Sn Si clay w gravel	Sandy silty clay with gravel	CL-ML

Gr Si clay	Gravelly silty clay	CL-ML
Gr Si caly w sand	Gravelly silty clay with sand	CL-ML
Silt	Silt	ML
Silt w sand	Silt with sand	ML
Silt w gravel	Silt with gravel	ML
Sn silt	Sandy silt	ML
Sn silt w gravel	Sandy silt with gravel	ML
Gr silt	Gravelly silt	ML
Gr silt w sand	Gravelly silt with sand	ML
Fat clay	Fat clay	CH
Fat clay w sand	Fat clay with sand	CH
Flat clay w gravel	Flat clay with gravel	CH
Sn fat clay	Sandy fat clay	CH
Sn fat clay w gravel	Sandy fat clay with gravel	CH
Gr fat clay	Gravelly fat clay	CH
Gr fat clay w sand	Gravelly fat clay with sand	CH
El silt	Elastic silt	
El silt w sand	Elastic silt with sand	MH
El silt w gravel	Elastic silt with gravel	MH
Sn El silt	Sandy elastic silt	MH
Sn El silt w gravel	Sandy elastic silt with gravel	MH
Gr El silt	Gravelly elastic silt	MH
Gr El silt w sand	Gravelly elastic silt with sand	MH

Classifying Organic Fine-Grained Soil (50% or More Passes No. 200 sieve)

Group Name Result	Group Name	Group Symbol
Og clay	Organic clay	OL
Og clay w sand	Organic clay with sand	OL
Og clay w gravel	Organic clay with gravel	OL
Sn Og clay	Sandy organic clay	OL
Sn Og clay w gravel	Sandy organic clay with gravel	OL
Gr Og clay	Gravelly organic clay	OL
Gr Og clay w sand	Gravelly organic clay with sand	OL
Og silt	Organic silt	OL
Og silt w clay	Organic silt with clay	OL
Og silt w gravel	Organic silt with gravel	OL
Sn Og silt	Sandy organic silt	OL
Sn Og silt w gravel	Sandy organic silt with gravel	OL
Gr Og silt	Gravelly organic silt	OL
Gr Og silt w sand	Gravelly organic silt with sand	OL
Og clay	Organic clay	OH
Og clay w sand	Organic clay with sand	OH
Og clay w gravel	Organic clay with gravel	OH
Sn Og clay	Sandy organic clay	OH
Sn Og clay w gravel	Sandy organic clay with gravel	OH
Gr Og clay	Gravelly organic clay	OH
Gr Og clay w sand	Gravelly organic clay with sand	OH
Og silt	Organic silt	OH
Og silt w clay	Organic silt with clay	OH
Og silt w gravel	Organic silt with gravel	OH
Sn Og silt	Sandy organic silt	OH
Sn Og silt w gravel	Sandy organic silt with gravel	OH
Gr Og silt	Gravelly organic silt	OH
Gr Og silt w sand	Gravelly organic silt with sand	OH

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 200-27536-2

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
4/20/2015 10:56 AM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
04/20/2015

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 200-27536-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/14/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.2 C.

GEOCHEMICAL

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 200-27536-2

Client Sample ID: TS-3SB-SED — Lab Sample ID: 200-27536-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	FAT-CLAY-W-SAND				NONE	1		D2487	Total/NA
Group Symbol	CH				NONE	1		D2487	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	27.6				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	1.4				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	3.6				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	22.6				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	50.7				%	1		D422	Total/NA
Clay	21.7				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	98.6				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	97.0				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	95.0				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	92.0				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	89.1				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	87.0				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	72.4				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	47.4				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	39.2				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	32.2				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	26.3				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	21.7				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	16.4				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	11.7				% Passing	1		D422	Total/NA
Liquid Limit	60				NONE	1		D4318	Total/NA
Plastic Limit	22				NONE	1		D4318	Total/NA
Plasticity Index	37				NONE	1		D4318	Total/NA

Client Sample ID: TS-4MT-SED — Lab Sample ID: 200-27536-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	SI-CL-SAND				NONE	1		D2487	Total/NA
Group Symbol	SC-SM				NONE	1		D2487	Total/NA
Gravel	1.4				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	62.3				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	4.5				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	14.4				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	43.4				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-4MT-SED (Continued)

Lab Sample ID: 200-27536-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silt	22.5				%	1		D422	Total/NA
Clay	13.8				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	98.6				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	94.1				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	88.2				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	79.7				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	69.8				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	62.8				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	57.2				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	36.3				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	25.1				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	21.0				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	17.9				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	15.9				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	13.8				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	10.3				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	8.2				% Passing	1		D422	Total/NA
Liquid Limit	23				NONE	1		D4318	Total/NA
Plastic Limit	19				NONE	1		D4318	Total/NA
Plasticity Index	4				NONE	1		D4318	Total/NA

Client Sample ID: TS-4SB-SED

Lab Sample ID: 200-27536-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	CL-SAND				NONE	1		D2487	Total/NA
Group Symbol	SC				NONE	1		D2487	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	53.0				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	2.2				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	10.2				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	40.6				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	31.7				%	1		D422	Total/NA
Clay	15.3				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	97.8				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	92.7				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	87.6				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	81.1				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	73.8				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	69.8				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	47.0				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	30.0				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	24.4				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	21.0				% Passing	1		D422	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-4SB-SED (Continued) — Lab Sample ID: 200-27536-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hydrometer Reading 4 - Percent Finer	17.6				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	15.3				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	10.2				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	6.8				% Passing	1		D422	Total/NA
Liquid Limit	36				NONE	1		D4318	Total/NA
Plastic Limit	19				NONE	1		D4318	Total/NA
Plasticity Index	17				NONE	1		D4318	Total/NA

Client Sample ID: TS-4NB-SED — Lab Sample ID: 200-27536-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	SI-CL-SAND				NONE	1		D2487	Total/NA
Group Symbol	SC-SM				NONE	1		D2487	Total/NA
Gravel	1.1				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	65.8				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	3.3				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	22.8				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	39.7				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	21.6				%	1		D422	Total/NA
Clay	11.5				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	98.9				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	95.6				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	85.2				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	72.8				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	65.0				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	57.0				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	52.6				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	33.1				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	22.4				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	18.0				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	15.8				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	13.6				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	11.5				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	7.6				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	6.6				% Passing	1		D422	Total/NA
Liquid Limit	28				NONE	1		D4318	Total/NA
Plastic Limit	22				NONE	1		D4318	Total/NA
Plasticity Index	6				NONE	1		D4318	Total/NA

Client Sample ID: TS-4ST-SED — Lab Sample ID: 200-27536-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	SI-CL-SAND				NONE	1		D2487	Total/NA
Group Symbol	SC-SM				NONE	1		D2487	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-4ST-SED (Continued)

Lab Sample ID: 200-27536-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gravel	7.4				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	57.3				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	7.2				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	19.2				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	30.9				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	21.7				%	1		D422	Total/NA
Clay	13.6				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	92.6				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	85.4				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	76.0				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	66.2				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	59.4				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	55.2				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	51.3				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	35.3				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	28.8				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	20.1				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	16.8				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	14.7				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	13.6				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	9.8				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	8.7				% Passing	1		D422	Total/NA
Liquid Limit	25				NONE	1		D4318	Total/NA
Plastic Limit	18				NONE	1		D4318	Total/NA
Plasticity Index	7				NONE	1		D4318	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-3SB-SED

Lab Sample ID: 200-27536-1

Date Collected: 04/10/15 13:30

Matrix: Sediment

Date Received: 04/14/15 10:20

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	FAT-CLAY-W-SAND				NONE			04/15/15 18:51	1
Group Symbol	CH				NONE			04/15/15 18:51	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			04/14/15 15:33	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/14/15 15:33	1
Sand	27.6				%			04/14/15 15:33	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/14/15 15:33	1
Coarse Sand	1.4				%			04/14/15 15:33	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/14/15 15:33	1
Medium Sand	3.6				%			04/14/15 15:33	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/14/15 15:33	1
Fine Sand	22.6				%			04/14/15 15:33	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/14/15 15:33	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/14/15 15:33	1
Silt	50.7				%			04/14/15 15:33	1
Clay	21.7				%			04/14/15 15:33	1
Sieve Size #4 - Percent Finer	100.0				% Passing			04/14/15 15:33	1
Sieve Size #10 - Percent Finer	98.6				% Passing			04/14/15 15:33	1
Sieve Size #20 - Percent Finer	97.0				% Passing			04/14/15 15:33	1
Sieve Size #40 - Percent Finer	95.0				% Passing			04/14/15 15:33	1
Sieve Size #60 - Percent Finer	92.0				% Passing			04/14/15 15:33	1
Sieve Size #80 - Percent Finer	89.1				% Passing			04/14/15 15:33	1
Sieve Size #100 - Percent Finer	87.0				% Passing			04/14/15 15:33	1
Sieve Size #200 - Percent Finer	72.4				% Passing			04/14/15 15:33	1
Hydrometer Reading 1 - Percent Finer	47.4				% Passing			04/14/15 15:33	1
Hydrometer Reading 2 - Percent Finer	39.2				% Passing			04/14/15 15:33	1
Hydrometer Reading 3 - Percent Finer	32.2				% Passing			04/14/15 15:33	1
Hydrometer Reading 4 - Percent Finer	26.3				% Passing			04/14/15 15:33	1
Hydrometer Reading 5 - Percent Finer	21.7				% Passing			04/14/15 15:33	1
Hydrometer Reading 6 - Percent Finer	16.4				% Passing			04/14/15 15:33	1
Hydrometer Reading 7 - Percent Finer	11.7				% Passing			04/14/15 15:33	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	60				NONE			04/15/15 18:49	1
Plastic Limit	22				NONE			04/15/15 18:49	1
Plasticity Index	37				NONE			04/15/15 18:49	1

Client Sample ID: TS-4MT-SED

Date Collected: 04/10/15 16:00
Date Received: 04/14/15 10:20

Lab Sample ID: 200-27536-2

Matrix: Sediment

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	SI-CL-SAND				NONE			04/15/15 18:51	1
Group Symbol	SC-SM				NONE			04/15/15 18:51	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	1.4				%			04/14/15 15:35	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/14/15 15:35	1
Sand	62.3				%			04/14/15 15:35	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/14/15 15:35	1
Coarse Sand	4.5				%			04/14/15 15:35	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/14/15 15:35	1
Medium Sand	14.4				%			04/14/15 15:35	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/14/15 15:35	1
Fine Sand	43.4				%			04/14/15 15:35	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/14/15 15:35	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/14/15 15:35	1
Silt	22.5				%			04/14/15 15:35	1
Clay	13.8				%			04/14/15 15:35	1
Sieve Size #4 - Percent Finer	98.6				% Passing			04/14/15 15:35	1
Sieve Size #10 - Percent Finer	94.1				% Passing			04/14/15 15:35	1
Sieve Size #20 - Percent Finer	88.2				% Passing			04/14/15 15:35	1
Sieve Size #40 - Percent Finer	79.7				% Passing			04/14/15 15:35	1
Sieve Size #60 - Percent Finer	69.8				% Passing			04/14/15 15:35	1
Sieve Size #80 - Percent Finer	62.8				% Passing			04/14/15 15:35	1
Sieve Size #100 - Percent Finer	57.2				% Passing			04/14/15 15:35	1
Sieve Size #200 - Percent Finer	36.3				% Passing			04/14/15 15:35	1
Hydrometer Reading 1 - Percent Finer	25.1				% Passing			04/14/15 15:35	1
Hydrometer Reading 2 - Percent Finer	21.0				% Passing			04/14/15 15:35	1
Hydrometer Reading 3 - Percent Finer	17.9				% Passing			04/14/15 15:35	1
Hydrometer Reading 4 - Percent Finer	15.9				% Passing			04/14/15 15:35	1
Hydrometer Reading 5 - Percent Finer	13.8				% Passing			04/14/15 15:35	1
Hydrometer Reading 6 - Percent Finer	10.3				% Passing			04/14/15 15:35	1
Hydrometer Reading 7 - Percent Finer	8.2				% Passing			04/14/15 15:35	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	23				NONE			04/15/15 18:49	1
Plastic Limit	19				NONE			04/15/15 18:49	1
Plasticity Index	4				NONE			04/15/15 18:49	1

Client Sample ID: TS-4SB-SED

Date Collected: 04/13/15 11:30
Date Received: 04/14/15 10:20

Lab Sample ID: 200-27536-3

Matrix: Sediment

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	CL-SAND				NONE			04/15/15 18:51	1
Group Symbol	SC				NONE			04/15/15 18:51	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			04/14/15 15:38	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/14/15 15:38	1
Sand	53.0				%			04/14/15 15:38	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/14/15 15:38	1
Coarse Sand	2.2				%			04/14/15 15:38	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/14/15 15:38	1
Medium Sand	10.2				%			04/14/15 15:38	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/14/15 15:38	1
Fine Sand	40.6				%			04/14/15 15:38	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/14/15 15:38	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/14/15 15:38	1
Silt	31.7				%			04/14/15 15:38	1
Clay	15.3				%			04/14/15 15:38	1
Sieve Size #4 - Percent Finer	100.0				% Passing			04/14/15 15:38	1
Sieve Size #10 - Percent Finer	97.8				% Passing			04/14/15 15:38	1
Sieve Size #20 - Percent Finer	92.7				% Passing			04/14/15 15:38	1
Sieve Size #40 - Percent Finer	87.6				% Passing			04/14/15 15:38	1
Sieve Size #60 - Percent Finer	81.1				% Passing			04/14/15 15:38	1
Sieve Size #80 - Percent Finer	73.8				% Passing			04/14/15 15:38	1
Sieve Size #100 - Percent Finer	69.8				% Passing			04/14/15 15:38	1
Sieve Size #200 - Percent Finer	47.0				% Passing			04/14/15 15:38	1
Hydrometer Reading 1 - Percent Finer	30.0				% Passing			04/14/15 15:38	1
Hydrometer Reading 2 - Percent Finer	24.4				% Passing			04/14/15 15:38	1
Hydrometer Reading 3 - Percent Finer	21.0				% Passing			04/14/15 15:38	1
Hydrometer Reading 4 - Percent Finer	17.6				% Passing			04/14/15 15:38	1
Hydrometer Reading 5 - Percent Finer	15.3				% Passing			04/14/15 15:38	1
Hydrometer Reading 6 - Percent Finer	10.2				% Passing			04/14/15 15:38	1
Hydrometer Reading 7 - Percent Finer	6.8				% Passing			04/14/15 15:38	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	36				NONE			04/15/15 18:49	1
Plastic Limit	19				NONE			04/15/15 18:49	1
Plasticity Index	17				NONE			04/15/15 18:49	1

Client Sample ID: TS-4NB-SED

Date Collected: 04/13/15 13:50
Date Received: 04/14/15 10:20

Lab Sample ID: 200-27536-4

Matrix: Sediment

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	SI-CL-SAND				NONE			04/15/15 18:51	1
Group Symbol	SC-SM				NONE			04/15/15 18:51	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	1.1				%			04/14/15 15:40	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/14/15 15:40	1
Sand	65.8				%			04/14/15 15:40	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/14/15 15:40	1
Coarse Sand	3.3				%			04/14/15 15:40	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/14/15 15:40	1
Medium Sand	22.8				%			04/14/15 15:40	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/14/15 15:40	1
Fine Sand	39.7				%			04/14/15 15:40	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/14/15 15:40	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/14/15 15:40	1
Silt	21.6				%			04/14/15 15:40	1
Clay	11.5				%			04/14/15 15:40	1
Sieve Size #4 - Percent Finer	98.9				% Passing			04/14/15 15:40	1
Sieve Size #10 - Percent Finer	95.6				% Passing			04/14/15 15:40	1
Sieve Size #20 - Percent Finer	85.2				% Passing			04/14/15 15:40	1
Sieve Size #40 - Percent Finer	72.8				% Passing			04/14/15 15:40	1
Sieve Size #60 - Percent Finer	65.0				% Passing			04/14/15 15:40	1
Sieve Size #80 - Percent Finer	57.0				% Passing			04/14/15 15:40	1
Sieve Size #100 - Percent Finer	52.6				% Passing			04/14/15 15:40	1
Sieve Size #200 - Percent Finer	33.1				% Passing			04/14/15 15:40	1
Hydrometer Reading 1 - Percent Finer	22.4				% Passing			04/14/15 15:40	1
Hydrometer Reading 2 - Percent Finer	18.0				% Passing			04/14/15 15:40	1
Hydrometer Reading 3 - Percent Finer	15.8				% Passing			04/14/15 15:40	1
Hydrometer Reading 4 - Percent Finer	13.6				% Passing			04/14/15 15:40	1
Hydrometer Reading 5 - Percent Finer	11.5				% Passing			04/14/15 15:40	1
Hydrometer Reading 6 - Percent Finer	7.6				% Passing			04/14/15 15:40	1
Hydrometer Reading 7 - Percent Finer	6.6				% Passing			04/14/15 15:40	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	28				NONE			04/15/15 18:49	1
Plastic Limit	22				NONE			04/15/15 18:49	1
Plasticity Index	6				NONE			04/15/15 18:49	1

Client Sample ID: TS-4ST-SED

Date Collected: 04/13/15 15:30
Date Received: 04/14/15 10:20

Lab Sample ID: 200-27536-5

Matrix: Sediment

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	SI-CL-SAND				NONE			04/15/15 18:51	1
Group Symbol	SC-SM				NONE			04/15/15 18:51	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	7.4				%			04/14/15 15:42	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/14/15 15:42	1
Sand	57.3				%			04/14/15 15:42	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/14/15 15:42	1
Coarse Sand	7.2				%			04/14/15 15:42	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/14/15 15:42	1
Medium Sand	19.2				%			04/14/15 15:42	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/14/15 15:42	1
Fine Sand	30.9				%			04/14/15 15:42	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/14/15 15:42	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/14/15 15:42	1
Silt	21.7				%			04/14/15 15:42	1
Clay	13.6				%			04/14/15 15:42	1
Sieve Size #4 - Percent Finer	92.6				% Passing			04/14/15 15:42	1
Sieve Size #10 - Percent Finer	85.4				% Passing			04/14/15 15:42	1
Sieve Size #20 - Percent Finer	76.0				% Passing			04/14/15 15:42	1
Sieve Size #40 - Percent Finer	66.2				% Passing			04/14/15 15:42	1
Sieve Size #60 - Percent Finer	59.4				% Passing			04/14/15 15:42	1
Sieve Size #80 - Percent Finer	55.2				% Passing			04/14/15 15:42	1
Sieve Size #100 - Percent Finer	51.3				% Passing			04/14/15 15:42	1
Sieve Size #200 - Percent Finer	35.3				% Passing			04/14/15 15:42	1
Hydrometer Reading 1 - Percent Finer	28.8				% Passing			04/14/15 15:42	1
Hydrometer Reading 2 - Percent Finer	20.1				% Passing			04/14/15 15:42	1
Hydrometer Reading 3 - Percent Finer	16.8				% Passing			04/14/15 15:42	1
Hydrometer Reading 4 - Percent Finer	14.7				% Passing			04/14/15 15:42	1
Hydrometer Reading 5 - Percent Finer	13.6				% Passing			04/14/15 15:42	1
Hydrometer Reading 6 - Percent Finer	9.8				% Passing			04/14/15 15:42	1
Hydrometer Reading 7 - Percent Finer	8.7				% Passing			04/14/15 15:42	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	25				NONE			04/15/15 18:49	1
Plastic Limit	18				NONE			04/15/15 18:49	1
Plasticity Index	7				NONE			04/15/15 18:49	1

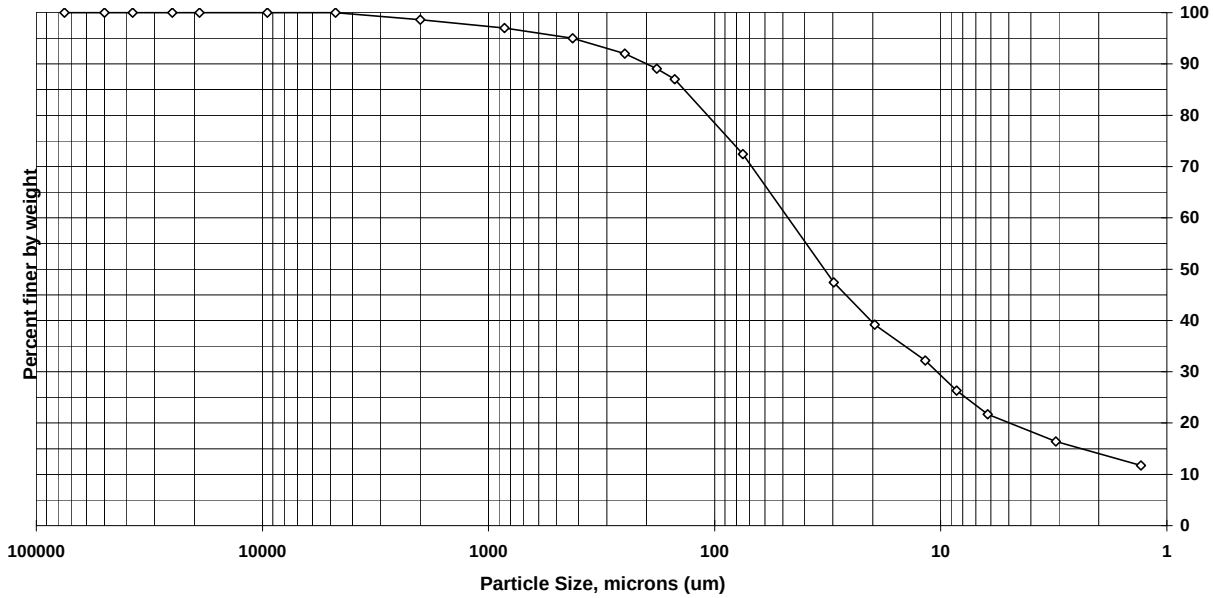
Particle Size of Soils by ASTM D422

				Date Received:	4/14/2015
Sample ID:	TS-3SB-SED	**Percent Solids:**	72.7%	**Start Date:**	4/14/2015
Lab ID:	200-27536-A-1	**Specific Gravity:**	2.650	**End Date:**	4/17/2015

Shape (> #10): subangular

Non-soil material: shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	98.6	1.4
#20	850	97.0	1.6
#40	425	95.0	2.0
#60	250	92.0	3.0
#80	180	89.1	2.9
#100	150	87.0	2.1
#200	75	72.4	14.6
Hyd1	29.7	47.4	25.0
Hyd2	19.6	39.2	8.2
Hyd3	11.7	32.2	7.0
Hyd4	8.5	26.3	5.9
Hyd5	6.2	21.7	4.6
Hyd6	3.1	16.4	5.3
Hyd7	1.3	11.7	4.7

Soil Classification	Percent of sample
Gravel	0.0
Sand	27.6
Coarse Sand	1.4
Medium Sand	3.6
Fine Sand	22.6
Silt	50.7
Clay	21.7

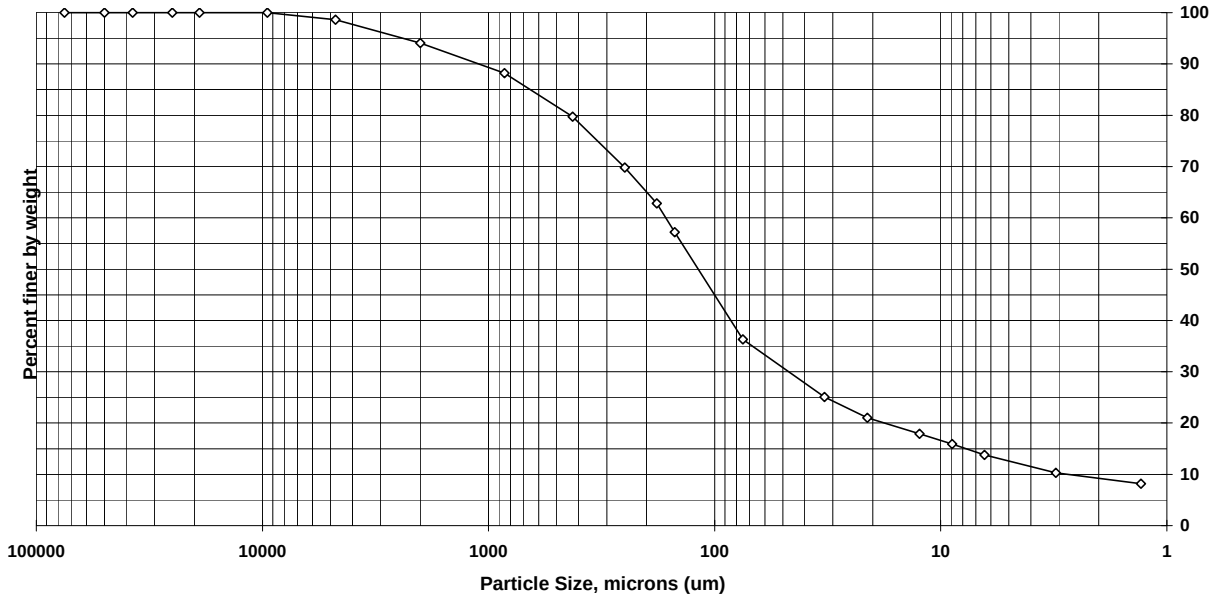
Particle Size of Soils by ASTM D422

				Date Received:	4/14/2015
Sample ID:	TS-4MT-SED	**Percent Solids:**	78.9%	**Start Date:**	4/14/2015
Lab ID:	200-27536-A-2	**Specific Gravity:**	2.650	**End Date:**	4/17/2015

Shape (> #10): subangular

Non-soil material: shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	98.6	1.4
#10	2000	94.1	4.5
#20	850	88.2	5.9
#40	425	79.7	8.5
#60	250	69.8	9.9
#80	180	62.8	7.0
#100	150	57.2	5.6
#200	75	36.3	20.9
Hyd1	32.7	25.1	11.2
Hyd2	21.1	21.0	4.1
Hyd3	12.4	17.9	3.1
Hyd4	8.9	15.9	2.0
Hyd5	6.4	13.8	2.1
Hyd6	3.1	10.3	3.5
Hyd7	1.3	8.2	2.1

Soil Classification	Percent of sample
Gravel	1.4
Sand	62.3
Coarse Sand	4.5
Medium Sand	14.4
Fine Sand	43.4
Silt	22.5
Clay	13.8

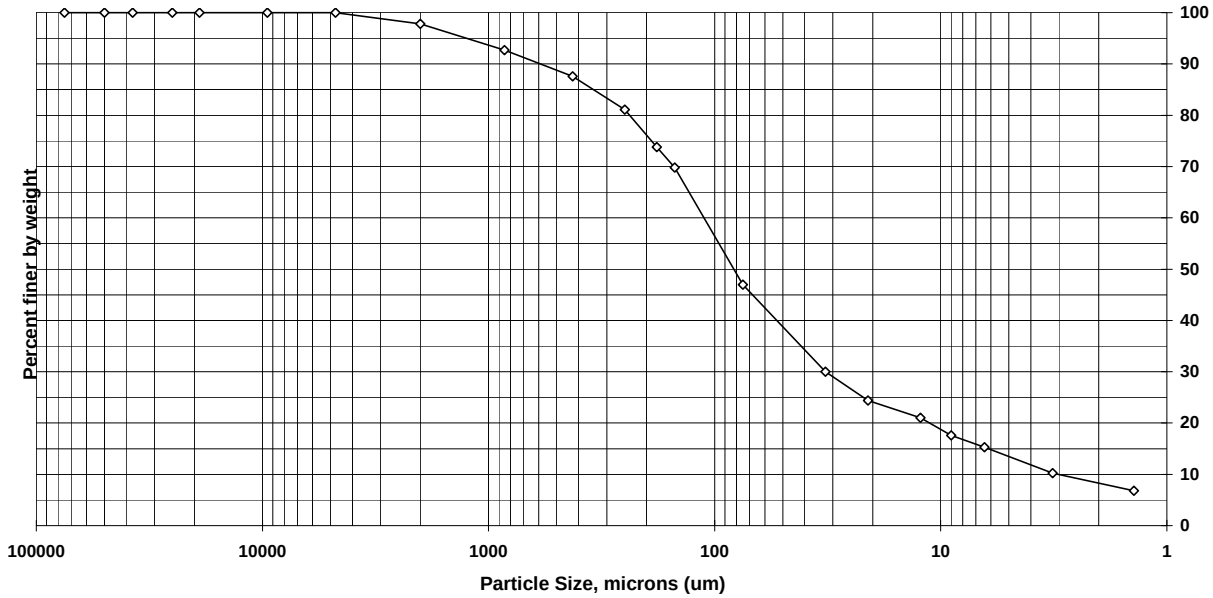
Particle Size of Soils by ASTM D422

				Date Received:	4/14/2015
Sample ID:	TS-4SB-SED	**Percent Solids:**	75.8%	**Start Date:**	4/14/2015
Lab ID:	200-27536-A-3	**Specific Gravity:**	2.650	**End Date:**	4/17/2015

Shape (> #10): subangular

Non-soil material: shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	97.8	2.2
#20	850	92.7	5.1
#40	425	87.6	5.1
#60	250	81.1	6.5
#80	180	73.8	7.3
#100	150	69.8	4.0
#200	75	47.0	22.8
Hyd1	32.4	30.0	17.0
Hyd2	21	24.4	5.6
Hyd3	12.3	21.0	3.4
Hyd4	9	17.6	3.4
Hyd5	6.4	15.3	2.3
Hyd6	3.2	10.2	5.1
Hyd7	1.4	6.8	3.4

Soil Classification	Percent of sample
Gravel	0.0
Sand	53.0
Coarse Sand	2.2
Medium Sand	10.2
Fine Sand	40.6
Silt	31.7
Clay	15.3

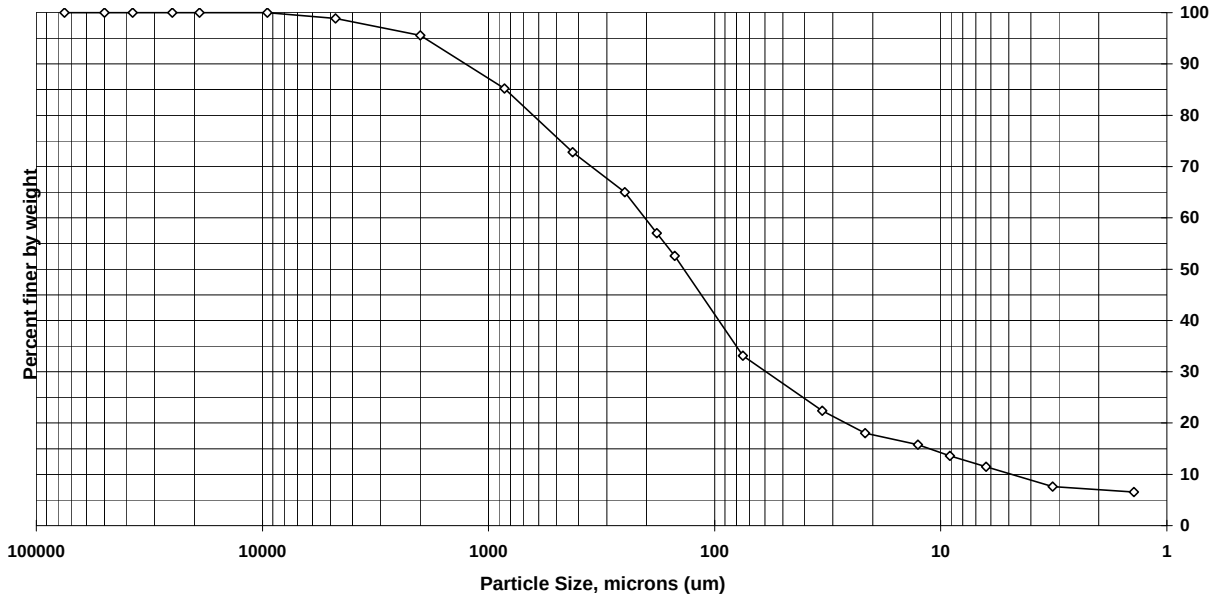
Particle Size of Soils by ASTM D422

				Date Received:	4/14/2015
Sample ID:	TS-4NB-SED	**Percent Solids:**	78.3%	**Start Date:**	4/14/2015
Lab ID:	200-27536-A-4	**Specific Gravity:**	2.650	**End Date:**	4/17/2015

Shape (> #10): subangular

Non-soil material: shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	98.9	1.1
#10	2000	95.6	3.3
#20	850	85.2	10.4
#40	425	72.8	12.4
#60	250	65.0	7.8
#80	180	57.0	8.0
#100	150	52.6	4.4
#200	75	33.1	19.5
Hyd1	33.4	22.4	10.7
Hyd2	21.6	18.0	4.4
Hyd3	12.6	15.8	2.2
Hyd4	9.1	13.6	2.2
Hyd5	6.3	11.5	2.1
Hyd6	3.2	7.6	3.9
Hyd7	1.4	6.6	1.1

Soil Classification	Percent of sample
Gravel	1.1
Sand	65.8
Coarse Sand	3.3
Medium Sand	22.8
Fine Sand	39.7
Silt	21.6
Clay	11.5

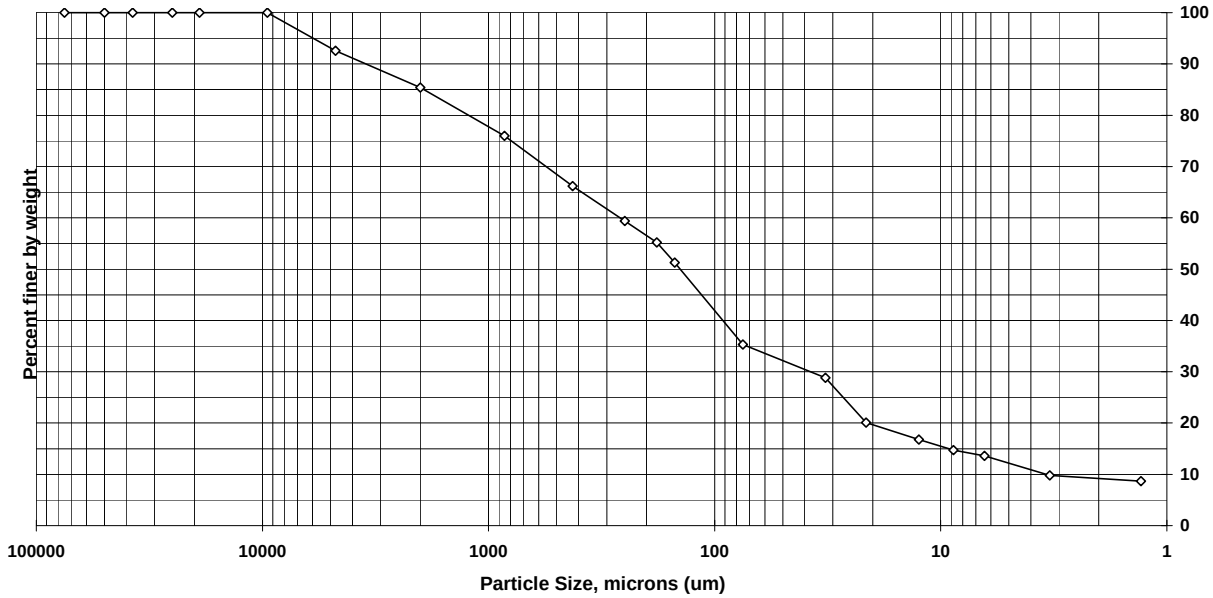
Particle Size of Soils by ASTM D422

				Date Received:	4/14/2015
Sample ID:	TS-4ST-SED	**Percent Solids:**	80.4%	**Start Date:**	4/14/2015
Lab ID:	200-27536-A-5	**Specific Gravity:**	2.650	**End Date:**	4/17/2015

Shape (> #10): subangular

Non-soil material: shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	92.6	7.4
#10	2000	85.4	7.2
#20	850	76.0	9.4
#40	425	66.2	9.8
#60	250	59.4	6.8
#80	180	55.2	4.2
#100	150	51.3	3.9
#200	75	35.3	16.0
Hyd1	32.4	28.8	6.5
Hyd2	21.4	20.1	8.7
Hyd3	12.5	16.8	3.3
Hyd4	8.8	14.7	2.1
Hyd5	6.4	13.6	1.1
Hyd6	3.3	9.8	3.8
Hyd7	1.3	8.7	1.1

Soil Classification	Percent of sample
Gravel	7.4
Sand	57.3
Coarse Sand	7.2
Medium Sand	19.2
Fine Sand	30.9
Silt	21.7
Clay	13.6

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-3SB-SED
Lab Sample ID	200-27536-A-1

Date Received	4/14/2015
Start Date	04/14/2015 15:33
End Date	04/17/2015 12:35

Dry Weight Determination

Tin Weight	4.27	g
Wet Sample + Tin	201.09	g
Dry Sample + Tin	147.30	g
% Moisture	27.33	%

Non-soil material:	shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/14/2015 15:33
Date/Time out of oven	04/15/2015 8:30

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	50.47	144.82	94.35
Sample Weight (Oven Dried)			68.6

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			0.94
Sample <#10			67.7
% Passing #10			71.8

Hydrometer Data

Serial Number	426931
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	462.85	463.79	0.94	g	98.6	Sand	Coarse
#20	850	381.62	382.74	1.12	g	97.0	Sand	Medium
#40	425	355.72	357.12	1.40	g	95.0	Sand	Medium
#60	250	353.37	355.42	2.05	g	92.0	Sand	Fine
#80	180	339.35	341.34	1.99	g	89.1	Sand	Fine
#100	150	329.93	331.36	1.43	g	87.0	Sand	Fine
#200	75	323.24	333.28	10.04	g	72.4	Sand	Fine
				0.00	g	72.4		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	68.6

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0240	22.0	29.7	47.4	Silt	
5	5	1.0205	22.0	19.6	39.2	Silt	
15	15	1.0175	22.0	11.7	32.2	Silt	
30	30	1.0150	22.0	8.5	26.3	Silt	
60	59	1.0130	22.0	6.2	21.7	Silt	
250	256	1.0110	21.0	3.1	16.4	Clay	
1440	1440	1.0090	21.0	1.3	11.7	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-4MT-SED
Lab Sample ID	200-27536-A-2

Date Received	4/14/2015
Start Date	04/14/2015 15:35
End Date	04/17/2015 12:52

Dry Weight Determination

Tin Weight	4.19	g
Wet Sample + Tin	299.44	g
Dry Sample + Tin	237.21	g
% Moisture	21.08	%

Non-soil material:	shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/14/2015 15:35
Date/Time out of oven	04/15/2015 8:30

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	51.54	150.74	99.2
Sample Weight (Oven Dried)			78.3

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			4.59
Sample <#10			73.7
% Passing #10			74.3

Hydrometer Data

Serial Number	426931
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.17	489.24	1.07	g	98.6	Gravel	
#10	2000	462.85	466.37	3.52	g	94.1	Sand	Coarse
#20	850	381.62	386.23	4.61	g	88.2	Sand	Medium
#40	425	355.72	362.37	6.65	g	79.7	Sand	Medium
#60	250	353.37	361.15	7.78	g	69.8	Sand	Fine
#80	180	339.35	344.87	5.52	g	62.8	Sand	Fine
#100	150	329.93	334.34	4.41	g	57.2	Sand	Fine
#200	75	323.24	339.59	16.35	g	36.3	Sand	Fine
				0.00	g	36.3		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	78.3

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0160	22.0	32.7	25.1	Silt	
5	5	1.0140	22.0	21.1	21	Silt	
15	15	1.0125	22.0	12.4	17.9	Silt	
30	30	1.0115	22.0	8.9	15.9	Silt	
60	58	1.0105	22.0	6.4	13.8	Silt	
250	256	1.0090	21.0	3.1	10.3	Clay	
1440	1440	1.0080	21.0	1.3	8.2	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-4SB-SED
Lab Sample ID	200-27536-A-3

Date Received	4/14/2015
Start Date	04/14/2015 15:38
End Date	04/17/2015 13:06

Dry Weight Determination

Tin Weight	4.17	g
Wet Sample + Tin	232.04	g
Dry Sample + Tin	176.94	g
% Moisture	24.18	%

Non-soil material:	shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/14/2015 15:38
Date/Time out of oven	04/15/2015 8:31

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	47.74	141.26	93.52
Sample Weight (Oven Dried)			70.9

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			1.53
Sample <#10			69.4
% Passing #10			74.2

Hydrometer Data

Serial Number	426931
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	462.85	464.38	1.53	g	97.8	Sand	Coarse
#20	850	381.62	385.25	3.63	g	92.7	Sand	Medium
#40	425	355.72	359.34	3.62	g	87.6	Sand	Medium
#60	250	353.37	358.01	4.64	g	81.1	Sand	Fine
#80	180	339.35	344.53	5.18	g	73.8	Sand	Fine
#100	150	329.93	332.75	2.82	g	69.8	Sand	Fine
#200	75	323.24	339.41	16.17	g	47.0	Sand	Fine
				0.00	g	47.0		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	70.9

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0170	22.0	32.4	30	Silt	
5	5	1.0145	22.0	21	24.4	Silt	
15	15	1.0130	22.0	12.3	21	Silt	
30	29	1.0115	22.0	9	17.6	Silt	
60	58	1.0105	22.0	6.4	15.3	Silt	
250	250	1.0085	21.0	3.2	10.2	Clay	
1440	1434	1.0070	21.0	1.4	6.8	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-4NB-SED
Lab Sample ID	200-27536-A-4

Date Received	4/14/2015
Start Date	04/14/2015 15:40
End Date	04/17/2015 13:19

Dry Weight Determination

Tin Weight	4.30	g
Wet Sample + Tin	253.40	g
Dry Sample + Tin	199.41	g
% Moisture	21.67	%

Non-soil material:	shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/14/2015 15:40
Date/Time out of oven	04/15/2015 8:31

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	51.45	145.46	94.01
Sample Weight (Oven Dried)			73.6

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			3.25
Sample <#10			70.4
% Passing #10			74.9

Hydrometer Data

Serial Number	426931
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.17	488.99	0.82	g	98.9	Gravel	
#10	2000	462.85	465.28	2.43	g	95.6	Sand	Coarse
#20	850	381.62	389.28	7.66	g	85.2	Sand	Medium
#40	425	355.72	364.83	9.11	g	72.8	Sand	Medium
#60	250	353.37	359.13	5.76	g	65.0	Sand	Fine
#80	180	339.35	345.27	5.92	g	57.0	Sand	Fine
#100	150	329.93	333.16	3.23	g	52.6	Sand	Fine
#200	75	323.24	337.56	14.32	g	33.1	Sand	Fine
				0.00	g	33.1		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	73.6

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0140	22.0	33.4	22.4	Silt	
5	5	1.0120	22.0	21.6	18	Silt	
15	15	1.0110	22.0	12.6	15.8	Silt	
30	29	1.0100	22.0	9.1	13.6	Silt	
60	63	1.0090	22.0	6.3	11.5	Silt	
250	250	1.0075	21.0	3.2	7.64	Clay	
1440	1434	1.0070	21.0	1.4	6.55	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-4ST-SED
Lab Sample ID	200-27536-A-5

Date Received	4/14/2015
Start Date	04/14/2015 15:42
End Date	04/17/2015 13:42

Dry Weight Determination

Tin Weight	4.29	g
Wet Sample + Tin	240.23	g
Dry Sample + Tin	194.00	g
% Moisture	19.59	%

Non-soil material:	shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/14/2015 15:42
Date/Time out of oven	04/15/2015 8:31

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	47.73	139.68	91.95
Sample Weight (Oven Dried)			73.9

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			10.8
Sample <#10			63.1
% Passing #10			68.6

Hydrometer Data

Serial Number	426931
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750	488.17	493.63	5.46	g	92.6	Gravel	
#10	2000	462.85	468.18	5.33	g	85.4	Sand	Coarse
#20	850	381.62	388.54	6.92	g	76.0	Sand	Medium
#40	425	355.72	362.94	7.22	g	66.2	Sand	Medium
#60	250	353.37	358.42	5.05	g	59.4	Sand	Fine
#80	180	339.35	342.47	3.12	g	55.2	Sand	Fine
#100	150	329.93	332.83	2.90	g	51.3	Sand	Fine
#200	75	323.24	335.10	11.86	g	35.3	Sand	Fine
				0.00	g	35.3		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	73.9

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0170	22.0	32.4	28.8	Silt	
5	5	1.0130	22.0	21.4	20.1	Silt	
15	15	1.0115	22.0	12.5	16.8	Silt	
30	31	1.0105	22.0	8.8	14.7	Silt	
60	60	1.0100	22.0	6.4	13.6	Silt	
250	240	1.0085	21.0	3.3	9.78	Clay	
1440	1424	1.0080	21.0	1.3	8.69	Clay	

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): 15204.01, 0009

Page 1 of 1

Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Butyl Tins Unger Method	Total Solids SW846	Specific Gravity ASTM D854	Unified Soil Classification System (Includes Atterberg Limits) ASTM D2487
4/10/15	1330		X	TS-3SB-SED	1	X	X	X	X
4/10/15	1000		X	TS-4MT-SED	1	X	X	X	X
4/13/15	1130		X	TS-4SB-SED	1	X	X	X	X
4/13/15	1350		X	TS-4NB-SED	1	X	X	X	X
4/13/15	1530		X	TS-4ST-SED	1	X	X	X	X

Parameters/Method Numbers for Analysis

Chain of Custody Record

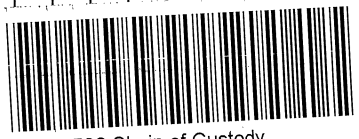
Laboratory:
TestAmerica - Burlington
30 Community Dr
Suite 11
South Burlington, VT 05403

phone: (802) 660-1990

ATTN: Kirk Young

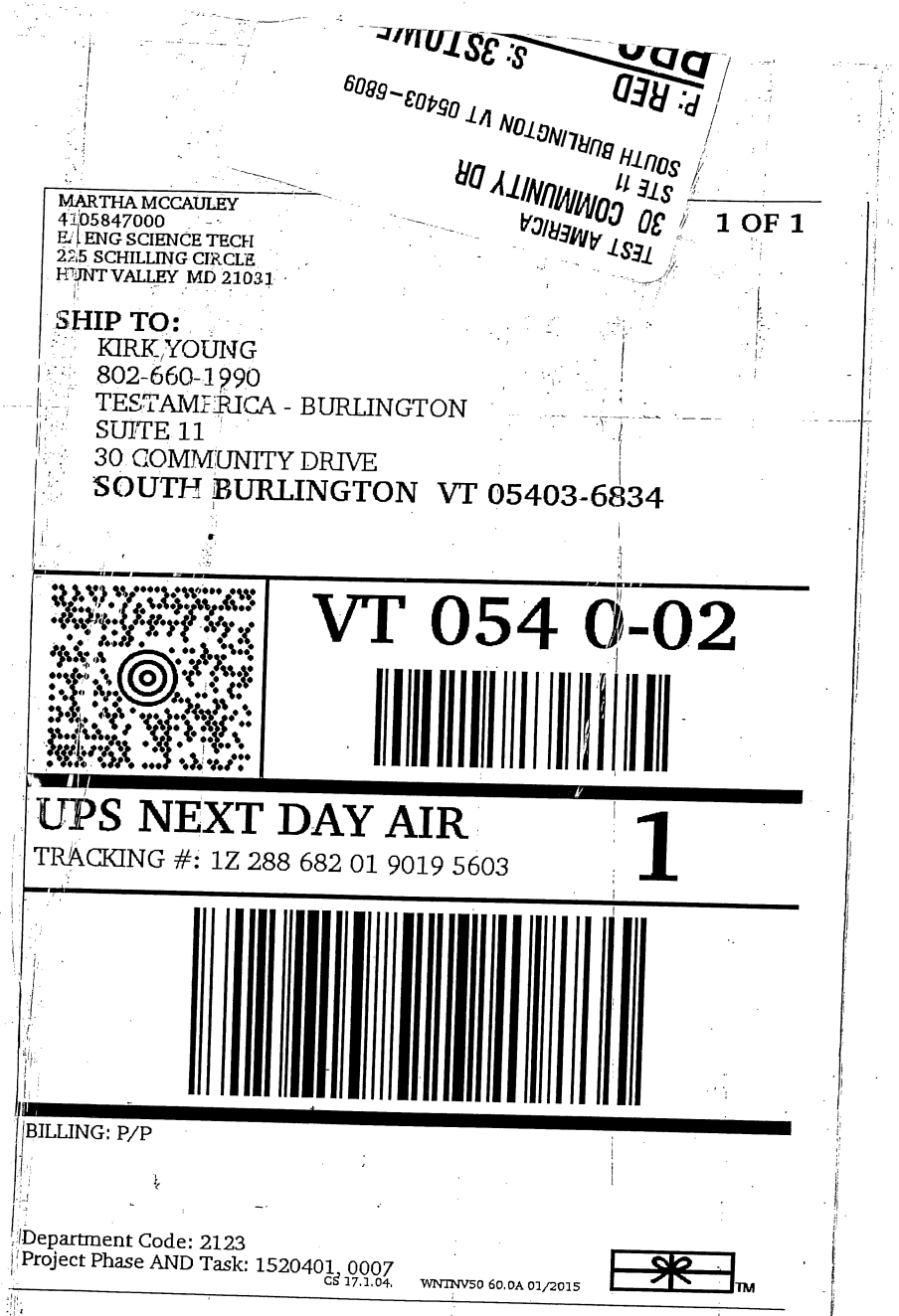
Remarks

5 DAY TAT FOR GRAIN SIZE



Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
	4/13/15 ~~1615~~ 1615		
Relinquished by: (Signature)	**Date/Time**	**Received by Laboratory: (Signature)**	**Date/Time**
	4/13/15 1700	TASIV	4/14/15 1020

OCEAN SEDIMENT
Parallel Thimble Shoal



TEST AMERICA
30 COMMUNITY DR
STE 11
SOUTH BURLINGTON VT 05403-6809
P: RED
S: 3STOWE

MARTHA MCCAULEY
4105847000
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

1 OF 1

SHIP TO:
KIRK YOUNG
802-660-1990
TESTAMERICA - BURLINGTON
SUITE 11
30 COMMUNITY DRIVE
SOUTH BURLINGTON VT 05403-6834

VT 054 0-02

UPS NEXT DAY AIR

TRACKING #: 1Z 288 682 01 9019 5603

1

BILLING: P/P

Department Code: 2123
Project Phase AND Task: 1520401, 0007
CS 17.1.04. WNTNV50 60.0A 01/2015

https://www.campusship.ups.com/cship/create?ActionOriginPair=default___PrintWindow... 4/13/2015

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 200-27536-2

Login Number: 27536

List Source: TestAmerica Burlington

List Number: 1

Creator: Atherton, Joel E

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Not present
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.2ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:

Log In #: 200-27536	**Method:** D2487
Client: EA Engineering	**LAB IDs:** 200-27536 - 1-5
TA Pittsburgh	

Samples associated with this log-in were placed into storage on 4/14/2015 (Date) 1120 (Time[2]) **by: Joel Atherton** [signature]

Sample Custodian Signature

Storage Location: WAC4 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: ☒ Refrigeration ☐ Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer Date	Transfer Time[2]	Purpose of Transfer			Relinquished By:	Received By:	Storage Location Prepared Sample[1]
Original	Prepared[1]				Prep	Analysis	Storage			
✓		200-27536-1+05	4/15/15	1850	✓	✓		[signature]	[signature]	GEO-LAB
✓		"	"	2000			✓	[signature]	[signature]	[signature]

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:

Log In #: 200-27536	Method: D422
Client: EA Engineering	LAB IDs: 200-27536 - 1-5
TA Pittsburgh	

Samples associated with this log-in were placed into storage on 4/14/2015 (Date) 1120 (Time[2]) by: Joel Atherton [signature]

Sample Custodian Signature

Storage Location: WAC4 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: ☒ Refrigeration ☐ Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer Date	Transfer Time[2]	Purpose of Transfer			Relinquished By:	Received By:	Storage Location Prepared Sample[1]
Original	Prepared[1]				Prep	Analysis	Storage			
✓		200-27536, 1-5	4/14/15	1400	✓	✓		[signature]	[signature]	GEO
✓		" " "	" "	1530			✓	[signature]	[signature]	WI

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

BRFSR012:07.09.10:2
TestAmerica

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:

Log In #: 200-27536	**Method:** D4318
Client: EA Engineering	**LAB IDs:** 200-27536 - 1-5
TA Pittsburgh	

Samples associated with this log-in were placed into storage on 4/14/2015 (Date) 1120 (Time[2]) **by: Joel Atherton** [signature]

Sample Custodian Signature

Storage Location: WAC4 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: ☒ Refrigeration ☐ Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer Date	Transfer Time[2]	Purpose of Transfer			Relinquished By:	Received By:	Storage Location Prepared Sample[1]
Original	Prepared[1]				Prep	Analysis	Storage			
✓		200-27536-1105	4/15/15	1850	✓	✓		[signature]	[signature]	GEO-183
✓		"	"	2000			✓	[signature]	[signature]	WI

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 200-27552-2

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
4/20/2015 8:52 AM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
04/20/2015

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 200-27552-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/15/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.2 C.

GEOTECHNICAL

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 200-27552-2

Client Sample ID: TS-3NB-SED — Lab Sample ID: 200-27552-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	SN-LEAN-CLAY				NONE	1		D2487	Total/NA
Group Symbol	CL				NONE	1		D2487	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	36.4				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	0.0				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	5.4				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	31.0				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	45.9				%	1		D422	Total/NA
Clay	17.7				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	97.5				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	94.6				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	89.6				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	83.9				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	80.9				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	63.6				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	43.1				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	28.9				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	24.8				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	20.8				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	17.7				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	13.2				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	10.1				% Passing	1		D422	Total/NA
Liquid Limit	39				NONE	1		D4318	Total/NA
Plastic Limit	18				NONE	1		D4318	Total/NA
Plasticity Index	20				NONE	1		D4318	Total/NA

Client Sample ID: TS-3NB-SED-FD — Lab Sample ID: 200-27552-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	SN-LEAN-CLAY				NONE	1		D2487	Total/NA
Group Symbol	CL				NONE	1		D2487	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	43.4				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	2.1				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	7.1				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	34.2				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-3NB-SED-FD (Continued)

Lab Sample ID: 200-27552-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	38.9				%	1		D422	Total/NA
Clay	17.7				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	97.9				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	94.2				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	90.8				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	86.0				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	80.6				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	77.3				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	56.6				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	39.1				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	29.4				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	24.1				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	20.9				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	17.7				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	12.8				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	10.7				% Passing	1		D422	Total/NA
Liquid Limit	41				NONE	1		D4318	Total/NA
Plastic Limit	19				NONE	1		D4318	Total/NA
Plasticity Index	22				NONE	1		D4318	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-3NB-SED

Date Collected: 04/14/15 11:30
Date Received: 04/15/15 10:10

Lab Sample ID: 200-27552-1

Matrix: Sediment

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	SN-LEAN-CLAY				NONE			04/15/15 18:51	1
Group Symbol	CL				NONE			04/15/15 18:51	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			04/15/15 12:42	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/15/15 12:42	1
Sand	36.4				%			04/15/15 12:42	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/15/15 12:42	1
Coarse Sand	0.0				%			04/15/15 12:42	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/15/15 12:42	1
Medium Sand	5.4				%			04/15/15 12:42	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/15/15 12:42	1
Fine Sand	31.0				%			04/15/15 12:42	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/15/15 12:42	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/15/15 12:42	1
Silt	45.9				%			04/15/15 12:42	1
Clay	17.7				%			04/15/15 12:42	1
Sieve Size #4 - Percent Finer	100.0				% Passing			04/15/15 12:42	1
Sieve Size #10 - Percent Finer	100.0				% Passing			04/15/15 12:42	1
Sieve Size #20 - Percent Finer	97.5				% Passing			04/15/15 12:42	1
Sieve Size #40 - Percent Finer	94.6				% Passing			04/15/15 12:42	1
Sieve Size #60 - Percent Finer	89.6				% Passing			04/15/15 12:42	1
Sieve Size #80 - Percent Finer	83.9				% Passing			04/15/15 12:42	1
Sieve Size #100 - Percent Finer	80.9				% Passing			04/15/15 12:42	1
Sieve Size #200 - Percent Finer	63.6				% Passing			04/15/15 12:42	1
Hydrometer Reading 1 - Percent Finer	43.1				% Passing			04/15/15 12:42	1
Hydrometer Reading 2 - Percent Finer	28.9				% Passing			04/15/15 12:42	1
Hydrometer Reading 3 - Percent Finer	24.8				% Passing			04/15/15 12:42	1
Hydrometer Reading 4 - Percent Finer	20.8				% Passing			04/15/15 12:42	1
Hydrometer Reading 5 - Percent Finer	17.7				% Passing			04/15/15 12:42	1
Hydrometer Reading 6 - Percent Finer	13.2				% Passing			04/15/15 12:42	1
Hydrometer Reading 7 - Percent Finer	10.1				% Passing			04/15/15 12:42	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	39				NONE			04/15/15 18:49	1
Plastic Limit	18				NONE			04/15/15 18:49	1
Plasticity Index	20				NONE			04/15/15 18:49	1

Client Sample ID: TS-3NB-SED-FD

Lab Sample ID: 200-27552-2

Date Collected: 04/14/15 11:30

Matrix: Sediment

Date Received: 04/15/15 10:10

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	SN-LEAN-CLAY				NONE			04/15/15 18:51	1
Group Symbol	CL				NONE			04/15/15 18:51	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			04/15/15 12:35	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/15/15 12:35	1
Sand	43.4				%			04/15/15 12:35	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/15/15 12:35	1
Coarse Sand	2.1				%			04/15/15 12:35	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/15/15 12:35	1
Medium Sand	7.1				%			04/15/15 12:35	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/15/15 12:35	1
Fine Sand	34.2				%			04/15/15 12:35	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/15/15 12:35	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/15/15 12:35	1
Silt	38.9				%			04/15/15 12:35	1
Clay	17.7				%			04/15/15 12:35	1
Sieve Size #4 - Percent Finer	100.0				% Passing			04/15/15 12:35	1
Sieve Size #10 - Percent Finer	97.9				% Passing			04/15/15 12:35	1
Sieve Size #20 - Percent Finer	94.2				% Passing			04/15/15 12:35	1
Sieve Size #40 - Percent Finer	90.8				% Passing			04/15/15 12:35	1
Sieve Size #60 - Percent Finer	86.0				% Passing			04/15/15 12:35	1
Sieve Size #80 - Percent Finer	80.6				% Passing			04/15/15 12:35	1
Sieve Size #100 - Percent Finer	77.3				% Passing			04/15/15 12:35	1
Sieve Size #200 - Percent Finer	56.6				% Passing			04/15/15 12:35	1
Hydrometer Reading 1 - Percent Finer	39.1				% Passing			04/15/15 12:35	1
Hydrometer Reading 2 - Percent Finer	29.4				% Passing			04/15/15 12:35	1
Hydrometer Reading 3 - Percent Finer	24.1				% Passing			04/15/15 12:35	1
Hydrometer Reading 4 - Percent Finer	20.9				% Passing			04/15/15 12:35	1
Hydrometer Reading 5 - Percent Finer	17.7				% Passing			04/15/15 12:35	1
Hydrometer Reading 6 - Percent Finer	12.8				% Passing			04/15/15 12:35	1
Hydrometer Reading 7 - Percent Finer	10.7				% Passing			04/15/15 12:35	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	41				NONE			04/15/15 18:49	1
Plastic Limit	19				NONE			04/15/15 18:49	1
Plasticity Index	22				NONE			04/15/15 18:49	1

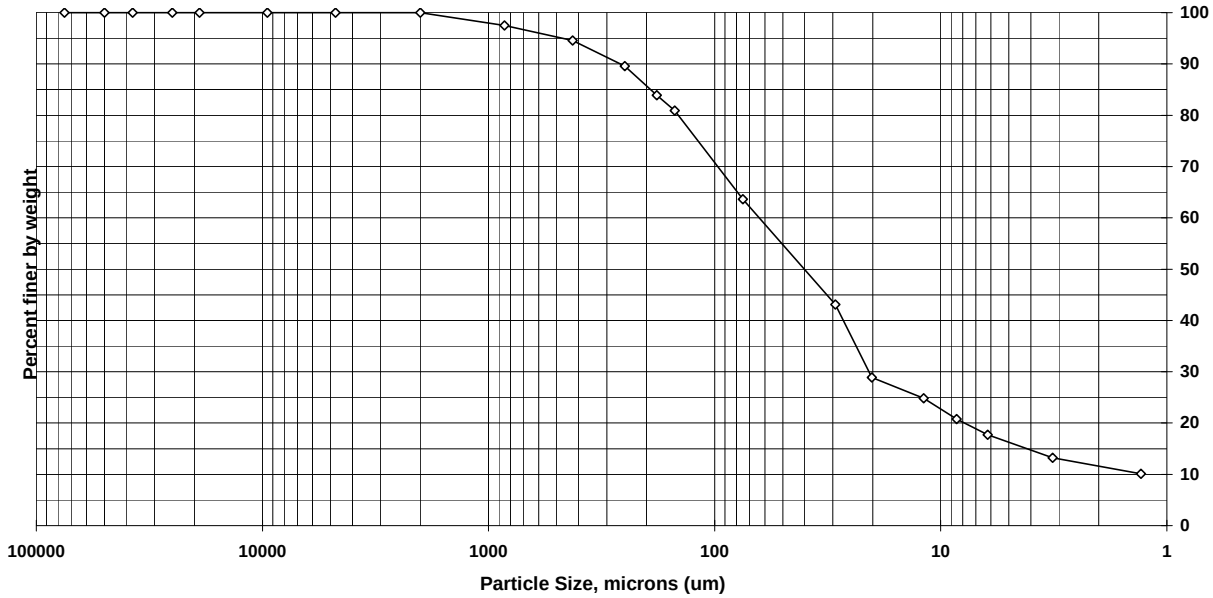
Particle Size of Soils by ASTM D422

				Date Received:	4/15/2015
Sample ID:	TS-3NB-SED	**Percent Solids:**	74.1%	**Start Date:**	4/15/2015
Lab ID:	200-27552-A-1	**Specific Gravity:**	2.650	**End Date:**	4/17/2015

Shape (> #10): na

Non-soil material: na

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	97.5	2.5
#40	425	94.6	2.9
#60	250	89.6	5.0
#80	180	83.9	5.7
#100	150	80.9	3.0
#200	75	63.6	17.3
Hyd1	29.3	43.1	20.5
Hyd2	20.2	28.9	14.2
Hyd3	11.9	24.8	4.1
Hyd4	8.5	20.8	4.0
Hyd5	6.2	17.7	3.1
Hyd6	3.2	13.2	4.5
Hyd7	1.3	10.1	3.1

Soil Classification	Percent of sample
Gravel	0.0
Sand	36.4
Coarse Sand	0.0
Medium Sand	5.4
Fine Sand	31.0
Silt	45.9
Clay	17.7

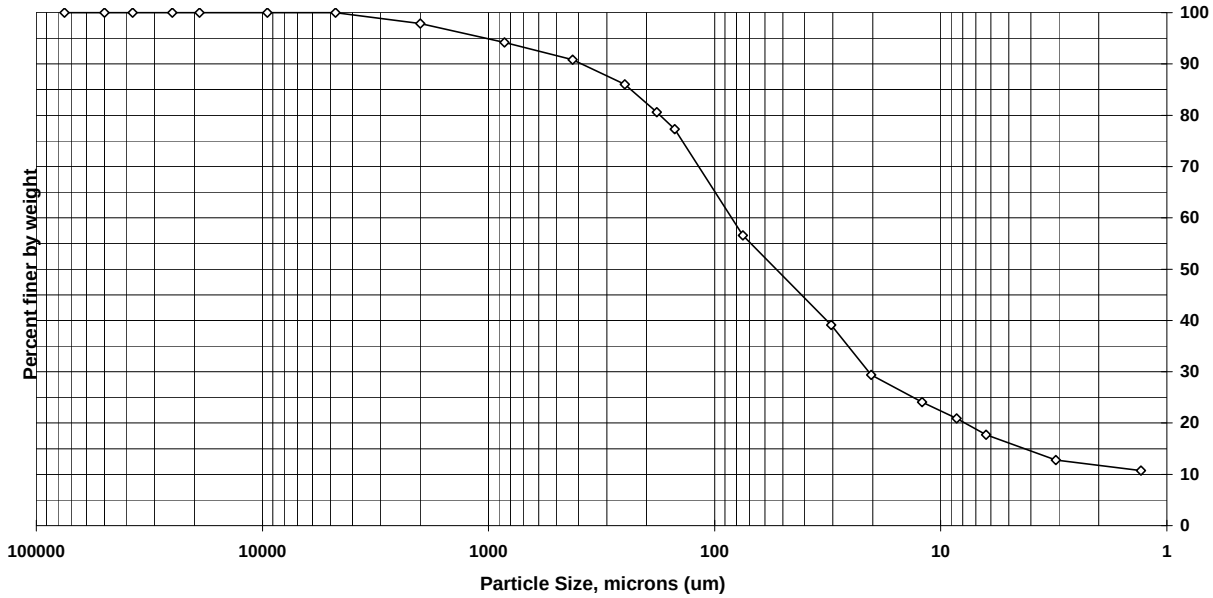
Particle Size of Soils by ASTM D422

				Date Received:	4/15/2015
Sample ID:	TS-3NB-SED-FD	**Percent Solids:**	73.6%	**Start Date:**	4/15/2015
Lab ID:	200-27552-A-2	**Specific Gravity:**	2.650	**End Date:**	4/17/2015

Shape (> #10): subangular

Non-soil material: shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	97.9	2.1
#20	850	94.2	3.7
#40	425	90.8	3.4
#60	250	86.0	4.8
#80	180	80.6	5.4
#100	150	77.3	3.3
#200	75	56.6	20.7
Hyd1	30.5	39.1	17.5
Hyd2	20.3	29.4	9.7
Hyd3	12.1	24.1	5.3
Hyd4	8.5	20.9	3.2
Hyd5	6.3	17.7	3.2
Hyd6	3.1	12.8	4.9
Hyd7	1.3	10.7	2.1

Soil Classification	Percent of sample
Gravel	0.0
Sand	43.4
Coarse Sand	2.1
Medium Sand	7.1
Fine Sand	34.2
Silt	38.9
Clay	17.7

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-3NB-SED
Lab Sample ID	200-27552-A-1

Date Received	4/15/2015
Start Date	04/15/2015 12:42
End Date	04/17/2015 14:02

Dry Weight Determination

Tin Weight	4.14	g
Wet Sample + Tin	218.08	g
Dry Sample + Tin	162.67	g
% Moisture	25.90	%

Non-soil material:	na
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	04/15/2015 12:42
Date/Time out of oven	04/16/2015 9:52

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	51.43	158.25	106.82
Sample Weight (Oven Dried)			79.2

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			0
Sample <#10			79.2
% Passing #10			74.1

Hydrometer Data

Serial Number	426931
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000			0.00	g	100.0	Sand	Coarse
#20	850	381.62	383.62	2.00	g	97.5	Sand	Medium
#40	425	355.72	358.00	2.28	g	94.6	Sand	Medium
#60	250	353.37	357.30	3.93	g	89.6	Sand	Fine
#80	180	339.35	343.83	4.48	g	83.9	Sand	Fine
#100	150	329.93	332.30	2.37	g	80.9	Sand	Fine
#200	75	323.24	336.96	13.72	g	63.6	Sand	Fine
				0.00	g	63.6		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	79.2

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0250	22.0	29.3	43.1	Silt	
5	5	1.0180	22.0	20.2	28.9	Silt	
15	15	1.0160	22.0	11.9	24.8	Silt	
30	31	1.0140	22.0	8.5	20.8	Silt	
60	59	1.0125	22.0	6.2	17.7	Silt	
250	234	1.0105	21.0	3.2	13.2	Clay	
1440	1418	1.0090	21.0	1.3	10.1	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	TS-3NB-SED-FD
Lab Sample ID	200-27552-A-2

Date Received	4/15/2015
Start Date	04/15/2015 12:35
End Date	04/17/2015 14:40

Dry Weight Determination

Tin Weight	4.21	g
Wet Sample + Tin	222.77	g
Dry Sample + Tin	165.03	g
% Moisture	26.42	%

Non-soil material:	shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/15/2015 12:35
Date/Time out of oven	04/16/2015 9:53

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	57.79	159.73	101.94
Sample Weight (Oven Dried)			75

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			1.58
Sample <#10			73.4
% Passing #10			72

Hydrometer Data

Serial Number	426931
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0050
High Temp (C)	23.0
Reading at High Temp	1.0035
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00925
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	462.85	464.43	1.58	g	97.9	Sand	Coarse
#20	850	381.62	384.41	2.79	g	94.2	Sand	Medium
#40	425	355.72	358.30	2.58	g	90.8	Sand	Medium
#60	250	353.37	357.00	3.63	g	86.0	Sand	Fine
#80	180	339.35	343.38	4.03	g	80.6	Sand	Fine
#100	150	329.93	332.41	2.48	g	77.3	Sand	Fine
#200	75	323.24	338.77	15.53	g	56.6	Sand	Fine
				0.00	g	56.6		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	75

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0220	22.0	30.5	39.1	Silt	
5	5	1.0175	22.0	20.3	29.4	Silt	
15	15	1.0150	22.0	12.1	24.1	Silt	
30	31	1.0135	22.0	8.5	20.9	Silt	
60	59	1.0120	22.0	6.3	17.7	Silt	
250	265	1.0100	21.0	3.1	12.8	Clay	
1440	1412	1.0090	21.0	1.3	10.7	Clay	

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): 15204.01, 0009

Page 1 of 1

Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Butyl Tins Unger Method	Total Solids SW846	Specific Gravity ASTM D854	Unified Soil Classification System (Includes Atterberg Limits) ASTM D2487
4/14/15	1130		X	TS-3NB-SED	1	X	X	X	X
4/14/15	1130		X	TS-3NB-SED-FD	1	X	X	X	X

Parameters/Method Numbers for Analysis

Chain of Custody Record

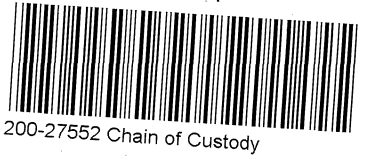
Laboratory:
TestAmerica - Burlington
30 Community Dr
Suite 11
South Burlington, VT 05403

phone: (802) 660-1990

ATTN: Kirk Young

Remarks

5 DAY TAT FOR GRAIN SIZE



Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	4/14/15 1515			**OCEAN SEDIMENT** **Parallel Thimble Shoal**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	4/14/15 1700	TA BUR	4/15/15 1010	

https://www.campusship.ups.com/cship/create?ActionOriginPair=default___PrintWindow... 4/14/2015

MARTHA MCCAULEY
4105847000
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

20 LBS

1 OF 1

SHIP TO:
KIRK YOUNG
802-660-1990
TESTAMERICA - BURLINGTON
SUITE 11
30 COMMUNITY DRIVE
SOUTH BURLINGTON VT 05403-6834

VT 054 0-02

UPS NEXT DAY AIR

TRACKING #: 1Z 288 682 01 9332 4486

1

BILLING: P/P

Department Code: 2123
Project Phase AND Task: 1520401, 0007

GS 17.1.04. WNINV50 60.0A 01/2015

TM

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 200-27552-2

Login Number: 27552

List Source: TestAmerica Burlington

List Number: 1

Creator: Atherton, Joel E

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Not present
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:	
Log In #: 200-27552	Method: D2487
Client: EA Engineering	LAB IDs: 200-27552 - 1-2

Samples associated with this log-in were placed into storage on 4/15/2015 (Date) 1130 (Time[2]) by: Joel Atherton

Sample Custodian Signature

Storage Location: WN5 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: ☒ Refrigeration ☐ Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
✓		200-27552-1,2	4/15/15	1830	✓	✓				GEO - IA
✓		"	"	2000			✓			WT

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:	
Log In #: 200-27552	Method: D422
Client: EA Engineering	LAB IDs: 200-27552 - 1-2

Samples associated with this log-in were placed into storage on 4/15/2015 (Date) 1130 (Time[2]) by: Joel Atherton *Sample Custodian Signature*

Storage Location: WN5 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: ☒ Refrigeration ☐ Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
✓		200-27552, 1-2	4/15/15	1230	✓	✓		Scott Z	Scott Z	GEO
✓		" "	" "	1330			✓	Scott Z	Scott Z	WI

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:	
Log In #: 200-27552	Method: D4318
Client: EA Engineering	LAB IDs: 200-27552 - 1-2

Samples associated with this log-in were placed into storage on 4/15/2015 (Date) 1130 (Time[2]) by: Joel Atherton

Sample Custodian Signature

Storage Location: WN5 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: ☒ Refrigeration ☐ Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
✓		200-27552-1+2	4/15/15	1830	✓	✓				OED-VAE
✓		11	11	2000			—			WC

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 200-27598-2

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
4/23/2015 7:11 AM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
04/23/2015

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 200-27598-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/18/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.8 C.

GEOTECHNICAL

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 200-27598-2

Client Sample ID: WBREF-T-SED — Lab Sample ID: 200-27598-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	CL-SAND				NONE	1		D2487	Total/NA
Group Symbol	SC				NONE	1		D2487	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	51.9				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	1.5				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	5.3				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	45.1				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	30.7				%	1		D422	Total/NA
Clay	17.4				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	98.5				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	96.9				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	93.2				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	85.0				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	77.4				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	72.5				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	48.1				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	29.9				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	25.7				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	22.4				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	19.9				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	17.4				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	13.4				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	10.0				% Passing	1		D422	Total/NA
Liquid Limit	35				NONE	1		D4318	Total/NA
Plastic Limit	19				NONE	1		D4318	Total/NA
Plasticity Index	16				NONE	1		D4318	Total/NA

Client Sample ID: CBCON-SED — Lab Sample ID: 200-27598-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	SN-SI-CLAY				NONE	1		D2487	Total/NA
Group Symbol	CL-ML				NONE	1		D2487	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	32.0				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	0.4				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	0.7				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	30.9				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CBCON-SED (Continued)

Lab Sample ID: 200-27598-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silt	55.6				%	1		D422	Total/NA
Clay	12.4				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	99.6				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	99.3				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	98.9				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	98.9				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	98.5				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	97.6				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	68.0				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	25.9				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	20.0				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	16.6				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	14.1				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	12.4				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	8.4				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	5.9				% Passing	1		D422	Total/NA
Liquid Limit	32				NONE	1		D4318	Total/NA
Plastic Limit	25				NONE	1		D4318	Total/NA
Plasticity Index	6				NONE	1		D4318	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: WBREF-T-SED

Lab Sample ID: 200-27598-1

Date Collected: 04/16/15 11:00

Matrix: Sediment

Date Received: 04/18/15 09:30

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	CL-SAND				NONE			04/22/15 13:30	1
Group Symbol	SC				NONE			04/22/15 13:30	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			04/20/15 11:40	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/20/15 11:40	1
Sand	51.9				%			04/20/15 11:40	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/20/15 11:40	1
Coarse Sand	1.5				%			04/20/15 11:40	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/20/15 11:40	1
Medium Sand	5.3				%			04/20/15 11:40	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/20/15 11:40	1
Fine Sand	45.1				%			04/20/15 11:40	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/20/15 11:40	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/20/15 11:40	1
Silt	30.7				%			04/20/15 11:40	1
Clay	17.4				%			04/20/15 11:40	1
Sieve Size #4 - Percent Finer	100.0				% Passing			04/20/15 11:40	1
Sieve Size #10 - Percent Finer	98.5				% Passing			04/20/15 11:40	1
Sieve Size #20 - Percent Finer	96.9				% Passing			04/20/15 11:40	1
Sieve Size #40 - Percent Finer	93.2				% Passing			04/20/15 11:40	1
Sieve Size #60 - Percent Finer	85.0				% Passing			04/20/15 11:40	1
Sieve Size #80 - Percent Finer	77.4				% Passing			04/20/15 11:40	1
Sieve Size #100 - Percent Finer	72.5				% Passing			04/20/15 11:40	1
Sieve Size #200 - Percent Finer	48.1				% Passing			04/20/15 11:40	1
Hydrometer Reading 1 - Percent Finer	29.9				% Passing			04/20/15 11:40	1
Hydrometer Reading 2 - Percent Finer	25.7				% Passing			04/20/15 11:40	1
Hydrometer Reading 3 - Percent Finer	22.4				% Passing			04/20/15 11:40	1
Hydrometer Reading 4 - Percent Finer	19.9				% Passing			04/20/15 11:40	1
Hydrometer Reading 5 - Percent Finer	17.4				% Passing			04/20/15 11:40	1
Hydrometer Reading 6 - Percent Finer	13.4				% Passing			04/20/15 11:40	1
Hydrometer Reading 7 - Percent Finer	10.0				% Passing			04/20/15 11:40	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	35				NONE			04/21/15 10:13	1
Plastic Limit	19				NONE			04/21/15 10:13	1
Plasticity Index	16				NONE			04/21/15 10:13	1

Client Sample ID: CBCON-SED

Lab Sample ID: 200-27598-2

Date Collected: 04/16/15 14:00

Matrix: Sediment

Date Received: 04/18/15 09:30

Method: D2487 - Classification of Soils for Engineering Purposes

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	SN-SI-CLAY				NONE			04/22/15 13:30	1
Group Symbol	CL-ML				NONE			04/22/15 13:30	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			04/20/15 11:44	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/20/15 11:44	1
Sand	32.0				%			04/20/15 11:44	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/20/15 11:44	1
Coarse Sand	0.4				%			04/20/15 11:44	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/20/15 11:44	1
Medium Sand	0.7				%			04/20/15 11:44	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/20/15 11:44	1
Fine Sand	30.9				%			04/20/15 11:44	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/20/15 11:44	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/20/15 11:44	1
Silt	55.6				%			04/20/15 11:44	1
Clay	12.4				%			04/20/15 11:44	1
Sieve Size #4 - Percent Finer	100.0				% Passing			04/20/15 11:44	1
Sieve Size #10 - Percent Finer	99.6				% Passing			04/20/15 11:44	1
Sieve Size #20 - Percent Finer	99.3				% Passing			04/20/15 11:44	1
Sieve Size #40 - Percent Finer	98.9				% Passing			04/20/15 11:44	1
Sieve Size #60 - Percent Finer	98.9				% Passing			04/20/15 11:44	1
Sieve Size #80 - Percent Finer	98.5				% Passing			04/20/15 11:44	1
Sieve Size #100 - Percent Finer	97.6				% Passing			04/20/15 11:44	1
Sieve Size #200 - Percent Finer	68.0				% Passing			04/20/15 11:44	1
Hydrometer Reading 1 - Percent Finer	25.9				% Passing			04/20/15 11:44	1
Hydrometer Reading 2 - Percent Finer	20.0				% Passing			04/20/15 11:44	1
Hydrometer Reading 3 - Percent Finer	16.6				% Passing			04/20/15 11:44	1
Hydrometer Reading 4 - Percent Finer	14.1				% Passing			04/20/15 11:44	1
Hydrometer Reading 5 - Percent Finer	12.4				% Passing			04/20/15 11:44	1
Hydrometer Reading 6 - Percent Finer	8.4				% Passing			04/20/15 11:44	1
Hydrometer Reading 7 - Percent Finer	5.9				% Passing			04/20/15 11:44	1

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	32				NONE			04/21/15 10:13	1
Plastic Limit	25				NONE			04/21/15 10:13	1
Plasticity Index	6				NONE			04/21/15 10:13	1

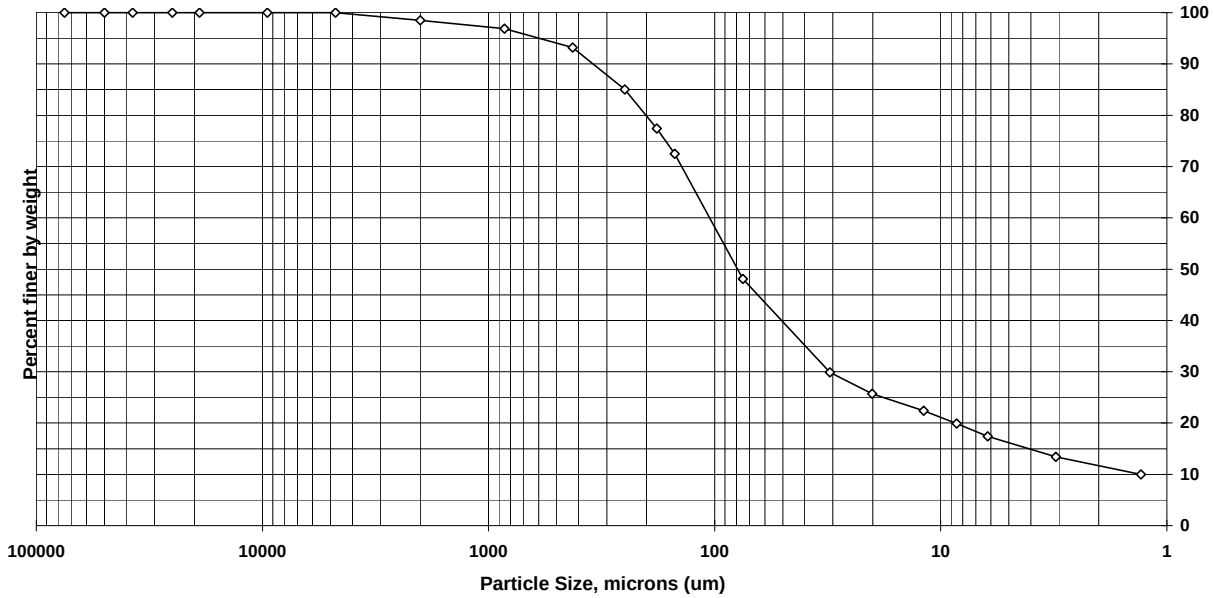
Particle Size of Soils by ASTM D422

				Date Received:	4/18/2015
Sample ID:	WBREF-T-SED	**Percent Solids:**	64.3%	**Start Date:**	4/20/2015
Lab ID:	200-27598-A-1	**Specific Gravity:**	2.650	**End Date:**	4/22/2015

Shape (> #10): subangular

Non-soil material: plant, shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	98.5	1.5
#20	850	96.9	1.6
#40	425	93.2	3.7
#60	250	85.0	8.2
#80	180	77.4	7.6
#100	150	72.5	4.9
#200	75	48.1	24.4
Hyd1	30.9	29.9	18.2
Hyd2	20.1	25.7	4.2
Hyd3	11.9	22.4	3.3
Hyd4	8.5	19.9	2.5
Hyd5	6.2	17.4	2.5
Hyd6	3.1	13.4	4.0
Hyd7	1.3	10.0	3.4

Soil Classification	Percent of sample
Gravel	0.0
Sand	51.9
Coarse Sand	1.5
Medium Sand	5.3
Fine Sand	45.1
Silt	30.7
Clay	17.4

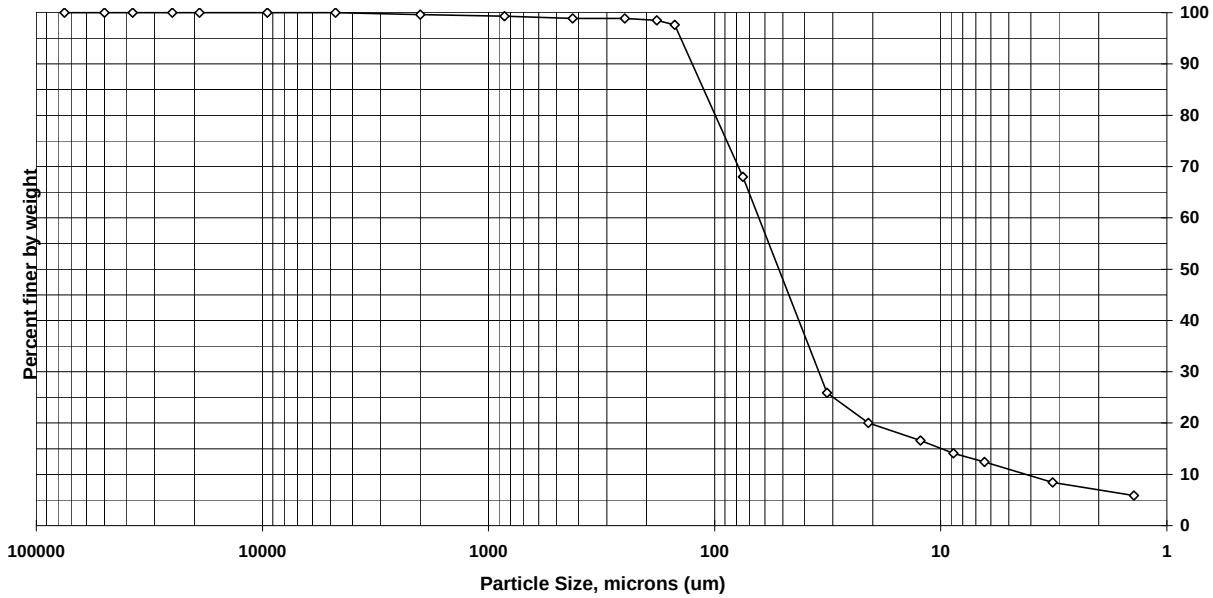
Particle Size of Soils by ASTM D422

				Date Received:	4/18/2015
Sample ID:	CBCON-SED	**Percent Solids:**	66.1%	**Start Date:**	4/20/2015
Lab ID:	200-27598-A-2	**Specific Gravity:**	2.650	**End Date:**	4/22/2015

Shape (> #10): subangular

Non-soil material: plant, shell

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.6	0.4
#20	850	99.3	0.3
#40	425	98.9	0.4
#60	250	98.9	0.0
#80	180	98.5	0.4
#100	150	97.6	0.9
#200	75	68.0	29.6
Hyd1	31.8	25.9	42.1
Hyd2	20.9	20.0	5.9
Hyd3	12.3	16.6	3.4
Hyd4	8.8	14.1	2.5
Hyd5	6.4	12.4	1.7
Hyd6	3.2	8.4	4.0
Hyd7	1.4	5.9	2.5

Soil Classification	Percent of sample
Gravel	0.0
Sand	32.0
Coarse Sand	0.4
Medium Sand	0.7
Fine Sand	30.9
Silt	55.6
Clay	12.4

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	WBREF-T-SED
Lab Sample ID	200-27598-A-1

Date Received	4/18/2015
Start Date	04/20/2015 11:40
End Date	04/22/2015 12:06

Dry Weight Determination

Tin Weight	4.18	g
Wet Sample + Tin	343.02	g
Dry Sample + Tin	221.87	g
% Moisture	35.75	%

Non-soil material:	plant, shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/20/2015 11:40
Date/Time out of oven	04/21/2015 9:03

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	47.01	196.47	149.46
Sample Weight (Oven Dried)			96

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			1.43
Sample <#10			94.6
% Passing #10			63.3

Hydrometer Data

Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	462.96	464.39	1.43	g	98.5	Sand	Coarse
#20	850	381.59	383.11	1.52	g	96.9	Sand	Medium
#40	425	355.65	359.23	3.58	g	93.2	Sand	Medium
#60	250	354.84	362.70	7.86	g	85.0	Sand	Fine
#80	180	340.12	347.45	7.33	g	77.4	Sand	Fine
#100	150	330.48	335.21	4.73	g	72.5	Sand	Fine
#200	75	323.40	346.85	23.45	g	48.1	Sand	Fine
				0.00	g	48.1		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	96

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0205	22.5	30.9	29.9	Silt	
5	5	1.0180	22.5	20.1	25.7	Silt	
15	15	1.0160	22.5	11.9	22.4	Silt	
30	30	1.0145	22.5	8.5	19.9	Silt	
60	59	1.0130	22.5	6.2	17.4	Silt	
250	256	1.0110	21.0	3.1	13.4	Clay	
1440	1440	1.0090	21.0	1.3	10	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	CBCON-SED
Lab Sample ID	200-27598-A-2

Date Received	4/18/2015
Start Date	04/20/2015 11:44
End Date	04/22/2015 12:20

Dry Weight Determination

Tin Weight	4.26	g
Wet Sample + Tin	360.23	g
Dry Sample + Tin	239.49	g
% Moisture	33.92	%

Non-soil material:	plant, shell
Shape (> #10):	subangular
Hardness (> #10):	hard

Date/Time in oven	04/20/2015 11:44
Date/Time out of oven	04/21/2015 9:04

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	50.51	194.98	144.47
Sample Weight (Oven Dried)			95.5

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			0.37
Sample <#10			95.1
% Passing #10			65.8

Hydrometer Data

Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	462.96	463.33	0.37	g	99.6	Sand	Coarse
#20	850	381.59	381.90	0.31	g	99.3	Sand	Medium
#40	425	355.65	356.07	0.42	g	98.9	Sand	Medium
#60	250	354.84	354.84	0.00	g	98.9	Sand	Fine
#80	180	340.12	340.48	0.36	g	98.5	Sand	Fine
#100	150	330.48	331.33	0.85	g	97.6	Sand	Fine
#200	75	323.40	351.66	28.26	g	68.0	Sand	Fine
				0.00	g	68.0		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	95.5

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0180	22.5	31.8	25.9	Silt	
5	5	1.0145	22.5	20.9	20	Silt	
15	15	1.0125	22.5	12.3	16.6	Silt	
30	30	1.0110	22.5	8.8	14.1	Silt	
60	58	1.0100	22.5	6.4	12.4	Silt	
250	256	1.0080	21.0	3.2	8.41	Clay	
1440	1440	1.0065	21.0	1.4	5.89	Clay	

Shipping and Receiving Documents

Client:
EA Engineering Science, and Technology, Inc.

225 Schilling Circle
Hunt Valley, MD 21031

Project Manager:
Peggy Derrick

Phone: **410-584-7000**

Field Contact:
Morgan Gelinas
Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): 15204.01, 0009

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Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Butyl Tins Unger Method	Total Solids SW846	Specific Gravity ASTM D854	Unified Soil Classification System (Includes Atterberg Limits) ASTM D2487	Remarks
4/16/15	1100		X	WBREF-T-SED	1	X	X	X	X	**5 DAY TAT FOR GRAIN SIZE**
4/16/15	1400		X	CBCON-SED	1	X	X	X	X	

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Burlington
30 Community Dr
Suite 11
South Burlington, VT 05403

phone: (802) 660-1990

ATTN: Kirk Young

200-27598 Chain of Custody

Sampled by: (Signature)	Date/Time 4/16/15 1700	Relinquished by: (Signature)	Date/Time 4/17/15 1130
Relinquished by: (Signature)	Date/Time 4/17/15 0630	Received by Laboratory: (Signature)	Date/Time 4/17/15 1045

OCEAN SEDIMENT
Parallel Thimble Shoal

Rec'd: TAGTV 4/18/15 0930

From: (757) 671-1291
Emily Bauer
TestAmerica (formerly STL)
5135 Cleveland Street

Virginia Beach, VA 23462

Origin ID: NTUA

FedEx Express

J151215022303uv

Ship Date: 17APR15
ActWgt: 36.0 LB
CAD: 8247985/INET3610

Delivery Address Bar Code

SHIP TO: (802) 660-1990 BILL RECIPIENT

Sample Receiving
TestAmerica Burlington
30 COMMUNITY DR STE 11

SOUTH BURLINGTON, VT 05403

Ref #
Invoice #
PO #
Dept #

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 7733 9815 2620
0201

X0 BTVA

05403
VT-US
BTV

537J2/8FC5/EE4B

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Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 200-27598-2

Login Number: 27598

List Source: TestAmerica Burlington

List Number: 1

Creator: Young, Joseph W

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Not present
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.8ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Not requested on COC.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-42815-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/10/2015 4:04 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/10/2015
Revision: 2

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Raw QC Data 1183

Method 8270D Tune Data 1183

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits
H	Sample was prepped or analyzed beyond the specified holding time
B	Compound was found in the blank and sample.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
H	Sample was prepped or analyzed beyond the specified holding time
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-42815-1 REVISED 1

NOTE: This report has been revised to include Manganese per EA Engineering's request.

NOTE: This report has been revised to correct the reporting units for nitrate/nitrite as a di leach to mg/kg. The results have also been updated to reflect this correction.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/08/2015; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.6º C and 5.2º C.

VOLATILES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TCLP VOLATILES
The laboratory control sample (LCS) for batch 139036 recovered outside control limits for the following analyte: 1,1-dichloroethene. This analyte was biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

1,1-Dichloroethene failed the recovery criteria high for the MS/MSD of sample TS-1-SED (180-42815-2) in batch 180-139036.

SEMIVOLATILES
The following sample was diluted due to the concentration of target compounds detected: SRM Sediment (180-42815-7). As such, surrogate recoveries will be considered as estimated and elevated reporting limits (RLs) are provided.

TCLP SEMIVOLATILES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GRO
Trifluorotoluene (Surr) failed the surrogate recovery criteria low for TS-3ST-SED (180-42815-6MS). The surrogate recovery for the parent sample and the MSD recovered within QC limits. All data was reported.

C6-C10 exceeded the RPD limit for the MSD of sample TS-3ST-SED (180-42815-6) in batch 240-176205.

DRO
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PESTICIDES
The following sample was re-prepared outside of preparation holding time due to low surrogate recoveries on the initial analysis: TS-2ST-SED (180-42815-3). Both sets of data have been reported.

Samples SRM Sediment (180-42815-7) required dilution prior to analysis. The reporting limits have been adjusted accordingly and the surrogates recovered high outside QC limits.

Several analytes were detected in method blank MB 180-139823/1-B at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The closing continuing calibration verification (CCV) standard associated with batch 140590 failed to meet acceptance limits. The

associated samples were re-analyzed following a successful CCV and produced similar results, indicating that the sample matrix is adversely affecting the instrument and causing the failures.

TCLP PESTICIDES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PCB CONGENERS
The following sample was diluted due to the nature of the sample matrix: SRM Sediment (180-42815-7). Elevated reporting limits (RLs) are provided. Surrogates were diluted out due to the level of dilution required.

The CCV failed low for most congeners on RTX-1701 column. All sample results are taken from RTX-50 column. All congener detections on RTX-50 column are non-detect or at an estimated level. The following samples were effected: WBREF-B-SED (180-42815-1), TS-1-SED (180-42815-2), TS-2ST-SED (180-42815-3), TS-2MT-SED (180-42815-4), TS-2NT-SED (180-42815-5), TS-3ST-SED (180-42815-6), (LCS 180-138101/2-C), (MB 180-138101/1-C), (180-42815-J-3-H MS) and (180-42815-J-3-I MSD)

The continuing calibration verification (CCV) associated with batch 140217 recovered above the upper control limit for BZ-8, 126, 28, 66, and 77. The samples associated with this CCV were non-detects or j values for the affected analytes; therefore, the data have been reported.

PCBs
Several samples were diluted due to the nature of the sample matrix. Elevated reporting limits (RLs) are provided. The sample extracts were dark in color and thick.

ORGANOPHOSPHORUS PESTICIDES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TCLP HERBICIDES
The continuing calibration verification (CCV) associated with batch 139371 recovered above the upper control limit for Silvex. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. .

AVS/SEM
Sample TS-3ST-SED (180-42815-6) required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Zinc SEM was detected in method blank MB 180-138931/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample: TS-3ST-SED (180-42815-6). All analytes referencing the indium internal standard required dilution due to the indium counts being low and outside the 70%-130% control limits.

TCLP METALS
Barium was detected in method blank LB 180-138579/11-B at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

METALS
Aluminum, Calcium, Chromium, Iron and Magnesium were detected in method blank MB 180-139089/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

GENERAL CHEMISTRY
Samples WBREF-B-SED (180-42815-1), TS-1-SED (180-42815-2) and TS-3ST-SED (180-42815-6) required dilution prior to analysis for total phosphorus. The reporting limits have been adjusted accordingly.

The reporting limit for Lloyd Kahn TOC analysis is a nominal value and does not reflect adjustments in sample mass processed on an individual basis.

The following sample was re-prepared outside of preparation holding time due to the CCV failing high during initial analysis for TOC Lloyd Kahn.: TS-3ST-SED (180-42815-6).

SUBCONTRACT WORK
Methods Acid Base Accounting, Calcium Carbonate Equivalence, Neutralization Potential, Potential Acidity, Pyritic Sulfur (Fizz Rating), Saturated Paste pH and Conductivity: These methods were subcontracted to A&L Analytical Laboratories-Memphis,TN. The subcontract laboratory certifications are different from that of the facility issuing the final report.

Method 1613 B Dioxins/Furans + TEQs (EA criteria): This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42815-1

Client Sample ID: WBREF-B-SED

Lab Sample ID: 180-42815-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	26	J	47	3.8	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	7.5	J	23	3.2	ug/Kg	1	☼	8270D LL	Total/NA
Diethyl phthalate	3.0	J	23	2.6	ug/Kg	1	☼	8270D LL	Total/NA
beta-BHC	0.056	J p	0.059	0.015	ug/Kg	1	☼	8081B_LL	Total/NA
delta-BHC	0.0093	J p	0.059	0.0091	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDD	0.028	J	0.059	0.0077	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDE	0.031	J	0.059	0.0089	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDT	0.020	J p	0.059	0.0089	ug/Kg	1	☼	8081B_LL	Total/NA
Dieldrin	0.038	J p	0.059	0.0099	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan II	0.029	J p	0.059	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan sulfate	0.018	J	0.059	0.0062	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.042	J p	0.059	0.012	ug/Kg	1	☼	8081B_LL	Total/NA
Heptachlor epoxide	0.012	J p	0.059	0.012	ug/Kg	1	☼	8081B_LL	Total/NA
Methoxychlor	0.013	J p	0.12	0.012	ug/Kg	1	☼	8081B_LL	Total/NA
Mirex	0.011	J p	0.059	0.0055	ug/Kg	1	☼	8081B_LL	Total/NA
Cadmium SEM	0.043	J	0.18	0.0058	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	1.7		0.88	0.079	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	4.4		0.35	0.070	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	6.7		1.4	0.041	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	21	B	3.5	0.26	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	7000	B	2.1	0.20	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.037	J	0.14	0.0018	mg/Kg	1	☼	6020A	Total/NA
Arsenic	3.7		0.070	0.013	mg/Kg	1	☼	6020A	Total/NA
Barium	16		0.70	0.0075	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.37		0.070	0.0053	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.095		0.070	0.0049	mg/Kg	1	☼	6020A	Total/NA
Chromium	15	B	0.14	0.0043	mg/Kg	1	☼	6020A	Total/NA
Calcium	3800	B	35	0.93	mg/Kg	1	☼	6020A	Total/NA
Cobalt	4.5		0.035	0.0011	mg/Kg	1	☼	6020A	Total/NA
Copper	3.6		0.14	0.023	mg/Kg	1	☼	6020A	Total/NA
Iron	15000	B	3.5	0.25	mg/Kg	1	☼	6020A	Total/NA
Lead	5.8		0.070	0.0027	mg/Kg	1	☼	6020A	Total/NA
Nickel	8.8		0.070	0.0079	mg/Kg	1	☼	6020A	Total/NA
Potassium	1800		35	0.95	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.16	J	0.35	0.035	mg/Kg	1	☼	6020A	Total/NA
Magnesium	4100	B	35	0.13	mg/Kg	1	☼	6020A	Total/NA
Silver	0.013	J	0.070	0.0027	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.098		0.070	0.0014	mg/Kg	1	☼	6020A	Total/NA
Sodium	3100		35	0.96	mg/Kg	1	☼	6020A	Total/NA
Zinc	27		0.35	0.046	mg/Kg	1	☼	6020A	Total/NA
Vanadium	18		0.070	0.0056	mg/Kg	1	☼	6020A	Total/NA
Manganese	160	B	0.35	0.0072	mg/Kg	1	☼	6020A	Total/NA
SEM/AVS Ratio	NC		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ammonia, distilled	25		6.9	4.4	mg/Kg	1	☼	350.1	Total/NA
Sulfide	13	J	43	8.6	mg/Kg	1	☼	9034	Total/NA
Total Organic Carbon - Duplicates	3900		1400	130	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	400		70	6.3	mg/Kg	5	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	450		220	74	mg/Kg	1	☼	SM4500_NH3_E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: WBREF-B-SED (Continued)

Lab Sample ID: 180-42815-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00038	J	0.0016	0.000052	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.027		0.014	0.0012	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.021		0.0017	0.00034	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.11		0.024	0.00069	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.33	B	0.054	0.0040	umol/g	1	☼	6010B	SEM/AVS

Client Sample ID: TS-1-SED

Lab Sample ID: 180-42815-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	14	J	47	3.8	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	5.9	J	23	3.2	ug/Kg	1	☼	8270D LL	Total/NA
Diethyl phthalate	4.4	J	23	2.6	ug/Kg	1	☼	8270D LL	Total/NA
Methylphenol, 3 & 4	2.5	J	23	2.3	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	1.3	J	4.7	0.42	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	3.4	J	4.7	0.75	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	5.7		4.7	0.50	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	5.4		4.7	0.47	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	2.9	J	4.7	0.59	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	3.3	J	4.7	0.56	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	5.2		4.7	0.74	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[k]fluoranthene	1.4	J	4.7	0.95	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	2.7	J	4.7	0.48	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	3.6	J	4.7	0.47	ug/Kg	1	☼	8270D LL	Total/NA
C10-C34	9.5	J	23	5.8	mg/Kg	1	☼	8015D	Total/NA
Aldrin	0.015	J p	0.058	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
beta-BHC	0.046	J p	0.058	0.015	ug/Kg	1	☼	8081B_LL	Total/NA
delta-BHC	0.015	J p	0.058	0.0090	ug/Kg	1	☼	8081B_LL	Total/NA
gamma-BHC (Lindane)	0.017	J p	0.058	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
DCPA	0.049	J	0.058	0.0089	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDD	0.12		0.058	0.0076	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDE	0.19		0.058	0.0088	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDT	0.042	J p	0.058	0.0088	ug/Kg	1	☼	8081B_LL	Total/NA
Dieldrin	0.024	J p	0.058	0.0097	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan sulfate	0.010	J p	0.058	0.0061	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.074		0.058	0.011	ug/Kg	1	☼	8081B_LL	Total/NA
Heptachlor epoxide	0.022	J	0.058	0.011	ug/Kg	1	☼	8081B_LL	Total/NA
Methoxychlor	0.11	J	0.12	0.012	ug/Kg	1	☼	8081B_LL	Total/NA
2,4'-DDE	0.026	J p	0.058	0.0054	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-52	0.13	J p	0.70	0.13	ug/Kg	1	☼	8082A	Total/NA
PCB-101	0.12	J p	0.70	0.082	ug/Kg	1	☼	8082A	Total/NA
PCB-138	0.067	J	0.70	0.058	ug/Kg	1	☼	8082A	Total/NA
PCB-153	0.15	J p	0.70	0.060	ug/Kg	1	☼	8082A	Total/NA
DCB Decachlorobiphenyl	0.086	J	0.70	0.048	ug/Kg	1	☼	8082A	Total/NA
PCB-1260	1.4	J	2.9	0.64	ug/Kg	5	☼	8082A	Total/NA
Cadmium SEM	0.092	J	0.18	0.0058	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	2.6		0.88	0.079	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	6.0		0.35	0.070	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	5.0		1.4	0.040	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	26	B	3.5	0.26	mg/Kg	1	☼	6010B	SEM/AVS
Barium	0.033	J B	2.0	0.0019	mg/L	1		6010C	TCLP

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-1-SED (Continued)

Lab Sample ID: 180-42815-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	4500	B	2.1	0.20	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.048	J	0.14	0.0018	mg/Kg	1	☼	6020A	Total/NA
Arsenic	2.9		0.070	0.013	mg/Kg	1	☼	6020A	Total/NA
Barium	19		0.70	0.0075	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.22		0.070	0.0052	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.099		0.070	0.0049	mg/Kg	1	☼	6020A	Total/NA
Chromium	11	B	0.14	0.0042	mg/Kg	1	☼	6020A	Total/NA
Calcium	13000	B	35	0.92	mg/Kg	1	☼	6020A	Total/NA
Cobalt	3.3		0.035	0.0010	mg/Kg	1	☼	6020A	Total/NA
Copper	3.7		0.14	0.023	mg/Kg	1	☼	6020A	Total/NA
Iron	11000	B	3.5	0.25	mg/Kg	1	☼	6020A	Total/NA
Lead	5.9		0.070	0.0026	mg/Kg	1	☼	6020A	Total/NA
Nickel	6.5		0.070	0.0079	mg/Kg	1	☼	6020A	Total/NA
Potassium	1400		35	0.95	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.15	J	0.35	0.035	mg/Kg	1	☼	6020A	Total/NA
Magnesium	2900	B	35	0.13	mg/Kg	1	☼	6020A	Total/NA
Silver	0.027	J	0.070	0.0027	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.079		0.070	0.0014	mg/Kg	1	☼	6020A	Total/NA
Sodium	2500		35	0.95	mg/Kg	1	☼	6020A	Total/NA
Zinc	27		0.35	0.045	mg/Kg	1	☼	6020A	Total/NA
Vanadium	15		0.070	0.0055	mg/Kg	1	☼	6020A	Total/NA
Manganese	130	B	0.35	0.0072	mg/Kg	1	☼	6020A	Total/NA
Mercury	0.020	J	0.022	0.0076	mg/Kg	1	☼	7471B	Total/NA
SEM/AVS Ratio	0.23		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ammonia, distilled	19		6.8	4.4	mg/Kg	1	☼	350.1	Total/NA
Ignitability	No		1.0	1.0	No Unit	1		7.1.2	Total/NA
Sulfide	37	J	42	8.4	mg/Kg	1	☼	9034	Total/NA
pH	8.08	H	0.100	0.100	SU	1		9045D	Total/NA
Free Liquid	CNF				NONE	1		9095B	Total/NA
Total Organic Carbon - Duplicates	4800		1400	120	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	360		68	6.2	mg/Kg	5	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	420		220	76	mg/Kg	1	☼	SM4500_NH3_E	Total/NA
Acid Volatile Sulfides (AVS)	79		21	4.2	mg/Kg	1	☼	9034	SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00082	J	0.0016	0.000051	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.040		0.014	0.0012	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.029		0.0017	0.00034	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.085		0.024	0.00069	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.40	B	0.054	0.0040	umol/g	1	☼	6010B	SEM/AVS
Acid Volatile Sulfides (AVS)	2.5		0.66	0.13	umol/g	1	☼	9034	SEM/AVS

Client Sample ID: TS-2ST-SED

Lab Sample ID: 180-42815-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	10	J	40	3.2	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	6.4	J	20	2.7	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	3.2	J	4.0	0.47	ug/Kg	1	☼	8270D LL	Total/NA
C10-C34	11	J	20	4.9	mg/Kg	1	☼	8015D	Total/NA
Mirex	0.0084	J	0.049	0.0046	ug/Kg	1	☼	8081B_LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-2ST-SED (Continued)

Lab Sample ID: 180-42815-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Endosulfan II - RE	0.062	H p B	0.050	0.0088	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin - RE	0.019	J H p B	0.050	0.0096	ug/Kg	1	☼	8081B_LL	Total/NA
Mirex - RE	0.0096	J H p	0.050	0.0046	ug/Kg	1	☼	8081B_LL	Total/NA
Cadmium SEM	0.020	J	0.15	0.0049	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	1.6		0.74	0.067	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	1.9		0.30	0.059	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	1.8		1.2	0.034	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	11	B	3.0	0.22	mg/Kg	1	☼	6010B	SEM/AVS
Barium	0.020	J B	2.0	0.0019	mg/L	1		6010C	TCLP
Cadmium	0.0022	J	0.50	0.0017	mg/L	1		6010C	TCLP
Aluminum	1400	B	1.8	0.17	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.031	J	0.12	0.0015	mg/Kg	1	☼	6020A	Total/NA
Arsenic	1.3		0.059	0.011	mg/Kg	1	☼	6020A	Total/NA
Barium	3.5		0.59	0.0063	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.11		0.059	0.0044	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.019	J	0.059	0.0041	mg/Kg	1	☼	6020A	Total/NA
Chromium	3.8	B	0.12	0.0036	mg/Kg	1	☼	6020A	Total/NA
Calcium	540	B	29	0.78	mg/Kg	1	☼	6020A	Total/NA
Cobalt	1.0		0.029	0.00088	mg/Kg	1	☼	6020A	Total/NA
Copper	1.3		0.12	0.019	mg/Kg	1	☼	6020A	Total/NA
Iron	3400	B	2.9	0.21	mg/Kg	1	☼	6020A	Total/NA
Lead	1.8		0.059	0.0022	mg/Kg	1	☼	6020A	Total/NA
Nickel	2.2		0.059	0.0067	mg/Kg	1	☼	6020A	Total/NA
Potassium	350		29	0.80	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.042	J	0.29	0.030	mg/Kg	1	☼	6020A	Total/NA
Magnesium	630	B	29	0.11	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.020	J	0.059	0.0012	mg/Kg	1	☼	6020A	Total/NA
Sodium	1500		29	0.81	mg/Kg	1	☼	6020A	Total/NA
Zinc	6.0		0.29	0.038	mg/Kg	1	☼	6020A	Total/NA
Vanadium	4.6		0.059	0.0047	mg/Kg	1	☼	6020A	Total/NA
Manganese	26	B	0.29	0.0061	mg/Kg	1	☼	6020A	Total/NA
SEM/AVS Ratio	NC		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ignitability	No		1.0	1.0	No Unit	1		7.1.2	Total/NA
pH	8.30	H	0.100	0.100	SU	1		9045D	Total/NA
Free Liquid	CNF				NONE	1		9095B	Total/NA
Total Phosphorus as P	100		12	1.1	mg/Kg	1	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	95	J	170	57	mg/Kg	1	☼	SM4500_NH3_E	Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00018	J	0.0013	0.000043	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.025		0.012	0.0010	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.0093		0.0014	0.00028	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.031		0.020	0.00058	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.17	B	0.045	0.0034	umol/g	1	☼	6010B	SEM/AVS

Client Sample ID: TS-2MT-SED

Lab Sample ID: 180-42815-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzoic acid	56	J	100	8.3	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	74		40	3.2	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-2MT-SED (Continued)

Lab Sample ID: 180-42815-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	16	J	20	2.7	ug/Kg	1	☼	8270D LL	Total/NA
Diethyl phthalate	6.1	J	20	2.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	2.4	J	4.0	0.47	ug/Kg	1	☼	8270D LL	Total/NA
Dieldrin	0.023	J p	0.050	0.0083	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan II	0.010	J p	0.050	0.0088	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan sulfate	0.012	J	0.050	0.0052	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.013	J p	0.050	0.0097	ug/Kg	1	☼	8081B_LL	Total/NA
Mirex	0.056		0.050	0.0046	ug/Kg	1	☼	8081B_LL	Total/NA
2,4'-DDE	0.0053	J p	0.050	0.0046	ug/Kg	1	☼	8081B_LL	Total/NA
Cadmium SEM	0.011	J	0.15	0.0049	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	1.0		0.75	0.067	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	1.1		0.30	0.059	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	0.98	J	1.2	0.034	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	5.6	B	3.0	0.22	mg/Kg	1	☼	6010B	SEM/AVS
Barium	0.061	J B	2.0	0.0019	mg/L	1		6010C	TCLP
Selenium	0.021	J	0.50	0.017	mg/L	1		6010C	TCLP
Aluminum	920	B	1.8	0.17	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.022	J	0.12	0.0015	mg/Kg	1	☼	6020A	Total/NA
Arsenic	1.1		0.059	0.011	mg/Kg	1	☼	6020A	Total/NA
Barium	3.3		0.59	0.0064	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.086		0.059	0.0045	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.022	J	0.059	0.0042	mg/Kg	1	☼	6020A	Total/NA
Chromium	2.9	B	0.12	0.0036	mg/Kg	1	☼	6020A	Total/NA
Calcium	1400	B	30	0.79	mg/Kg	1	☼	6020A	Total/NA
Cobalt	0.85		0.030	0.00089	mg/Kg	1	☼	6020A	Total/NA
Copper	1.0		0.12	0.020	mg/Kg	1	☼	6020A	Total/NA
Iron	2800	B	3.0	0.21	mg/Kg	1	☼	6020A	Total/NA
Lead	1.5		0.059	0.0023	mg/Kg	1	☼	6020A	Total/NA
Nickel	1.8		0.059	0.0067	mg/Kg	1	☼	6020A	Total/NA
Potassium	260		30	0.81	mg/Kg	1	☼	6020A	Total/NA
Magnesium	450	B	30	0.11	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.013	J	0.059	0.0012	mg/Kg	1	☼	6020A	Total/NA
Sodium	1600		30	0.81	mg/Kg	1	☼	6020A	Total/NA
Zinc	4.3		0.30	0.038	mg/Kg	1	☼	6020A	Total/NA
Vanadium	3.2		0.059	0.0047	mg/Kg	1	☼	6020A	Total/NA
Manganese	24	B	0.30	0.0061	mg/Kg	1	☼	6020A	Total/NA
SEM/AVS Ratio	NC		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ignitability	No		1.0	1.0	No Unit	1		7.1.2	Total/NA
Sulfide	10	J	36	7.2	mg/Kg	1	☼	9034	Total/NA
pH	8.36	H	0.100	0.100	SU	1		9045D	Total/NA
Free Liquid	CFL				NONE	1		9095B	Total/NA
Total Phosphorus as P	110		12	1.1	mg/Kg	1	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	63	J	170	57	mg/Kg	1	☼	SM4500_NH3_E	Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00010	J	0.0013	0.000044	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.016		0.012	0.0011	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.0053		0.0014	0.00029	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.017	J	0.020	0.00058	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.086	B	0.046	0.0034	umol/g	1	☼	6010B	SEM/AVS

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-2NT-SED — Lab Sample ID: 180-42815-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	68		39	3.1	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	10	J	19	2.6	ug/Kg	1	☼	8270D LL	Total/NA
4,4'-DDT	0.0085	J	0.049	0.0073	ug/Kg	1	☼	8081B_LL	Total/NA
Dieldrin	0.031	J	0.049	0.0081	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan II	0.019	J p	0.049	0.0086	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.016	J p	0.049	0.0095	ug/Kg	1	☼	8081B_LL	Total/NA
Cadmium SEM	0.010	J	0.15	0.0048	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	0.89		0.73	0.066	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	0.93		0.29	0.058	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	1.1	J	1.2	0.034	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	4.9	B	2.9	0.22	mg/Kg	1	☼	6010B	SEM/AVS
Barium	0.060	J B	2.0	0.0019	mg/L	1		6010C	TCLP
Aluminum	1200	B	1.7	0.16	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.030	J	0.11	0.0015	mg/Kg	1	☼	6020A	Total/NA
Arsenic	1.3		0.057	0.010	mg/Kg	1	☼	6020A	Total/NA
Barium	3.1		0.57	0.0061	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.12		0.057	0.0043	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.021	J	0.057	0.0040	mg/Kg	1	☼	6020A	Total/NA
Chromium	3.3	B	0.11	0.0035	mg/Kg	1	☼	6020A	Total/NA
Calcium	820	B	29	0.76	mg/Kg	1	☼	6020A	Total/NA
Cobalt	1.4		0.029	0.00086	mg/Kg	1	☼	6020A	Total/NA
Copper	1.5		0.11	0.019	mg/Kg	1	☼	6020A	Total/NA
Iron	3000	B	2.9	0.20	mg/Kg	1	☼	6020A	Total/NA
Lead	1.9		0.057	0.0022	mg/Kg	1	☼	6020A	Total/NA
Nickel	2.3		0.057	0.0065	mg/Kg	1	☼	6020A	Total/NA
Potassium	280		29	0.78	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.035	J	0.29	0.029	mg/Kg	1	☼	6020A	Total/NA
Magnesium	480	B	29	0.11	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.014	J	0.057	0.0011	mg/Kg	1	☼	6020A	Total/NA
Sodium	1500		29	0.78	mg/Kg	1	☼	6020A	Total/NA
Zinc	6.0		0.29	0.037	mg/Kg	1	☼	6020A	Total/NA
Vanadium	3.7		0.057	0.0045	mg/Kg	1	☼	6020A	Total/NA
Manganese	19	B	0.29	0.0059	mg/Kg	1	☼	6020A	Total/NA
SEM/AVS Ratio	NC		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ignitability	No		1.0	1.0	No Unit	1		7.1.2	Total/NA
Sulfide	13	J	35	7.0	mg/Kg	1	☼	9034	Total/NA
pH	8.47	H	0.100	0.100	SU	1		9045D	Total/NA
Free Liquid	CNF				NONE	1		9095B	Total/NA
Total Phosphorus as P	59		11	1.0	mg/Kg	1	☼	SM4500 P E-1999	Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.000091	J	0.0013	0.000043	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.014		0.012	0.0010	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.0045		0.0014	0.00028	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.019	J	0.020	0.00057	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.075	B	0.045	0.0033	umol/g	1	☼	6010B	SEM/AVS

Client Sample ID: TS-3ST-SED — Lab Sample ID: 180-42815-6

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-3ST-SED (Continued)

Lab Sample ID: 180-42815-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	6.6	J	43	3.5	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	3.7	J	4.3	0.51	ug/Kg	1	☼	8270D LL	Total/NA
gamma-BHC (Lindane)	0.025	J	0.054	0.0094	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDD	0.0081	J p	0.054	0.0070	ug/Kg	1	☼	8081B_LL	Total/NA
Dieldrin	0.022	J p	0.054	0.0090	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan I	0.011	J p	0.054	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan II	0.033	J p	0.054	0.0095	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.022	J p	0.054	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
Cadmium SEM	0.043	J	0.16	0.0053	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	0.74	J	0.81	0.073	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	1.4		0.65	0.13	mg/Kg	2	☼	6010B	SEM/AVS
Nickel SEM	3.1		2.6	0.074	mg/Kg	2	☼	6010B	SEM/AVS
Zinc SEM	18	B	3.2	0.24	mg/Kg	1	☼	6010B	SEM/AVS
Barium	0.15	J B	2.0	0.0019	mg/L	1		6010C	TCLP
Lead	0.016	J	0.50	0.015	mg/L	1		6010C	TCLP
Aluminum	4100	B	1.9	0.18	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.084	J	0.13	0.0017	mg/Kg	1	☼	6020A	Total/NA
Arsenic	7.2		0.064	0.012	mg/Kg	1	☼	6020A	Total/NA
Barium	27		0.64	0.0069	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.35		0.064	0.0048	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.15		0.064	0.0045	mg/Kg	1	☼	6020A	Total/NA
Chromium	15	B	0.13	0.0039	mg/Kg	1	☼	6020A	Total/NA
Calcium	50000	B	32	0.85	mg/Kg	1	☼	6020A	Total/NA
Cobalt	4.3		0.032	0.00096	mg/Kg	1	☼	6020A	Total/NA
Copper	2.8		0.13	0.021	mg/Kg	1	☼	6020A	Total/NA
Iron	21000	B	3.2	0.23	mg/Kg	1	☼	6020A	Total/NA
Lead	5.0		0.064	0.0024	mg/Kg	1	☼	6020A	Total/NA
Nickel	6.3		0.064	0.0073	mg/Kg	1	☼	6020A	Total/NA
Potassium	1500		32	0.87	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.11	J	0.32	0.032	mg/Kg	1	☼	6020A	Total/NA
Magnesium	3000	B	32	0.12	mg/Kg	1	☼	6020A	Total/NA
Silver	0.026	J	0.064	0.0025	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.068		0.064	0.0013	mg/Kg	1	☼	6020A	Total/NA
Sodium	2800		32	0.88	mg/Kg	1	☼	6020A	Total/NA
Zinc	21		0.32	0.042	mg/Kg	1	☼	6020A	Total/NA
Vanadium	17		0.064	0.0051	mg/Kg	1	☼	6020A	Total/NA
Manganese	210	B	0.32	0.0066	mg/Kg	1	☼	6020A	Total/NA
SEM/AVS Ratio	1.4		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ignitability	No		1.0	1.0	No Unit	1		7.1.2	Total/NA
Sulfide	21	J	39	7.7	mg/Kg	1	☼	9034	Total/NA
pH	8.22	H	0.100	0.100	SU	1		9045D	Total/NA
Free Liquid	CNF				NONE	1		9095B	Total/NA
Total Organic Carbon - Duplicates	2100	^	1300	110	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Organic Carbon - Duplicates	1600	H	1300	110	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	290		62	5.6	mg/Kg	5	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	200		180	61	mg/Kg	1	☼	SM4500_NH3_E	Total/NA
Acid Volatile Sulfides (AVS)	8.1	J	19	3.9	mg/Kg	1	☼	9034	SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00038	J	0.0014	0.000047	umol/g	1	☼	6010B	SEM/AVS

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-3ST-SED (Continued)

Lab Sample ID: 180-42815-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper SEM	0.012	J	0.013	0.0011	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.0069		0.0031	0.00062	umol/g	2	☼	6010B	SEM/AVS
Nickel SEM	0.053		0.044	0.0013	umol/g	2	☼	6010B	SEM/AVS
Zinc SEM	0.28	B	0.050	0.0037	umol/g	1	☼	6010B	SEM/AVS
Acid Volatile Sulfides (AVS)	0.25	J	0.61	0.12	umol/g	1	☼	9034	SEM/AVS

Client Sample ID: SRM Sediment

Lab Sample ID: 180-42815-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzoic acid	2800	J	5100	420	ug/Kg	10		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	16000		2000	160	ug/Kg	10		8270D LL	Total/NA
Butyl benzyl phthalate	440	J	990	140	ug/Kg	10		8270D LL	Total/NA
Di-n-butyl phthalate	200	J	990	130	ug/Kg	10		8270D LL	Total/NA
Phenol	110	J	200	24	ug/Kg	10		8270D LL	Total/NA
2-Methylnaphthalene	310		200	18	ug/Kg	10		8270D LL	Total/NA
1-Methylnaphthalene	220		200	21	ug/Kg	10		8270D LL	Total/NA
Naphthalene	520		200	17	ug/Kg	10		8270D LL	Total/NA
Acenaphthylene	680		200	23	ug/Kg	10		8270D LL	Total/NA
Acenaphthene	180	J	200	19	ug/Kg	10		8270D LL	Total/NA
Fluorene	220		200	26	ug/Kg	10		8270D LL	Total/NA
Phenanthrene	2700		200	32	ug/Kg	10		8270D LL	Total/NA
Anthracene	710		200	20	ug/Kg	10		8270D LL	Total/NA
Fluoranthene	4600		200	21	ug/Kg	10		8270D LL	Total/NA
Pyrene	4100		200	20	ug/Kg	10		8270D LL	Total/NA
Benzo[a]anthracene	2400		200	25	ug/Kg	10		8270D LL	Total/NA
Chrysene	3100		200	24	ug/Kg	10		8270D LL	Total/NA
Benzo[b]fluoranthene	2500		200	31	ug/Kg	10		8270D LL	Total/NA
Benzo[k]fluoranthene	1000		200	40	ug/Kg	10		8270D LL	Total/NA
Benzo[a]pyrene	1800		200	20	ug/Kg	10		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	1400		200	21	ug/Kg	10		8270D LL	Total/NA
Dibenz(a,h)anthracene	530		200	22	ug/Kg	10		8270D LL	Total/NA
Benzo[g,h,i]perylene	1800		200	20	ug/Kg	10		8270D LL	Total/NA
Dibenzofuran	180	J	990	98	ug/Kg	10		8270D LL	Total/NA
Aldrin	2.1	p	0.62	0.11	ug/Kg	5		8081B_LL	Total/NA
alpha-BHC	0.15	J p	0.62	0.10	ug/Kg	5		8081B_LL	Total/NA
beta-BHC	1.1	p	0.62	0.16	ug/Kg	5		8081B_LL	Total/NA
delta-BHC	15		0.62	0.096	ug/Kg	5		8081B_LL	Total/NA
gamma-BHC (Lindane)	2.9	p	0.62	0.11	ug/Kg	5		8081B_LL	Total/NA
Chlordane (technical)	200		6.2	0.28	ug/Kg	5		8081B_LL	Total/NA
Chlorobenside	9.3	p	0.62	0.33	ug/Kg	5		8081B_LL	Total/NA
DCPA	3.1	p	0.62	0.095	ug/Kg	5		8081B_LL	Total/NA
4,4'-DDD	64		0.62	0.082	ug/Kg	5		8081B_LL	Total/NA
4,4'-DDE	57		0.62	0.095	ug/Kg	5		8081B_LL	Total/NA
Dieldrin	6.3	p	0.62	0.10	ug/Kg	5		8081B_LL	Total/NA
Endosulfan II	4.7	p	0.62	0.11	ug/Kg	5		8081B_LL	Total/NA
Endosulfan sulfate	7.0	p	0.62	0.065	ug/Kg	5		8081B_LL	Total/NA
Endrin	29		0.62	0.12	ug/Kg	5		8081B_LL	Total/NA
Endrin aldehyde	1.7	p	0.62	0.12	ug/Kg	5		8081B_LL	Total/NA
Heptachlor	4.5	p	0.62	0.14	ug/Kg	5		8081B_LL	Total/NA
Heptachlor epoxide	22		0.62	0.12	ug/Kg	5		8081B_LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SRM Sediment (Continued)

Lab Sample ID: 180-42815-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methoxychlor	75	p	1.2	0.13	ug/Kg	5		8081B_LL	Total/NA
Mirex	5.8	p	0.62	0.058	ug/Kg	5		8081B_LL	Total/NA
2,4'-DDD	29	p	0.62	0.038	ug/Kg	5		8081B_LL	Total/NA
2,4'-DDE	11	p	0.62	0.058	ug/Kg	5		8081B_LL	Total/NA
2,4'-DDT	2.0	p	0.62	0.054	ug/Kg	5		8081B_LL	Total/NA
4,4'-DDT - DL	120		1.2	0.19	ug/Kg	10		8081B_LL	Total/NA
PCB-44	810		25	2.8	ug/Kg	50		8082A	Total/NA
PCB-66	620		25	2.3	ug/Kg	50		8082A	Total/NA
PCB-87	140		25	2.5	ug/Kg	50		8082A	Total/NA
PCB-101	340	p	25	2.9	ug/Kg	50		8082A	Total/NA
PCB-105	160		25	2.0	ug/Kg	50		8082A	Total/NA
PCB-118	160	p	25	2.3	ug/Kg	50		8082A	Total/NA
PCB-128	100		25	2.7	ug/Kg	50		8082A	Total/NA
PCB-138	180	p	25	2.1	ug/Kg	50		8082A	Total/NA
PCB-153	190		25	2.2	ug/Kg	50		8082A	Total/NA
PCB-156	30	p	25	1.7	ug/Kg	50		8082A	Total/NA
PCB-170	96		25	1.9	ug/Kg	50		8082A	Total/NA
PCB-180	110		25	2.2	ug/Kg	50		8082A	Total/NA
PCB-183	36		25	5.4	ug/Kg	50		8082A	Total/NA
PCB-187	94		25	3.1	ug/Kg	50		8082A	Total/NA
PCB-195	15	J	25	4.9	ug/Kg	50		8082A	Total/NA
PCB-206	26		25	1.7	ug/Kg	50		8082A	Total/NA
DCB Decachlorobiphenyl	9.9	J	25	1.7	ug/Kg	50		8082A	Total/NA
PCB-8 - DL	2900		250	82	ug/Kg	500		8082A	Total/NA
PCB-18 - DL	4100		250	70	ug/Kg	500		8082A	Total/NA
PCB-28 - DL	3800		250	36	ug/Kg	500		8082A	Total/NA
PCB-49 - DL	2700		250	51	ug/Kg	500		8082A	Total/NA
PCB-52 - DL	2600		250	48	ug/Kg	500		8082A	Total/NA
Aluminum	5100		2.9	0.27	mg/Kg	1		6020A	Total/NA
Antimony	0.39		0.19	0.0025	mg/Kg	1		6020A	Total/NA
Arsenic	4.7		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	15		0.95	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.31		0.095	0.0071	mg/Kg	1		6020A	Total/NA
Cadmium	0.11		0.095	0.0067	mg/Kg	1		6020A	Total/NA
Chromium	17		0.19	0.0058	mg/Kg	1		6020A	Total/NA
Calcium	2800		48	1.3	mg/Kg	1		6020A	Total/NA
Cobalt	2.9		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	8.2		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	13000		4.8	0.34	mg/Kg	1		6020A	Total/NA
Lead	7.3		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Nickel	16		0.095	0.011	mg/Kg	1		6020A	Total/NA
Potassium	1400		48	1.3	mg/Kg	1		6020A	Total/NA
Selenium	0.20	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Magnesium	2500		48	0.18	mg/Kg	1		6020A	Total/NA
Silver	0.043	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Thallium	0.080	J	0.095	0.0019	mg/Kg	1		6020A	Total/NA
Sodium	3700		48	1.3	mg/Kg	1		6020A	Total/NA
Zinc	27		0.48	0.062	mg/Kg	1		6020A	Total/NA
Vanadium	15		0.095	0.0075	mg/Kg	1		6020A	Total/NA
Manganese	98		0.48	0.0098	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SRM Sediment (Continued)
Lab Sample ID: 180-42815-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.039		0.033	0.011	mg/Kg	1		7471B	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		7.0	0.95	ug/Kg	☼	04/10/15 03:30	04/10/15 06:10	1
Toluene	ND		7.0	1.0	ug/Kg	☼	04/10/15 03:30	04/10/15 06:10	1
Ethylbenzene	ND		7.0	0.90	ug/Kg	☼	04/10/15 03:30	04/10/15 06:10	1
Xylenes, Total	ND		21	3.2	ug/Kg	☼	04/10/15 03:30	04/10/15 06:10	1
m-Xylene & p-Xylene	ND		14	2.1	ug/Kg	☼	04/10/15 03:30	04/10/15 06:10	1
o-Xylene	ND		7.0	1.1	ug/Kg	☼	04/10/15 03:30	04/10/15 06:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*52 - 124*	*04/10/15 03:30*	*04/10/15 06:10*	*1*
4-Bromofluorobenzene (Surr)	*93*		*63 - 120*	*04/10/15 03:30*	*04/10/15 06:10*	*1*
Dibromofluoromethane (Surr)	*94*		*68 - 121*	*04/10/15 03:30*	*04/10/15 06:10*	*1*
Toluene-d8 (Surr)	*98*		*72 - 127*	*04/10/15 03:30*	*04/10/15 06:10*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		6.0	0.80	ug/Kg	☼	04/10/15 03:30	04/10/15 06:32	1
Toluene	ND		6.0	0.87	ug/Kg	☼	04/10/15 03:30	04/10/15 06:32	1
Ethylbenzene	ND		6.0	0.77	ug/Kg	☼	04/10/15 03:30	04/10/15 06:32	1
Xylenes, Total	ND		18	2.7	ug/Kg	☼	04/10/15 03:30	04/10/15 06:32	1
m-Xylene & p-Xylene	ND		12	1.7	ug/Kg	☼	04/10/15 03:30	04/10/15 06:32	1
o-Xylene	ND		6.0	0.93	ug/Kg	☼	04/10/15 03:30	04/10/15 06:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*52 - 124*	*04/10/15 03:30*	*04/10/15 06:32*	*1*
4-Bromofluorobenzene (Surr)	*97*		*63 - 120*	*04/10/15 03:30*	*04/10/15 06:32*	*1*
Dibromofluoromethane (Surr)	*92*		*68 - 121*	*04/10/15 03:30*	*04/10/15 06:32*	*1*
Toluene-d8 (Surr)	*105*		*72 - 127*	*04/10/15 03:30*	*04/10/15 06:32*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		6.0	0.81	ug/Kg	☼	04/10/15 03:30	04/10/15 09:33	1
Toluene	ND		6.0	0.88	ug/Kg	☼	04/10/15 03:30	04/10/15 09:33	1
Ethylbenzene	ND		6.0	0.77	ug/Kg	☼	04/10/15 03:30	04/10/15 09:33	1
Xylenes, Total	ND		18	2.7	ug/Kg	☼	04/10/15 03:30	04/10/15 09:33	1
m-Xylene & p-Xylene	ND		12	1.8	ug/Kg	☼	04/10/15 03:30	04/10/15 09:33	1
o-Xylene	ND		6.0	0.93	ug/Kg	☼	04/10/15 03:30	04/10/15 09:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*52 - 124*	*04/10/15 03:30*	*04/10/15 09:33*	*1*
4-Bromofluorobenzene (Surr)	*97*		*63 - 120*	*04/10/15 03:30*	*04/10/15 09:33*	*1*
Dibromofluoromethane (Surr)	*92*		*68 - 121*	*04/10/15 03:30*	*04/10/15 09:33*	*1*
Toluene-d8 (Surr)	*102*		*72 - 127*	*04/10/15 03:30*	*04/10/15 09:33*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.8	0.79	ug/Kg	☼	04/10/15 03:30	04/10/15 09:55	1
Toluene	ND		5.8	0.85	ug/Kg	☼	04/10/15 03:30	04/10/15 09:55	1
Ethylbenzene	ND		5.8	0.75	ug/Kg	☼	04/10/15 03:30	04/10/15 09:55	1
Xylenes, Total	ND		18	2.6	ug/Kg	☼	04/10/15 03:30	04/10/15 09:55	1
m-Xylene & p-Xylene	ND		12	1.7	ug/Kg	☼	04/10/15 03:30	04/10/15 09:55	1
o-Xylene	ND		5.8	0.91	ug/Kg	☼	04/10/15 03:30	04/10/15 09:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*52 - 124*	*04/10/15 03:30*	*04/10/15 09:55*	*1*
4-Bromofluorobenzene (Surr)	*101*		*63 - 120*	*04/10/15 03:30*	*04/10/15 09:55*	*1*
Dibromofluoromethane (Surr)	*98*		*68 - 121*	*04/10/15 03:30*	*04/10/15 09:55*	*1*
Toluene-d8 (Surr)	*103*		*72 - 127*	*04/10/15 03:30*	*04/10/15 09:55*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		6.5	0.87	ug/Kg	☼	04/10/15 03:30	04/10/15 10:18	1
Toluene	ND		6.5	0.94	ug/Kg	☼	04/10/15 03:30	04/10/15 10:18	1
Ethylbenzene	ND		6.5	0.83	ug/Kg	☼	04/10/15 03:30	04/10/15 10:18	1
Xylenes, Total	ND		19	2.9	ug/Kg	☼	04/10/15 03:30	04/10/15 10:18	1
m-Xylene & p-Xylene	ND		13	1.9	ug/Kg	☼	04/10/15 03:30	04/10/15 10:18	1
o-Xylene	ND		6.5	1.0	ug/Kg	☼	04/10/15 03:30	04/10/15 10:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*52 - 124*	*04/10/15 03:30*	*04/10/15 10:18*	*1*
4-Bromofluorobenzene (Surr)	*98*		*63 - 120*	*04/10/15 03:30*	*04/10/15 10:18*	*1*
Dibromofluoromethane (Surr)	*99*		*68 - 121*	*04/10/15 03:30*	*04/10/15 10:18*	*1*
Toluene-d8 (Surr)	*105*		*72 - 127*	*04/10/15 03:30*	*04/10/15 10:18*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		200	38	ug/L			04/20/15 12:28	1
2-Butanone (MEK)	ND		200	43	ug/L			04/20/15 12:28	1
Benzene	ND		200	40	ug/L			04/20/15 12:28	1
Carbon tetrachloride	ND		200	43	ug/L			04/20/15 12:28	1
Chlorobenzene	ND		200	21	ug/L			04/20/15 12:28	1
Chloroform	ND		200	40	ug/L			04/20/15 12:28	1
Tetrachloroethene	ND		200	33	ug/L			04/20/15 12:28	1
Trichloroethene	ND		200	32	ug/L			04/20/15 12:28	1
Vinyl chloride	ND		200	52	ug/L			04/20/15 12:28	1
1,1-Dichloroethene	ND	F1 *	200	43	ug/L			04/20/15 12:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*62 - 123*		*04/20/15 12:28*	*1*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*		*04/20/15 12:28*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*04/20/15 12:28*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*04/20/15 12:28*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		200	38	ug/L			04/20/15 12:55	1
2-Butanone (MEK)	ND		200	43	ug/L			04/20/15 12:55	1
Benzene	ND		200	40	ug/L			04/20/15 12:55	1
Carbon tetrachloride	ND		200	43	ug/L			04/20/15 12:55	1
Chlorobenzene	ND		200	21	ug/L			04/20/15 12:55	1
Chloroform	ND		200	40	ug/L			04/20/15 12:55	1
Tetrachloroethene	ND		200	33	ug/L			04/20/15 12:55	1
Trichloroethene	ND		200	32	ug/L			04/20/15 12:55	1
Vinyl chloride	ND		200	52	ug/L			04/20/15 12:55	1
1,1-Dichloroethene	ND	*	200	43	ug/L			04/20/15 12:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*62 - 123*		*04/20/15 12:55*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*04/20/15 12:55*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*04/20/15 12:55*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*04/20/15 12:55*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		200	38	ug/L			04/20/15 13:22	1
2-Butanone (MEK)	ND		200	43	ug/L			04/20/15 13:22	1
Benzene	ND		200	40	ug/L			04/20/15 13:22	1
Carbon tetrachloride	ND		200	43	ug/L			04/20/15 13:22	1
Chlorobenzene	ND		200	21	ug/L			04/20/15 13:22	1
Chloroform	ND		200	40	ug/L			04/20/15 13:22	1
Tetrachloroethene	ND		200	33	ug/L			04/20/15 13:22	1
Trichloroethene	ND		200	32	ug/L			04/20/15 13:22	1
Vinyl chloride	ND		200	52	ug/L			04/20/15 13:22	1
1,1-Dichloroethene	ND	*	200	43	ug/L			04/20/15 13:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*62 - 123*		*04/20/15 13:22*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*04/20/15 13:22*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*04/20/15 13:22*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*04/20/15 13:22*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		200	38	ug/L			04/20/15 13:49	1
2-Butanone (MEK)	ND		200	43	ug/L			04/20/15 13:49	1
Benzene	ND		200	40	ug/L			04/20/15 13:49	1
Carbon tetrachloride	ND		200	43	ug/L			04/20/15 13:49	1
Chlorobenzene	ND		200	21	ug/L			04/20/15 13:49	1
Chloroform	ND		200	40	ug/L			04/20/15 13:49	1
Tetrachloroethene	ND		200	33	ug/L			04/20/15 13:49	1
Trichloroethene	ND		200	32	ug/L			04/20/15 13:49	1
Vinyl chloride	ND		200	52	ug/L			04/20/15 13:49	1
1,1-Dichloroethene	ND	*	200	43	ug/L			04/20/15 13:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*120*		*62 - 123*		*04/20/15 13:49*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*04/20/15 13:49*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*04/20/15 13:49*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*04/20/15 13:49*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		200	38	ug/L			04/20/15 15:38	1
2-Butanone (MEK)	ND		200	43	ug/L			04/20/15 15:38	1
Benzene	ND		200	40	ug/L			04/20/15 15:38	1
Carbon tetrachloride	ND		200	43	ug/L			04/20/15 15:38	1
Chlorobenzene	ND		200	21	ug/L			04/20/15 15:38	1
Chloroform	ND		200	40	ug/L			04/20/15 15:38	1
Tetrachloroethene	ND		200	33	ug/L			04/20/15 15:38	1
Trichloroethene	ND		200	32	ug/L			04/20/15 15:38	1
Vinyl chloride	ND		200	52	ug/L			04/20/15 15:38	1
1,1-Dichloroethene	ND	*	200	43	ug/L			04/20/15 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*62 - 123*		*04/20/15 15:38*	*1*
4-Bromofluorobenzene (Surr)	*88*		*75 - 120*		*04/20/15 15:38*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*04/20/15 15:38*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*04/20/15 15:38*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: WBREF-B-SED
Date Collected: 04/06/15 11:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-1
Matrix: Sediment
Percent Solids: 70.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		470	99	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
1,2-Dichlorobenzene	ND		23	2.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
1,3-Dichlorobenzene	ND		23	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
1,4-Dichlorobenzene	ND		23	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Benzoic acid	ND		120	9.8	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Bis(2-chloroethyl)ether	ND		4.7	0.63	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Bis(2-chloroethoxy)methane	ND		23	1.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Bis(2-ethylhexyl) phthalate	**26**	**J**	47	3.8	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
4-Bromophenyl phenyl ether	ND		23	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Butyl benzyl phthalate	**7.5**	**J**	23	3.2	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
4-Chloro-3-methylphenol	ND		23	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
2-Chloronaphthalene	ND		4.7	0.49	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
2-Chlorophenol	ND		23	1.9	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
4-Chlorophenyl phenyl ether	ND		23	2.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Di-n-butyl phthalate	ND		23	2.9	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
3,3'-Dichlorobenzidine	ND		23	2.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
2,4-Dichlorophenol	ND		4.7	0.47	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Diethyl phthalate	**3.0**	**J**	23	2.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
4,6-Dinitro-2-methylphenol	ND		120	9.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
2,4-Dimethylphenol	ND		23	3.7	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Dimethyl phthalate	ND		23	2.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
2,4-Dinitrophenol	ND		120	28	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
2,4-Dinitrotoluene	ND		23	1.9	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
2,6-Dinitrotoluene	ND		23	2.4	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		23	3.0	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Di-n-octyl phthalate	ND		23	2.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Hexachlorobenzene	ND		4.7	0.50	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Hexachlorobutadiene	ND		4.7	0.53	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Hexachloroethane	ND		23	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Hexachlorocyclopentadiene	ND		23	2.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Isophorone	ND		23	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
2-Methylphenol	ND		23	1.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Methylphenol, 3 & 4	ND		23	2.3	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Nitrobenzene	ND		47	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
2-Nitrophenol	ND		23	2.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
4-Nitrophenol	ND		120	8.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
N-Nitrosodiphenylamine	ND		23	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
N-Nitrosodimethylamine	ND		23	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
N-Nitrosodi-n-propylamine	ND		4.7	0.55	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
2,2'-oxybis[1-chloropropane]	ND		4.7	0.51	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Pentachlorophenol	ND		23	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Phenol	ND		4.7	0.56	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
1,2,4-Trichlorobenzene	ND		23	1.3	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
2,4,6-Trichlorophenol	ND		23	3.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
2-Methylnaphthalene	ND		4.7	0.42	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
1-Methylnaphthalene	ND		4.7	0.50	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Naphthalene	ND		4.7	0.41	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Acenaphthylene	ND		4.7	0.54	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: WBREF-B-SED
Date Collected: 04/06/15 11:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-1
Matrix: Sediment
Percent Solids: 70.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		4.7	0.45	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Fluorene	ND		4.7	0.62	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Phenanthrene	ND		4.7	0.75	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Anthracene	ND		4.7	0.46	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Fluoranthene	ND		4.7	0.50	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Pyrene	ND		4.7	0.48	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Benzo[a]anthracene	ND		4.7	0.59	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Chrysene	ND		4.7	0.56	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Benzo[b]fluoranthene	ND		4.7	0.74	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Benzo[k]fluoranthene	ND		4.7	0.95	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Benzo[a]pyrene	ND		4.7	0.47	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Indeno[1,2,3-cd]pyrene	ND		4.7	0.48	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Dibenz(a,h)anthracene	ND		4.7	0.52	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Benzo[g,h,i]perylene	ND		4.7	0.47	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Benzyl alcohol	ND		23	2.8	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1
Dibenzofuran	ND		23	2.3	ug/Kg	☼	04/20/15 03:00	04/23/15 02:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*38 - 103*	*04/20/15 03:00*	*04/23/15 02:02*	*1*
2-Fluorophenol (Surr)	*64*		*34 - 103*	*04/20/15 03:00*	*04/23/15 02:02*	*1*
2,4,6-Tribromophenol (Surr)	*50*		*20 - 113*	*04/20/15 03:00*	*04/23/15 02:02*	*1*
Nitrobenzene-d5 (Surr)	*62*		*41 - 108*	*04/20/15 03:00*	*04/23/15 02:02*	*1*
Phenol-d5 (Surr)	*66*		*35 - 103*	*04/20/15 03:00*	*04/23/15 02:02*	*1*
Terphenyl-d14 (Surr)	*57*		*28 - 109*	*04/20/15 03:00*	*04/23/15 02:02*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		470	98	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
1,2-Dichlorobenzene	ND		23	2.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
1,3-Dichlorobenzene	ND		23	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
1,4-Dichlorobenzene	ND		23	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Benzoic acid	ND		120	9.7	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Bis(2-chloroethyl)ether	ND		4.7	0.63	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Bis(2-chloroethoxy)methane	ND		23	1.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Bis(2-ethylhexyl) phthalate	**14**	**J**	47	3.8	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
4-Bromophenyl phenyl ether	ND		23	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Butyl benzyl phthalate	**5.9**	**J**	23	3.2	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
4-Chloro-3-methylphenol	ND		23	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
2-Chloronaphthalene	ND		4.7	0.49	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
2-Chlorophenol	ND		23	1.9	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
4-Chlorophenyl phenyl ether	ND		23	2.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Di-n-butyl phthalate	ND		23	2.9	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
3,3'-Dichlorobenzidine	ND		23	2.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
2,4-Dichlorophenol	ND		4.7	0.47	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Diethyl phthalate	**4.4**	**J**	23	2.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
4,6-Dinitro-2-methylphenol	ND		120	9.4	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
2,4-Dimethylphenol	ND		23	3.7	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Dimethyl phthalate	ND		23	2.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
2,4-Dinitrophenol	ND		120	28	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
2,4-Dinitrotoluene	ND		23	1.9	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
2,6-Dinitrotoluene	ND		23	2.4	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		23	3.0	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Di-n-octyl phthalate	ND		23	2.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Hexachlorobenzene	ND		4.7	0.50	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Hexachlorobutadiene	ND		4.7	0.52	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Hexachloroethane	ND		23	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Hexachlorocyclopentadiene	ND		23	2.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Isophorone	ND		23	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
2-Methylphenol	ND		23	1.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Methylphenol, 3 & 4	**2.5**	**J**	23	2.3	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Nitrobenzene	ND		47	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
2-Nitrophenol	ND		23	2.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
4-Nitrophenol	ND		120	8.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
N-Nitrosodiphenylamine	ND		23	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
N-Nitrosodimethylamine	ND		23	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
N-Nitrosodi-n-propylamine	ND		4.7	0.55	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
2,2'-oxybis[1-chloropropane]	ND		4.7	0.51	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Pentachlorophenol	ND		23	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Phenol	ND		4.7	0.55	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
1,2,4-Trichlorobenzene	ND		23	1.3	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
2,4,6-Trichlorophenol	ND		23	3.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
2-Methylnaphthalene	**1.3**	**J**	4.7	0.42	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
1-Methylnaphthalene	ND		4.7	0.50	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Naphthalene	ND		4.7	0.40	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Acenaphthylene	ND		4.7	0.54	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Acenaphthene	ND		4.7	0.45	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		4.7	0.62	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Phenanthrene	**3.4**	**J**	4.7	0.75	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Anthracene	ND		4.7	0.46	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Fluoranthene	**5.7**		4.7	0.50	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Pyrene	**5.4**		4.7	0.47	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Benzo[a]anthracene	**2.9**	**J**	4.7	0.59	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Chrysene	**3.3**	**J**	4.7	0.56	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Benzo[b]fluoranthene	**5.2**		4.7	0.74	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Benzo[k]fluoranthene	**1.4**	**J**	4.7	0.95	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Benzo[a]pyrene	ND		4.7	0.47	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Indeno[1,2,3-cd]pyrene	**2.7**	**J**	4.7	0.48	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Dibenz(a,h)anthracene	ND		4.7	0.52	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Benzo[g,h,i]perylene	**3.6**	**J**	4.7	0.47	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Benzyl alcohol	ND		23	2.8	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1
Dibenzofuran	ND		23	2.3	ug/Kg	☼	04/20/15 03:00	04/23/15 02:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*38 - 103*	*04/20/15 03:00*	*04/23/15 02:30*	*1*
2-Fluorophenol (Surr)	*71*		*34 - 103*	*04/20/15 03:00*	*04/23/15 02:30*	*1*
2,4,6-Tribromophenol (Surr)	*49*		*20 - 113*	*04/20/15 03:00*	*04/23/15 02:30*	*1*
Nitrobenzene-d5 (Surr)	*65*		*41 - 108*	*04/20/15 03:00*	*04/23/15 02:30*	*1*
Phenol-d5 (Surr)	*73*		*35 - 103*	*04/20/15 03:00*	*04/23/15 02:30*	*1*
Terphenyl-d14 (Surr)	*52*		*28 - 109*	*04/20/15 03:00*	*04/23/15 02:30*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		400	83	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
1,2-Dichlorobenzene	ND		20	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
1,3-Dichlorobenzene	ND		20	1.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
1,4-Dichlorobenzene	ND		20	1.4	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Benzoic acid	ND		100	8.2	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Bis(2-chloroethyl)ether	ND		4.0	0.53	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Bis(2-chloroethoxy)methane	ND		20	1.3	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Bis(2-ethylhexyl) phthalate	**10**	**J**	40	3.2	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
4-Bromophenyl phenyl ether	ND		20	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Butyl benzyl phthalate	**6.4**	**J**	20	2.7	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
4-Chloro-3-methylphenol	ND		20	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
2-Chloronaphthalene	ND		4.0	0.41	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
2-Chlorophenol	ND		20	1.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
4-Chlorophenyl phenyl ether	ND		20	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Di-n-butyl phthalate	ND		20	2.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
3,3'-Dichlorobenzidine	ND		20	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
2,4-Dichlorophenol	ND		4.0	0.40	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Diethyl phthalate	ND		20	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
4,6-Dinitro-2-methylphenol	ND		100	8.0	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
2,4-Dimethylphenol	ND		20	3.1	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Dimethyl phthalate	ND		20	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
2,4-Dinitrophenol	ND		100	24	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
2,4-Dinitrotoluene	ND		20	1.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
2,6-Dinitrotoluene	ND		20	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		20	2.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Di-n-octyl phthalate	ND		20	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Hexachlorobenzene	ND		4.0	0.42	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Hexachlorobutadiene	ND		4.0	0.44	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Hexachloroethane	ND		20	1.4	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Hexachlorocyclopentadiene	ND		20	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Isophorone	ND		20	1.5	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
2-Methylphenol	ND		20	1.4	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Methylphenol, 3 & 4	ND		20	1.9	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Nitrobenzene	ND		40	1.6	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
2-Nitrophenol	ND		20	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
4-Nitrophenol	ND		100	7.2	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
N-Nitrosodiphenylamine	ND		20	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
N-Nitrosodimethylamine	ND		20	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
N-Nitrosodi-n-propylamine	ND		4.0	0.46	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
2,2'-oxybis[1-chloropropane]	ND		4.0	0.43	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Pentachlorophenol	ND		20	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Phenol	**3.2**	**J**	4.0	0.47	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
1,2,4-Trichlorobenzene	ND		20	1.1	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
2,4,6-Trichlorophenol	ND		20	3.0	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
2-Methylnaphthalene	ND		4.0	0.36	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
1-Methylnaphthalene	ND		4.0	0.42	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Naphthalene	ND		4.0	0.34	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Acenaphthylene	ND		4.0	0.45	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Acenaphthene	ND		4.0	0.38	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		4.0	0.52	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Phenanthrene	ND		4.0	0.63	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Anthracene	ND		4.0	0.39	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Fluoranthene	ND		4.0	0.42	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Pyrene	ND		4.0	0.40	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Benzo[a]anthracene	ND		4.0	0.50	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Chrysene	ND		4.0	0.47	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Benzo[b]fluoranthene	ND		4.0	0.62	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Benzo[k]fluoranthene	ND		4.0	0.80	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Benzo[a]pyrene	ND		4.0	0.40	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Indeno[1,2,3-cd]pyrene	ND		4.0	0.41	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Dibenz(a,h)anthracene	ND		4.0	0.44	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Benzo[g,h,i]perylene	ND		4.0	0.39	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Benzyl alcohol	ND		20	2.4	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1
Dibenzofuran	ND		20	1.9	ug/Kg	☼	04/20/15 03:00	04/23/15 02:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*38 - 103*	*04/20/15 03:00*	*04/23/15 02:57*	*1*
2-Fluorophenol (Surr)	*80*		*34 - 103*	*04/20/15 03:00*	*04/23/15 02:57*	*1*
2,4,6-Tribromophenol (Surr)	*59*		*20 - 113*	*04/20/15 03:00*	*04/23/15 02:57*	*1*
Nitrobenzene-d5 (Surr)	*75*		*41 - 108*	*04/20/15 03:00*	*04/23/15 02:57*	*1*
Phenol-d5 (Surr)	*84*		*35 - 103*	*04/20/15 03:00*	*04/23/15 02:57*	*1*
Terphenyl-d14 (Surr)	*68*		*28 - 109*	*04/20/15 03:00*	*04/23/15 02:57*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		400	84	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
1,2-Dichlorobenzene	ND		20	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
1,3-Dichlorobenzene	ND		20	1.6	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
1,4-Dichlorobenzene	ND		20	1.4	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Benzoic acid	**56**	**J**	100	8.3	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Bis(2-chloroethyl)ether	ND		4.0	0.54	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Bis(2-chloroethoxy)methane	ND		20	1.3	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Bis(2-ethylhexyl) phthalate	**74**		40	3.2	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
4-Bromophenyl phenyl ether	ND		20	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Butyl benzyl phthalate	**16**	**J**	20	2.7	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
4-Chloro-3-methylphenol	ND		20	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
2-Chloronaphthalene	ND		4.0	0.42	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
2-Chlorophenol	ND		20	1.6	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
4-Chlorophenyl phenyl ether	ND		20	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Di-n-butyl phthalate	ND		20	2.5	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
3,3'-Dichlorobenzidine	ND		20	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
2,4-Dichlorophenol	ND		4.0	0.40	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Diethyl phthalate	**6.1**	**J**	20	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
4,6-Dinitro-2-methylphenol	ND		100	8.0	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
2,4-Dimethylphenol	ND		20	3.1	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Dimethyl phthalate	ND		20	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
2,4-Dinitrophenol	ND		100	24	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
2,4-Dinitrotoluene	ND		20	1.6	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
2,6-Dinitrotoluene	ND		20	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		20	2.6	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Di-n-octyl phthalate	ND		20	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Hexachlorobenzene	ND		4.0	0.43	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Hexachlorobutadiene	ND		4.0	0.45	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Hexachloroethane	ND		20	1.4	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Hexachlorocyclopentadiene	ND		20	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Isophorone	ND		20	1.5	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
2-Methylphenol	ND		20	1.4	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Methylphenol, 3 & 4	ND		20	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Nitrobenzene	ND		40	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
2-Nitrophenol	ND		20	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
4-Nitrophenol	ND		100	7.3	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
N-Nitrosodiphenylamine	ND		20	1.9	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
N-Nitrosodimethylamine	ND		20	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
N-Nitrosodi-n-propylamine	ND		4.0	0.47	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
2,2'-oxybis[1-chloropropane]	ND		4.0	0.43	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Pentachlorophenol	ND		20	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Phenol	**2.4**	**J**	4.0	0.47	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
1,2,4-Trichlorobenzene	ND		20	1.1	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
2,4,6-Trichlorophenol	ND		20	3.0	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
2-Methylnaphthalene	ND		4.0	0.36	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
1-Methylnaphthalene	ND		4.0	0.43	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Naphthalene	ND		4.0	0.34	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Acenaphthylene	ND		4.0	0.46	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Acenaphthene	ND		4.0	0.38	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		4.0	0.53	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Phenanthrene	ND		4.0	0.64	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Anthracene	ND		4.0	0.39	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Fluoranthene	ND		4.0	0.43	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Pyrene	ND		4.0	0.40	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Benzo[a]anthracene	ND		4.0	0.50	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Chrysene	ND		4.0	0.48	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Benzo[b]fluoranthene	ND		4.0	0.63	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Benzo[k]fluoranthene	ND		4.0	0.81	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Benzo[a]pyrene	ND		4.0	0.40	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Indeno[1,2,3-cd]pyrene	ND		4.0	0.41	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Dibenz(a,h)anthracene	ND		4.0	0.45	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Benzo[g,h,i]perylene	ND		4.0	0.40	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Benzyl alcohol	ND		20	2.4	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1
Dibenzofuran	ND		20	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 03:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*38 - 103*	*04/20/15 03:00*	*04/23/15 03:25*	*1*
2-Fluorophenol (Surr)	*64*		*34 - 103*	*04/20/15 03:00*	*04/23/15 03:25*	*1*
2,4,6-Tribromophenol (Surr)	*52*		*20 - 113*	*04/20/15 03:00*	*04/23/15 03:25*	*1*
Nitrobenzene-d5 (Surr)	*61*		*41 - 108*	*04/20/15 03:00*	*04/23/15 03:25*	*1*
Phenol-d5 (Surr)	*67*		*35 - 103*	*04/20/15 03:00*	*04/23/15 03:25*	*1*
Terphenyl-d14 (Surr)	*57*		*28 - 109*	*04/20/15 03:00*	*04/23/15 03:25*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		390	81	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
1,2-Dichlorobenzene	ND		19	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
1,3-Dichlorobenzene	ND		19	1.5	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
1,4-Dichlorobenzene	ND		19	1.4	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Benzoic acid	ND		99	8.0	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Bis(2-chloroethyl)ether	ND		3.9	0.52	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Bis(2-chloroethoxy)methane	ND		19	1.3	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Bis(2-ethylhexyl) phthalate	**68**		39	3.1	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
4-Bromophenyl phenyl ether	ND		19	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Butyl benzyl phthalate	**10**	**J**	19	2.6	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
4-Chloro-3-methylphenol	ND		19	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
2-Chloronaphthalene	ND		3.9	0.40	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
2-Chlorophenol	ND		19	1.6	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
4-Chlorophenyl phenyl ether	ND		19	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Di-n-butyl phthalate	ND		19	2.4	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
3,3'-Dichlorobenzidine	ND		19	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
2,4-Dichlorophenol	ND		3.9	0.39	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Diethyl phthalate	ND		19	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
4,6-Dinitro-2-methylphenol	ND		99	7.8	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
2,4-Dimethylphenol	ND		19	3.0	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Dimethyl phthalate	ND		19	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
2,4-Dinitrophenol	ND		99	23	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
2,4-Dinitrotoluene	ND		19	1.6	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
2,6-Dinitrotoluene	ND		19	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		19	2.5	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Di-n-octyl phthalate	ND		19	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Hexachlorobenzene	ND		3.9	0.41	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Hexachlorobutadiene	ND		3.9	0.43	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Hexachloroethane	ND		19	1.4	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Hexachlorocyclopentadiene	ND		19	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Isophorone	ND		19	1.5	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
2-Methylphenol	ND		19	1.4	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Methylphenol, 3 & 4	ND		19	1.9	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Nitrobenzene	ND		39	1.6	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
2-Nitrophenol	ND		19	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
4-Nitrophenol	ND		99	7.1	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
N-Nitrosodiphenylamine	ND		19	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
N-Nitrosodimethylamine	ND		19	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
N-Nitrosodi-n-propylamine	ND		3.9	0.45	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
2,2'-oxybis[1-chloropropane]	ND		3.9	0.42	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Pentachlorophenol	ND		19	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Phenol	ND		3.9	0.46	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
1,2,4-Trichlorobenzene	ND		19	1.1	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
2,4,6-Trichlorophenol	ND		19	2.9	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
2-Methylnaphthalene	ND		3.9	0.35	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
1-Methylnaphthalene	ND		3.9	0.41	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Naphthalene	ND		3.9	0.33	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Acenaphthylene	ND		3.9	0.44	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Acenaphthene	ND		3.9	0.37	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		3.9	0.51	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Phenanthrene	ND		3.9	0.62	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Anthracene	ND		3.9	0.38	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Fluoranthene	ND		3.9	0.41	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Pyrene	ND		3.9	0.39	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Benzo[a]anthracene	ND		3.9	0.49	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Chrysene	ND		3.9	0.46	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Benzo[b]fluoranthene	ND		3.9	0.61	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Benzo[k]fluoranthene	ND		3.9	0.78	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Benzo[a]pyrene	ND		3.9	0.39	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Indeno[1,2,3-cd]pyrene	ND		3.9	0.40	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Dibenz(a,h)anthracene	ND		3.9	0.43	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Benzo[g,h,i]perylene	ND		3.9	0.39	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Benzyl alcohol	ND		19	2.3	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1
Dibenzofuran	ND		19	1.9	ug/Kg	☼	04/20/15 03:00	04/23/15 03:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*38 - 103*	*04/20/15 03:00*	*04/23/15 03:52*	*1*
2-Fluorophenol (Surr)	*63*		*34 - 103*	*04/20/15 03:00*	*04/23/15 03:52*	*1*
2,4,6-Tribromophenol (Surr)	*41*		*20 - 113*	*04/20/15 03:00*	*04/23/15 03:52*	*1*
Nitrobenzene-d5 (Surr)	*58*		*41 - 108*	*04/20/15 03:00*	*04/23/15 03:52*	*1*
Phenol-d5 (Surr)	*64*		*35 - 103*	*04/20/15 03:00*	*04/23/15 03:52*	*1*
Terphenyl-d14 (Surr)	*53*		*28 - 109*	*04/20/15 03:00*	*04/23/15 03:52*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		430	90	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
1,2-Dichlorobenzene	ND		21	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
1,3-Dichlorobenzene	ND		21	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
1,4-Dichlorobenzene	ND		21	1.5	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Benzoic acid	ND		110	8.9	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Bis(2-chloroethyl)ether	ND		4.3	0.58	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Bis(2-chloroethoxy)methane	ND		21	1.4	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Bis(2-ethylhexyl) phthalate	**6.6**	**J**	43	3.5	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
4-Bromophenyl phenyl ether	ND		21	1.9	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Butyl benzyl phthalate	ND		21	2.9	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
4-Chloro-3-methylphenol	ND		21	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
2-Chloronaphthalene	ND		4.3	0.45	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
2-Chlorophenol	ND		21	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
4-Chlorophenyl phenyl ether	ND		21	2.4	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Di-n-butyl phthalate	ND		21	2.7	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
3,3'-Dichlorobenzidine	ND		21	2.3	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
2,4-Dichlorophenol	ND		4.3	0.43	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Diethyl phthalate	ND		21	2.3	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
4,6-Dinitro-2-methylphenol	ND		110	8.6	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
2,4-Dimethylphenol	ND		21	3.4	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Dimethyl phthalate	ND		21	2.3	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
2,4-Dinitrophenol	ND		110	26	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
2,4-Dinitrotoluene	ND		21	1.7	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
2,6-Dinitrotoluene	ND		21	2.2	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		21	2.7	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Di-n-octyl phthalate	ND		21	2.3	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Hexachlorobenzene	ND		4.3	0.46	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Hexachlorobutadiene	ND		4.3	0.48	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Hexachloroethane	ND		21	1.5	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Hexachlorocyclopentadiene	ND		21	2.3	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Isophorone	ND		21	1.6	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
2-Methylphenol	ND		21	1.5	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Methylphenol, 3 & 4	ND		21	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Nitrobenzene	ND		43	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
2-Nitrophenol	ND		21	2.4	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
4-Nitrophenol	ND		110	7.8	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
N-Nitrosodiphenylamine	ND		21	2.0	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
N-Nitrosodimethylamine	ND		21	1.8	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
N-Nitrosodi-n-propylamine	ND		4.3	0.50	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
2,2'-oxybis[1-chloropropane]	ND		4.3	0.46	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Pentachlorophenol	ND		21	1.9	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Phenol	**3.7**	**J**	4.3	0.51	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
1,2,4-Trichlorobenzene	ND		21	1.2	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
2,4,6-Trichlorophenol	ND		21	3.2	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
2-Methylnaphthalene	ND		4.3	0.39	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
1-Methylnaphthalene	ND		4.3	0.46	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Naphthalene	ND		4.3	0.37	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Acenaphthylene	ND		4.3	0.49	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Acenaphthene	ND		4.3	0.41	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		4.3	0.57	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Phenanthrene	ND		4.3	0.68	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Anthracene	ND		4.3	0.42	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Fluoranthene	ND		4.3	0.46	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Pyrene	ND		4.3	0.43	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Benzo[a]anthracene	ND		4.3	0.54	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Chrysene	ND		4.3	0.51	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Benzo[b]fluoranthene	ND		4.3	0.67	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Benzo[k]fluoranthene	ND		4.3	0.87	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Benzo[a]pyrene	ND		4.3	0.43	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Indeno[1,2,3-cd]pyrene	ND		4.3	0.44	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Dibenz(a,h)anthracene	ND		4.3	0.48	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Benzo[g,h,i]perylene	ND		4.3	0.43	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Benzyl alcohol	ND		21	2.6	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1
Dibenzofuran	ND		21	2.1	ug/Kg	☼	04/20/15 03:00	04/23/15 04:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*38 - 103*	*04/20/15 03:00*	*04/23/15 04:20*	*1*
2-Fluorophenol (Surr)	*57*		*34 - 103*	*04/20/15 03:00*	*04/23/15 04:20*	*1*
2,4,6-Tribromophenol (Surr)	*40*		*20 - 113*	*04/20/15 03:00*	*04/23/15 04:20*	*1*
Nitrobenzene-d5 (Surr)	*53*		*41 - 108*	*04/20/15 03:00*	*04/23/15 04:20*	*1*
Phenol-d5 (Surr)	*62*		*35 - 103*	*04/20/15 03:00*	*04/23/15 04:20*	*1*
Terphenyl-d14 (Surr)	*53*		*28 - 109*	*04/20/15 03:00*	*04/23/15 04:20*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: SRM Sediment
Date Collected: 04/07/15 00:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-7
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		20000	4200	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
1,2-Dichlorobenzene	ND		990	100	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
1,3-Dichlorobenzene	ND		990	78	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
1,4-Dichlorobenzene	ND		990	72	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Benzoic acid	**2800**	**J**	5100	420	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Bis(2-chloroethyl)ether	ND		200	27	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Bis(2-chloroethoxy)methane	ND		990	66	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Bis(2-ethylhexyl) phthalate	**16000**		2000	160	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
4-Bromophenyl phenyl ether	ND		990	87	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Butyl benzyl phthalate	**440**	**J**	990	140	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
4-Chloro-3-methylphenol	ND		990	92	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
2-Chloronaphthalene	ND		200	21	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
2-Chlorophenol	ND		990	82	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
4-Chlorophenyl phenyl ether	ND		990	110	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Di-n-butyl phthalate	**200**	**J**	990	130	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
3,3'-Dichlorobenzidine	ND		990	110	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
2,4-Dichlorophenol	ND		200	20	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Diethyl phthalate	ND		990	110	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
4,6-Dinitro-2-methylphenol	ND		5100	400	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
2,4-Dimethylphenol	ND		990	160	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Dimethyl phthalate	ND		990	110	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
2,4-Dinitrophenol	ND		5100	1200	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
2,4-Dinitrotoluene	ND		990	81	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
2,6-Dinitrotoluene	ND		990	100	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
1,2-Diphenylhydrazine(as Azobenzene)	ND		990	130	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Di-n-octyl phthalate	ND		990	110	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Hexachlorobenzene	ND		200	21	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Hexachlorobutadiene	ND		200	22	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Hexachloroethane	ND		990	72	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Hexachlorocyclopentadiene	ND		990	110	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Isophorone	ND		990	75	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
2-Methylphenol	ND		990	70	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Methylphenol, 3 & 4	ND		990	98	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Nitrobenzene	ND		2000	83	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
2-Nitrophenol	ND		990	110	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
4-Nitrophenol	ND		5100	360	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
N-Nitrosodiphenylamine	ND		990	93	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
N-Nitrosodimethylamine	ND		990	86	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
N-Nitrosodi-n-propylamine	ND		200	23	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
2,2'-oxybis[1-chloropropane]	ND		200	22	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Pentachlorophenol	ND		990	89	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Phenol	**110**	**J**	200	24	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
1,2,4-Trichlorobenzene	ND		990	55	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
2,4,6-Trichlorophenol	ND		990	150	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
2-Methylnaphthalene	**310**		200	18	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
1-Methylnaphthalene	**220**		200	21	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Naphthalene	**520**		200	17	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Acenaphthylene	**680**		200	23	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Acenaphthene	**180**	**J**	200	19	ug/Kg		04/20/15 03:00	04/23/15 04:47	10

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: SRM Sediment
Date Collected: 04/07/15 00:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-7
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**220**		200	26	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Phenanthrene	**2700**		200	32	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Anthracene	**710**		200	20	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Fluoranthene	**4600**		200	21	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Pyrene	**4100**		200	20	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Benzo[a]anthracene	**2400**		200	25	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Chrysene	**3100**		200	24	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Benzo[b]fluoranthene	**2500**		200	31	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Benzo[k]fluoranthene	**1000**		200	40	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Benzo[a]pyrene	**1800**		200	20	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Indeno[1,2,3-cd]pyrene	**1400**		200	21	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Dibenz(a,h)anthracene	**530**		200	22	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Benzo[g,h,i]perylene	**1800**		200	20	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Benzyl alcohol	ND		990	120	ug/Kg		04/20/15 03:00	04/23/15 04:47	10
Dibenzofuran	**180**	**J**	990	98	ug/Kg		04/20/15 03:00	04/23/15 04:47	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*38 - 103*	*04/20/15 03:00*	*04/23/15 04:47*	*10*
2-Fluorophenol (Surr)	*65*		*34 - 103*	*04/20/15 03:00*	*04/23/15 04:47*	*10*
2,4,6-Tribromophenol (Surr)	*58*		*20 - 113*	*04/20/15 03:00*	*04/23/15 04:47*	*10*
Nitrobenzene-d5 (Surr)	*62*		*41 - 108*	*04/20/15 03:00*	*04/23/15 04:47*	*10*
Phenol-d5 (Surr)	*77*		*35 - 103*	*04/20/15 03:00*	*04/23/15 04:47*	*10*
Terphenyl-d14 (Surr)	*52*		*28 - 109*	*04/20/15 03:00*	*04/23/15 04:47*	*10*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.012	mg/L		04/16/15 11:45	04/17/15 13:43	1
2,4,5-Trichlorophenol	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 13:43	1
2,4,6-Trichlorophenol	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 13:43	1
2,4-Dinitrotoluene	ND		0.050	0.010	mg/L		04/16/15 11:45	04/17/15 13:43	1
2-Methylphenol	ND		0.050	0.014	mg/L		04/16/15 11:45	04/17/15 13:43	1
Methylphenol, 3 & 4	ND		0.050	0.027	mg/L		04/16/15 11:45	04/17/15 13:43	1
Hexachlorobenzene	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 13:43	1
Hexachlorobutadiene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 13:43	1
Hexachloroethane	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 13:43	1
Nitrobenzene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 13:43	1
Pentachlorophenol	ND		0.25	0.022	mg/L		04/16/15 11:45	04/17/15 13:43	1
Pyridine	ND		0.10	0.0083	mg/L		04/16/15 11:45	04/17/15 13:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*35 - 115*	*04/16/15 11:45*	*04/17/15 13:43*	*1*
2-Fluorophenol (Surr)	*77*		*20 - 110*	*04/16/15 11:45*	*04/17/15 13:43*	*1*
2,4,6-Tribromophenol (Surr)	*62*		*19 - 138*	*04/16/15 11:45*	*04/17/15 13:43*	*1*
Nitrobenzene-d5 (Surr)	*71*		*39 - 115*	*04/16/15 11:45*	*04/17/15 13:43*	*1*
Phenol-d5 (Surr)	*78*		*30 - 118*	*04/16/15 11:45*	*04/17/15 13:43*	*1*
Terphenyl-d14 (Surr)	*72*		*30 - 143*	*04/16/15 11:45*	*04/17/15 13:43*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.012	mg/L		04/16/15 11:45	04/17/15 14:11	1
2,4,5-Trichlorophenol	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 14:11	1
2,4,6-Trichlorophenol	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 14:11	1
2,4-Dinitrotoluene	ND		0.050	0.010	mg/L		04/16/15 11:45	04/17/15 14:11	1
2-Methylphenol	ND		0.050	0.014	mg/L		04/16/15 11:45	04/17/15 14:11	1
Methylphenol, 3 & 4	ND		0.050	0.027	mg/L		04/16/15 11:45	04/17/15 14:11	1
Hexachlorobenzene	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 14:11	1
Hexachlorobutadiene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 14:11	1
Hexachloroethane	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 14:11	1
Nitrobenzene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 14:11	1
Pentachlorophenol	ND		0.25	0.022	mg/L		04/16/15 11:45	04/17/15 14:11	1
Pyridine	ND		0.10	0.0083	mg/L		04/16/15 11:45	04/17/15 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*35 - 115*	*04/16/15 11:45*	*04/17/15 14:11*	*1*
2-Fluorophenol (Surr)	*82*		*20 - 110*	*04/16/15 11:45*	*04/17/15 14:11*	*1*
2,4,6-Tribromophenol (Surr)	*67*		*19 - 138*	*04/16/15 11:45*	*04/17/15 14:11*	*1*
Nitrobenzene-d5 (Surr)	*81*		*39 - 115*	*04/16/15 11:45*	*04/17/15 14:11*	*1*
Phenol-d5 (Surr)	*82*		*30 - 118*	*04/16/15 11:45*	*04/17/15 14:11*	*1*
Terphenyl-d14 (Surr)	*79*		*30 - 143*	*04/16/15 11:45*	*04/17/15 14:11*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.012	mg/L		04/16/15 11:45	04/17/15 14:39	1
2,4,5-Trichlorophenol	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 14:39	1
2,4,6-Trichlorophenol	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 14:39	1
2,4-Dinitrotoluene	ND		0.050	0.010	mg/L		04/16/15 11:45	04/17/15 14:39	1
2-Methylphenol	ND		0.050	0.014	mg/L		04/16/15 11:45	04/17/15 14:39	1
Methylphenol, 3 & 4	ND		0.050	0.027	mg/L		04/16/15 11:45	04/17/15 14:39	1
Hexachlorobenzene	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 14:39	1
Hexachlorobutadiene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 14:39	1
Hexachloroethane	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 14:39	1
Nitrobenzene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 14:39	1
Pentachlorophenol	ND		0.25	0.022	mg/L		04/16/15 11:45	04/17/15 14:39	1
Pyridine	ND		0.10	0.0083	mg/L		04/16/15 11:45	04/17/15 14:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*35 - 115*	*04/16/15 11:45*	*04/17/15 14:39*	*1*
2-Fluorophenol (Surr)	*87*		*20 - 110*	*04/16/15 11:45*	*04/17/15 14:39*	*1*
2,4,6-Tribromophenol (Surr)	*68*		*19 - 138*	*04/16/15 11:45*	*04/17/15 14:39*	*1*
Nitrobenzene-d5 (Surr)	*81*		*39 - 115*	*04/16/15 11:45*	*04/17/15 14:39*	*1*
Phenol-d5 (Surr)	*84*		*30 - 118*	*04/16/15 11:45*	*04/17/15 14:39*	*1*
Terphenyl-d14 (Surr)	*83*		*30 - 143*	*04/16/15 11:45*	*04/17/15 14:39*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.012	mg/L		04/16/15 11:45	04/17/15 15:07	1
2,4,5-Trichlorophenol	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 15:07	1
2,4,6-Trichlorophenol	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 15:07	1
2,4-Dinitrotoluene	ND		0.050	0.010	mg/L		04/16/15 11:45	04/17/15 15:07	1
2-Methylphenol	ND		0.050	0.014	mg/L		04/16/15 11:45	04/17/15 15:07	1
Methylphenol, 3 & 4	ND		0.050	0.027	mg/L		04/16/15 11:45	04/17/15 15:07	1
Hexachlorobenzene	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 15:07	1
Hexachlorobutadiene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 15:07	1
Hexachloroethane	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 15:07	1
Nitrobenzene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 15:07	1
Pentachlorophenol	ND		0.25	0.022	mg/L		04/16/15 11:45	04/17/15 15:07	1
Pyridine	ND		0.10	0.0083	mg/L		04/16/15 11:45	04/17/15 15:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*35 - 115*	*04/16/15 11:45*	*04/17/15 15:07*	*1*
2-Fluorophenol (Surr)	*77*		*20 - 110*	*04/16/15 11:45*	*04/17/15 15:07*	*1*
2,4,6-Tribromophenol (Surr)	*64*		*19 - 138*	*04/16/15 11:45*	*04/17/15 15:07*	*1*
Nitrobenzene-d5 (Surr)	*73*		*39 - 115*	*04/16/15 11:45*	*04/17/15 15:07*	*1*
Phenol-d5 (Surr)	*77*		*30 - 118*	*04/16/15 11:45*	*04/17/15 15:07*	*1*
Terphenyl-d14 (Surr)	*77*		*30 - 143*	*04/16/15 11:45*	*04/17/15 15:07*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.012	mg/L		04/16/15 11:45	04/17/15 15:35	1
2,4,5-Trichlorophenol	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 15:35	1
2,4,6-Trichlorophenol	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 15:35	1
2,4-Dinitrotoluene	ND		0.050	0.010	mg/L		04/16/15 11:45	04/17/15 15:35	1
2-Methylphenol	ND		0.050	0.014	mg/L		04/16/15 11:45	04/17/15 15:35	1
Methylphenol, 3 & 4	ND		0.050	0.027	mg/L		04/16/15 11:45	04/17/15 15:35	1
Hexachlorobenzene	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 15:35	1
Hexachlorobutadiene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 15:35	1
Hexachloroethane	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 15:35	1
Nitrobenzene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 15:35	1
Pentachlorophenol	ND		0.25	0.022	mg/L		04/16/15 11:45	04/17/15 15:35	1
Pyridine	ND		0.10	0.0083	mg/L		04/16/15 11:45	04/17/15 15:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*35 - 115*	*04/16/15 11:45*	*04/17/15 15:35*	*1*
2-Fluorophenol (Surr)	*78*		*20 - 110*	*04/16/15 11:45*	*04/17/15 15:35*	*1*
2,4,6-Tribromophenol (Surr)	*62*		*19 - 138*	*04/16/15 11:45*	*04/17/15 15:35*	*1*
Nitrobenzene-d5 (Surr)	*77*		*39 - 115*	*04/16/15 11:45*	*04/17/15 15:35*	*1*
Phenol-d5 (Surr)	*81*		*30 - 118*	*04/16/15 11:45*	*04/17/15 15:35*	*1*
Terphenyl-d14 (Surr)	*74*		*30 - 143*	*04/16/15 11:45*	*04/17/15 15:35*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		140	64	ug/Kg	☼	04/13/15 11:55	04/13/15 21:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*77*		*40 - 139*	*04/13/15 11:55*	*04/13/15 21:37*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		120	55	ug/Kg	☼	04/13/15 11:55	04/13/15 22:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*81*		*40 - 139*	*04/13/15 11:55*	*04/13/15 22:51*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		120	55	ug/Kg	☼	04/13/15 11:57	04/13/15 23:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*79*		*40 - 139*	*04/13/15 11:57*	*04/13/15 23:29*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		120	54	ug/Kg	☼	04/13/15 11:57	04/14/15 00:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*82*		*40 - 139*	*04/13/15 11:57*	*04/14/15 00:06*	*1*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND	F2	130	59	ug/Kg	☼	04/13/15 11:57	04/14/15 00:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*75*		*40 - 139*	*04/13/15 11:57*	*04/14/15 00:43*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C34	9.5	J	23	5.8	mg/Kg	☼	04/14/15 07:56	04/16/15 03:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84*		*40 - 160*	*04/14/15 07:56*	*04/16/15 03:24*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C34	11	J	20	4.9	mg/Kg	☼	04/14/15 07:56	04/16/15 03:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*76*		*40 - 160*	*04/14/15 07:56*	*04/16/15 03:55*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C34	ND		20	4.9	mg/Kg	☼	04/14/15 07:56	04/16/15 04:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*82*		*40 - 160*	*04/14/15 07:56*	*04/16/15 04:26*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C34	ND		19	4.7	mg/Kg	☼	04/14/15 07:56	04/16/15 04:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*75*		*40 - 160*	*04/14/15 07:56*	*04/16/15 04:58*	*1*

Method: 8015D - Diesel Range Organics (DRO) (GC)

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C34	ND		21	5.2	mg/Kg	☼	04/14/15 07:56	04/16/15 05:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*75*		*40 - 160*	*04/14/15 07:56*	*04/16/15 05:29*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: WBREF-B-SED
Date Collected: 04/06/15 11:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-1
Matrix: Sediment
Percent Solids: 70.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.059	0.011	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
alpha-BHC	ND		0.059	0.0097	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
beta-BHC	**0.056**	**J p**	0.059	0.015	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
delta-BHC	**0.0093**	**J p**	0.059	0.0091	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
gamma-BHC (Lindane)	ND		0.059	0.010	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
Chlordane (technical)	ND		0.59	0.026	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
Chlorobenside	ND		0.059	0.031	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
DCPA	ND		0.059	0.0090	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
4,4'-DDD	**0.028**	**J**	0.059	0.0077	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
4,4'-DDE	**0.031**	**J**	0.059	0.0089	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
4,4'-DDT	**0.020**	**J p**	0.059	0.0089	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
Dieldrin	**0.038**	**J p**	0.059	0.0099	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
Endosulfan I	ND		0.059	0.011	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
Endosulfan II	**0.029**	**J p**	0.059	0.010	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
Endosulfan sulfate	**0.018**	**J**	0.059	0.0062	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
Endrin	**0.042**	**J p**	0.059	0.012	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
Endrin aldehyde	ND		0.059	0.012	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
Heptachlor	ND		0.059	0.013	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
Heptachlor epoxide	**0.012**	**J p**	0.059	0.012	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
Methoxychlor	**0.013**	**J p**	0.12	0.012	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
Mirex	**0.011**	**J p**	0.059	0.0055	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
Toxaphene	ND		2.4	0.39	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
2,4'-DDD	ND		0.059	0.0035	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
2,4'-DDE	ND		0.059	0.0055	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1
2,4'-DDT	ND		0.059	0.0051	ug/Kg	☼	04/20/15 04:59	04/25/15 02:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*10 - 140*	*04/20/15 04:59*	*04/25/15 02:32*	*1*
Tetrachloro-m-xylene	*65*		*10 - 140*	*04/20/15 04:59*	*04/25/15 02:32*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*10 - 140*	*04/20/15 04:59*	*04/25/15 02:32*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*10 - 140*	*04/20/15 04:59*	*04/25/15 02:32*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	**0.015**	**J p**	0.058	0.010	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
alpha-BHC	ND		0.058	0.0095	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
beta-BHC	**0.046**	**J p**	0.058	0.015	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
delta-BHC	**0.015**	**J p**	0.058	0.0090	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
gamma-BHC (Lindane)	**0.017**	**J p**	0.058	0.010	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
Chlordane (technical)	ND		0.58	0.026	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
Chlorobenside	ND		0.058	0.030	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
DCPA	**0.049**	**J**	0.058	0.0089	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
4,4'-DDD	**0.12**		0.058	0.0076	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
4,4'-DDE	**0.19**		0.058	0.0088	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
4,4'-DDT	**0.042**	**J p**	0.058	0.0088	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
Dieldrin	**0.024**	**J p**	0.058	0.0097	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
Endosulfan I	ND		0.058	0.011	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
Endosulfan II	ND		0.058	0.010	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
Endosulfan sulfate	**0.010**	**J p**	0.058	0.0061	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
Endrin	**0.074**		0.058	0.011	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
Endrin aldehyde	ND		0.058	0.011	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
Heptachlor	ND		0.058	0.013	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
Heptachlor epoxide	**0.022**	**J**	0.058	0.011	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
Methoxychlor	**0.11**	**J**	0.12	0.012	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
Mirex	ND		0.058	0.0054	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
Toxaphene	ND		2.3	0.39	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
2,4'-DDD	ND		0.058	0.0035	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
2,4'-DDE	**0.026**	**J p**	0.058	0.0054	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1
2,4'-DDT	ND		0.058	0.0050	ug/Kg	☼	04/20/15 04:59	04/25/15 02:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*47*		*10 - 140*	*04/20/15 04:59*	*04/25/15 02:47*	*1*
Tetrachloro-m-xylene	*52*		*10 - 140*	*04/20/15 04:59*	*04/25/15 02:47*	*1*
DCB Decachlorobiphenyl (Surr)	*63*		*10 - 140*	*04/20/15 04:59*	*04/25/15 02:47*	*1*
DCB Decachlorobiphenyl (Surr)	*60*		*10 - 140*	*04/20/15 04:59*	*04/25/15 02:47*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.049	0.0088	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
alpha-BHC	ND		0.049	0.0080	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
beta-BHC	ND		0.049	0.013	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
delta-BHC	ND		0.049	0.0076	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
gamma-BHC (Lindane)	ND		0.049	0.0086	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
Chlordane (technical)	ND		0.49	0.022	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
Chlorobenside	ND		0.049	0.026	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
DCPA	ND		0.049	0.0075	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
4,4'-DDD	ND		0.049	0.0064	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
4,4'-DDE	ND		0.049	0.0075	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
4,4'-DDT	ND		0.049	0.0074	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
Dieldrin	ND		0.049	0.0082	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
Endosulfan I	ND		0.049	0.0093	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
Endosulfan II	ND		0.049	0.0087	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
Endosulfan sulfate	ND		0.049	0.0051	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
Endrin	ND		0.049	0.0096	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
Endrin aldehyde	ND		0.049	0.0096	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
Heptachlor	ND		0.049	0.011	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
Heptachlor epoxide	ND		0.049	0.0096	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
Methoxychlor	ND		0.099	0.010	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
Mirex	**0.0084**	**J**	0.049	0.0046	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
Toxaphene	ND		2.0	0.33	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
2,4'-DDD	ND		0.049	0.0030	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
2,4'-DDE	ND		0.049	0.0046	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1
2,4'-DDT	ND		0.049	0.0043	ug/Kg	☼	04/20/15 04:59	04/25/15 03:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*0.5*	*X*	*10 - 140*	*04/20/15 04:59*	*04/25/15 03:03*	*1*
Tetrachloro-m-xylene	*0.5*	*X*	*10 - 140*	*04/20/15 04:59*	*04/25/15 03:03*	*1*
DCB Decachlorobiphenyl (Surr)	*2*	*X*	*10 - 140*	*04/20/15 04:59*	*04/25/15 03:03*	*1*
DCB Decachlorobiphenyl (Surr)	*2*	*X*	*10 - 140*	*04/20/15 04:59*	*04/25/15 03:03*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.050	0.0089	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
alpha-BHC	ND		0.050	0.0081	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
beta-BHC	ND		0.050	0.013	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
delta-BHC	ND		0.050	0.0077	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
gamma-BHC (Lindane)	ND		0.050	0.0087	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
Chlordane (technical)	ND		0.50	0.022	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
Chlorobenside	ND		0.050	0.026	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
DCPA	ND		0.050	0.0076	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
4,4'-DDD	ND		0.050	0.0065	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
4,4'-DDE	ND		0.050	0.0075	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
4,4'-DDT	ND		0.050	0.0075	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
Dieldrin	**0.023**	**J p**	0.050	0.0083	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
Endosulfan I	ND		0.050	0.0094	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
Endosulfan II	**0.010**	**J p**	0.050	0.0088	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
Endosulfan sulfate	**0.012**	**J**	0.050	0.0052	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
Endrin	**0.013**	**J p**	0.050	0.0097	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
Endrin aldehyde	ND		0.050	0.0097	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
Heptachlor	ND		0.050	0.011	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
Heptachlor epoxide	ND		0.050	0.0097	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
Methoxychlor	ND		0.10	0.010	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
Mirex	**0.056**		0.050	0.0046	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
Toxaphene	ND		2.0	0.33	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
2,4'-DDD	ND		0.050	0.0030	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
2,4'-DDE	**0.0053**	**J p**	0.050	0.0046	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1
2,4'-DDT	ND		0.050	0.0043	ug/Kg	☼	04/20/15 04:59	04/25/15 03:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*33*		*10 - 140*	*04/20/15 04:59*	*04/25/15 03:18*	*1*
Tetrachloro-m-xylene	*36*		*10 - 140*	*04/20/15 04:59*	*04/25/15 03:18*	*1*
DCB Decachlorobiphenyl (Surr)	*63*		*10 - 140*	*04/20/15 04:59*	*04/25/15 03:18*	*1*
DCB Decachlorobiphenyl (Surr)	*62*		*10 - 140*	*04/20/15 04:59*	*04/25/15 03:18*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.049	0.0087	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
alpha-BHC	ND		0.049	0.0079	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
beta-BHC	ND		0.049	0.013	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
delta-BHC	ND		0.049	0.0075	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
gamma-BHC (Lindane)	ND		0.049	0.0085	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
Chlordane (technical)	ND		0.49	0.021	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
Chlorobenside	ND		0.049	0.025	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
DCPA	ND		0.049	0.0074	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
4,4'-DDD	ND		0.049	0.0064	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
4,4'-DDE	ND		0.049	0.0074	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
4,4'-DDT	**0.0085**	**J**	0.049	0.0073	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
Dieldrin	**0.031**	**J**	0.049	0.0081	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
Endosulfan I	ND		0.049	0.0092	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
Endosulfan II	**0.019**	**J p**	0.049	0.0086	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
Endosulfan sulfate	ND		0.049	0.0051	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
Endrin	**0.016**	**J p**	0.049	0.0095	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
Endrin aldehyde	ND		0.049	0.0095	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
Heptachlor	ND		0.049	0.011	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
Heptachlor epoxide	ND		0.049	0.0095	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
Methoxychlor	ND		0.097	0.010	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
Mirex	ND		0.049	0.0045	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
Toxaphene	ND		1.9	0.33	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
2,4'-DDD	ND		0.049	0.0029	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
2,4'-DDE	ND		0.049	0.0045	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1
2,4'-DDT	ND		0.049	0.0042	ug/Kg	☼	04/20/15 04:59	04/25/15 03:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*58*		*10 - 140*	*04/20/15 04:59*	*04/25/15 03:34*	*1*
Tetrachloro-m-xylene	*63*		*10 - 140*	*04/20/15 04:59*	*04/25/15 03:34*	*1*
DCB Decachlorobiphenyl (Surr)	*70*		*10 - 140*	*04/20/15 04:59*	*04/25/15 03:34*	*1*
DCB Decachlorobiphenyl (Surr)	*67*		*10 - 140*	*04/20/15 04:59*	*04/25/15 03:34*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.054	0.0096	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
alpha-BHC	ND		0.054	0.0088	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
beta-BHC	ND		0.054	0.014	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
delta-BHC	ND		0.054	0.0083	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
gamma-BHC (Lindane)	**0.025**	**J**	0.054	0.0094	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
Chlordane (technical)	ND		0.54	0.024	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
Chlorobenside	ND		0.054	0.028	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
DCPA	ND		0.054	0.0082	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
4,4'-DDD	**0.0081**	**J p**	0.054	0.0070	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
4,4'-DDE	ND		0.054	0.0081	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
4,4'-DDT	ND		0.054	0.0081	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
Dieldrin	**0.022**	**J p**	0.054	0.0090	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
Endosulfan I	**0.011**	**J p**	0.054	0.010	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
Endosulfan II	**0.033**	**J p**	0.054	0.0095	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
Endosulfan sulfate	ND		0.054	0.0056	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
Endrin	**0.022**	**J p**	0.054	0.010	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
Endrin aldehyde	ND		0.054	0.010	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
Heptachlor	ND		0.054	0.012	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
Heptachlor epoxide	ND		0.054	0.010	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
Methoxychlor	ND		0.11	0.011	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
Mirex	ND		0.054	0.0050	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
Toxaphene	ND		2.2	0.36	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
2,4'-DDD	ND		0.054	0.0032	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
2,4'-DDE	ND		0.054	0.0050	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1
2,4'-DDT	ND		0.054	0.0046	ug/Kg	☼	04/20/15 04:59	04/25/15 05:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*57*		*10 - 140*	*04/20/15 04:59*	*04/25/15 05:07*	*1*
Tetrachloro-m-xylene	*62*		*10 - 140*	*04/20/15 04:59*	*04/25/15 05:07*	*1*
DCB Decachlorobiphenyl (Surr)	*76*		*10 - 140*	*04/20/15 04:59*	*04/25/15 05:07*	*1*
DCB Decachlorobiphenyl (Surr)	*73*		*10 - 140*	*04/20/15 04:59*	*04/25/15 05:07*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: SRM Sediment
Date Collected: 04/07/15 00:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-7
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	**2.1**	**p**	0.62	0.11	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
alpha-BHC	**0.15**	**J p**	0.62	0.10	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
beta-BHC	**1.1**	**p**	0.62	0.16	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
delta-BHC	**15**		0.62	0.096	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
gamma-BHC (Lindane)	**2.9**	**p**	0.62	0.11	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
Chlordane (technical)	**200**		6.2	0.28	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
Chlorobenside	**9.3**	**p**	0.62	0.33	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
DCPA	**3.1**	**p**	0.62	0.095	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
4,4'-DDD	**64**		0.62	0.082	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
4,4'-DDE	**57**		0.62	0.095	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
Dieldrin	**6.3**	**p**	0.62	0.10	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
Endosulfan I	ND		0.62	0.12	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
Endosulfan II	**4.7**	**p**	0.62	0.11	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
Endosulfan sulfate	**7.0**	**p**	0.62	0.065	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
Endrin	**29**		0.62	0.12	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
Endrin aldehyde	**1.7**	**p**	0.62	0.12	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
Heptachlor	**4.5**	**p**	0.62	0.14	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
Heptachlor epoxide	**22**		0.62	0.12	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
Methoxychlor	**75**	**p**	1.2	0.13	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
Mirex	**5.8**	**p**	0.62	0.058	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
Toxaphene	ND		25	4.2	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
2,4'-DDD	**29**	**p**	0.62	0.038	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
2,4'-DDE	**11**	**p**	0.62	0.058	ug/Kg		04/20/15 04:59	04/25/15 05:22	5
2,4'-DDT	**2.0**	**p**	0.62	0.054	ug/Kg		04/20/15 04:59	04/25/15 05:22	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*331*	*X*	*10 - 140*	*04/20/15 04:59*	*04/25/15 05:22*	*5*
Tetrachloro-m-xylene	*286*	*X*	*10 - 140*	*04/20/15 04:59*	*04/25/15 05:22*	*5*
DCB Decachlorobiphenyl (Surr)	*277*	*X*	*10 - 140*	*04/20/15 04:59*	*04/25/15 05:22*	*5*
DCB Decachlorobiphenyl (Surr)	*356*	*X*	*10 - 140*	*04/20/15 04:59*	*04/25/15 05:22*	*5*

Method: 8081B_LL - Organochlorine Pesticides (GC) - DL

Client Sample ID: SRM Sediment
Date Collected: 04/07/15 00:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-7
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	120		1.2	0.19	ug/Kg		04/20/15 04:59	04/25/15 13:46	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*270*	*X*	*10 - 140*	*04/20/15 04:59*	*04/25/15 13:46*	*10*
Tetrachloro-m-xylene	*176*	*X*	*10 - 140*	*04/20/15 04:59*	*04/25/15 13:46*	*10*
DCB Decachlorobiphenyl (Surr)	*216*	*X*	*10 - 140*	*04/20/15 04:59*	*04/25/15 13:46*	*10*
DCB Decachlorobiphenyl (Surr)	*332*	*X*	*10 - 140*	*04/20/15 04:59*	*04/25/15 13:46*	*10*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND	H	0.050	0.0074	ug/Kg	☼	04/28/15 03:30	05/05/15 12:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*46*		*10 - 140*	*04/28/15 03:30*	*05/05/15 12:42*	*1*
Tetrachloro-m-xylene	*59*		*10 - 140*	*04/28/15 03:30*	*05/05/15 12:42*	*1*
DCB Decachlorobiphenyl (Surr)	*57*		*10 - 140*	*04/28/15 03:30*	*05/05/15 12:42*	*1*
DCB Decachlorobiphenyl (Surr)	*70*		*10 - 140*	*04/28/15 03:30*	*05/05/15 12:42*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RE

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	H	0.050	0.0089	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
alpha-BHC	ND	H	0.050	0.0081	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
beta-BHC	ND	H	0.050	0.013	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
delta-BHC	ND	H	0.050	0.0076	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
gamma-BHC (Lindane)	ND	H	0.050	0.0087	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
Chlordane (technical)	ND	H	0.50	0.022	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
Chlorobenside	ND	H	0.050	0.026	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
DCPA	ND	H	0.050	0.0076	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
4,4'-DDD	ND	H	0.050	0.0065	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
4,4'-DDE	ND	H	0.050	0.0075	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
Dieldrin	ND	H	0.050	0.0083	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
Endosulfan I	ND	H	0.050	0.0093	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
Endosulfan II	**0.062**	**H p B**	0.050	0.0088	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
Endosulfan sulfate	ND	H	0.050	0.0052	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
Endrin	**0.019**	**J H p B**	0.050	0.0096	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
Endrin aldehyde	ND	H	0.050	0.0096	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
Heptachlor	ND	H	0.050	0.011	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
Heptachlor epoxide	ND	H	0.050	0.0096	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
Methoxychlor	ND	H	0.099	0.010	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
Mirex	**0.0096**	**J H p**	0.050	0.0046	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
Toxaphene	ND	H	2.0	0.33	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
2,4'-DDD	ND	H	0.050	0.0030	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
2,4'-DDE	ND	H	0.050	0.0046	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1
2,4'-DDT	ND	H	0.050	0.0043	ug/Kg	☼	04/28/15 03:30	05/05/15 01:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*48*		*10 - 140*	*04/28/15 03:30*	*05/05/15 01:23*	*1*
Tetrachloro-m-xylene	*56*		*10 - 140*	*04/28/15 03:30*	*05/05/15 01:23*	*1*
DCB Decachlorobiphenyl (Surr)	*61*		*10 - 140*	*04/28/15 03:30*	*05/05/15 01:23*	*1*
DCB Decachlorobiphenyl (Surr)	*58*		*10 - 140*	*04/28/15 03:30*	*05/05/15 01:23*	*1*

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.00066	mg/L		04/16/15 11:45	04/17/15 21:19	1
Endrin	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 21:19	1
gamma-BHC (Lindane)	ND		0.00050	0.00032	mg/L		04/16/15 11:45	04/17/15 21:19	1
Heptachlor	ND		0.00050	0.00040	mg/L		04/16/15 11:45	04/17/15 21:19	1
Heptachlor epoxide	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 21:19	1
Methoxychlor	ND		0.0010	0.00037	mg/L		04/16/15 11:45	04/17/15 21:19	1
Toxaphene	ND		0.020	0.0074	mg/L		04/16/15 11:45	04/17/15 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*82*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:19*	*1*
DCB Decachlorobiphenyl (Surr)	*77*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:19*	*1*
Tetrachloro-m-xylene	*90*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:19*	*1*
Tetrachloro-m-xylene	*88*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:19*	*1*

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.00066	mg/L		04/16/15 11:45	04/17/15 21:35	1
Endrin	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 21:35	1
gamma-BHC (Lindane)	ND		0.00050	0.00032	mg/L		04/16/15 11:45	04/17/15 21:35	1
Heptachlor	ND		0.00050	0.00040	mg/L		04/16/15 11:45	04/17/15 21:35	1
Heptachlor epoxide	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 21:35	1
Methoxychlor	ND		0.0010	0.00037	mg/L		04/16/15 11:45	04/17/15 21:35	1
Toxaphene	ND		0.020	0.0074	mg/L		04/16/15 11:45	04/17/15 21:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*89*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:35*	*1*
DCB Decachlorobiphenyl (Surr)	*80*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:35*	*1*
Tetrachloro-m-xylene	*93*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:35*	*1*
Tetrachloro-m-xylene	*90*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:35*	*1*

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.00066	mg/L		04/16/15 11:45	04/17/15 21:50	1
Endrin	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 21:50	1
gamma-BHC (Lindane)	ND		0.00050	0.00032	mg/L		04/16/15 11:45	04/17/15 21:50	1
Heptachlor	ND		0.00050	0.00040	mg/L		04/16/15 11:45	04/17/15 21:50	1
Heptachlor epoxide	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 21:50	1
Methoxychlor	ND		0.0010	0.00037	mg/L		04/16/15 11:45	04/17/15 21:50	1
Toxaphene	ND		0.020	0.0074	mg/L		04/16/15 11:45	04/17/15 21:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:50*	*1*
DCB Decachlorobiphenyl (Surr)	*80*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:50*	*1*
Tetrachloro-m-xylene	*91*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:50*	*1*
Tetrachloro-m-xylene	*90*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:50*	*1*

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.00066	mg/L		04/16/15 11:45	04/17/15 22:06	1
Endrin	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 22:06	1
gamma-BHC (Lindane)	ND		0.00050	0.00032	mg/L		04/16/15 11:45	04/17/15 22:06	1
Heptachlor	ND		0.00050	0.00040	mg/L		04/16/15 11:45	04/17/15 22:06	1
Heptachlor epoxide	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 22:06	1
Methoxychlor	ND		0.0010	0.00037	mg/L		04/16/15 11:45	04/17/15 22:06	1
Toxaphene	ND		0.020	0.0074	mg/L		04/16/15 11:45	04/17/15 22:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*89*		*45 - 140*	*04/16/15 11:45*	*04/17/15 22:06*	*1*
DCB Decachlorobiphenyl (Surr)	*82*		*45 - 140*	*04/16/15 11:45*	*04/17/15 22:06*	*1*
Tetrachloro-m-xylene	*91*		*45 - 140*	*04/16/15 11:45*	*04/17/15 22:06*	*1*
Tetrachloro-m-xylene	*90*		*45 - 140*	*04/16/15 11:45*	*04/17/15 22:06*	*1*

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.00066	mg/L		04/16/15 11:45	04/17/15 22:21	1
Endrin	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 22:21	1
gamma-BHC (Lindane)	ND		0.00050	0.00032	mg/L		04/16/15 11:45	04/17/15 22:21	1
Heptachlor	ND		0.00050	0.00040	mg/L		04/16/15 11:45	04/17/15 22:21	1
Heptachlor epoxide	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 22:21	1
Methoxychlor	ND		0.0010	0.00037	mg/L		04/16/15 11:45	04/17/15 22:21	1
Toxaphene	ND		0.020	0.0074	mg/L		04/16/15 11:45	04/17/15 22:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 140*	*04/16/15 11:45*	*04/17/15 22:21*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 140*	*04/16/15 11:45*	*04/17/15 22:21*	*1*
Tetrachloro-m-xylene	*90*		*45 - 140*	*04/16/15 11:45*	*04/17/15 22:21*	*1*
Tetrachloro-m-xylene	*87*		*45 - 140*	*04/16/15 11:45*	*04/17/15 22:21*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: WBREF-B-SED
Date Collected: 04/06/15 11:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-1
Matrix: Sediment
Percent Solids: 70.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.71	0.23	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-18	ND		0.71	0.20	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-28	ND		0.71	0.10	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-44	ND		0.71	0.080	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-49	ND		0.71	0.15	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-52	ND		0.71	0.14	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-66	ND		0.71	0.064	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-77	ND		0.71	0.076	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-87	ND		0.71	0.072	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-101	ND		0.71	0.083	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-105	ND		0.71	0.058	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-118	ND		0.71	0.064	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-126	ND		0.71	0.24	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-128	ND		0.71	0.075	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-138	ND		0.71	0.059	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-153	ND		0.71	0.061	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-156	ND		0.71	0.047	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-169	ND		0.71	0.045	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-170	ND		0.71	0.054	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-180	ND		0.71	0.061	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-183	ND		0.71	0.15	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-184	ND		0.71	0.064	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-187	ND		0.71	0.088	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-195	ND		0.71	0.14	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
PCB-206	ND		0.71	0.049	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1
DCB Decachlorobiphenyl	ND		0.71	0.049	ug/Kg	☼	04/10/15 04:25	04/14/15 15:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*84*		*35 - 140*	*04/10/15 04:25*	*04/14/15 15:05*	*1*
Tetrachloro-m-xylene (Surr)	*74*		*35 - 140*	*04/10/15 04:25*	*04/14/15 15:05*	*1*
PCB-205 (Surr)	*87*		*35 - 140*	*04/10/15 04:25*	*04/14/15 15:05*	*1*
PCB-205 (Surr)	*87*		*35 - 140*	*04/10/15 04:25*	*04/14/15 15:05*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.70	0.23	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-18	ND		0.70	0.20	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-28	ND		0.70	0.099	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-44	ND		0.70	0.078	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-49	ND		0.70	0.14	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-52	**0.13**	**J p**	0.70	0.13	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-66	ND		0.70	0.063	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-77	ND		0.70	0.075	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-87	ND		0.70	0.071	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-101	**0.12**	**J p**	0.70	0.082	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-105	ND		0.70	0.057	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-118	ND		0.70	0.063	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-126	ND		0.70	0.23	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-128	ND		0.70	0.074	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-138	**0.067**	**J**	0.70	0.058	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-153	**0.15**	**J p**	0.70	0.060	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-156	ND		0.70	0.047	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-169	ND		0.70	0.045	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-170	ND		0.70	0.053	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-180	ND		0.70	0.060	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-183	ND		0.70	0.15	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-184	ND		0.70	0.063	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-187	ND		0.70	0.086	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-195	ND		0.70	0.14	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
PCB-206	ND		0.70	0.048	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1
DCB Decachlorobiphenyl	**0.086**	**J**	0.70	0.048	ug/Kg	☼	04/10/15 04:25	04/14/15 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*53*		*35 - 140*	*04/10/15 04:25*	*04/14/15 15:38*	*1*
Tetrachloro-m-xylene (Surr)	*46*		*35 - 140*	*04/10/15 04:25*	*04/14/15 15:38*	*1*
PCB-205 (Surr)	*83*		*35 - 140*	*04/10/15 04:25*	*04/14/15 15:38*	*1*
PCB-205 (Surr)	*80*		*35 - 140*	*04/10/15 04:25*	*04/14/15 15:38*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.60	0.19	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-18	ND		0.60	0.17	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-28	ND		0.60	0.085	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-44	ND		0.60	0.067	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-49	ND		0.60	0.12	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-52	ND		0.60	0.11	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-66	ND		0.60	0.054	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-77	ND		0.60	0.064	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-87	ND		0.60	0.060	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-101	ND		0.60	0.070	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-105	ND		0.60	0.049	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-118	ND		0.60	0.054	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-126	ND		0.60	0.20	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-128	ND		0.60	0.063	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-138	ND		0.60	0.050	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-153	ND		0.60	0.051	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-156	ND		0.60	0.040	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-169	ND		0.60	0.038	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-170	ND		0.60	0.045	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-180	ND		0.60	0.051	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-183	ND		0.60	0.13	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-184	ND		0.60	0.053	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-187	ND		0.60	0.073	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-195	ND		0.60	0.12	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
PCB-206	ND		0.60	0.041	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1
DCB Decachlorobiphenyl	ND		0.60	0.041	ug/Kg	☼	04/10/15 04:25	04/14/15 16:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*81*		*35 - 140*	*04/10/15 04:25*	*04/14/15 16:10*	*1*
Tetrachloro-m-xylene (Surr)	*71*		*35 - 140*	*04/10/15 04:25*	*04/14/15 16:10*	*1*
PCB-205 (Surr)	*85*		*35 - 140*	*04/10/15 04:25*	*04/14/15 16:10*	*1*
PCB-205 (Surr)	*84*		*35 - 140*	*04/10/15 04:25*	*04/14/15 16:10*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.59	0.19	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-18	ND		0.59	0.17	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-28	ND		0.59	0.085	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-44	ND		0.59	0.067	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-49	ND		0.59	0.12	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-52	ND		0.59	0.11	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-66	ND		0.59	0.054	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-77	ND		0.59	0.064	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-87	ND		0.59	0.060	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-101	ND		0.59	0.070	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-105	ND		0.59	0.049	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-118	ND		0.59	0.054	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-126	ND		0.59	0.20	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-128	ND		0.59	0.063	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-138	ND		0.59	0.050	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-153	ND		0.59	0.051	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-156	ND		0.59	0.040	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-169	ND		0.59	0.038	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-170	ND		0.59	0.045	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-180	ND		0.59	0.051	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-183	ND		0.59	0.13	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-184	ND		0.59	0.053	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-187	ND		0.59	0.073	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-195	ND		0.59	0.12	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
PCB-206	ND		0.59	0.041	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1
DCB Decachlorobiphenyl	ND		0.59	0.041	ug/Kg	☼	04/10/15 04:25	04/14/15 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*76*		*35 - 140*	*04/10/15 04:25*	*04/14/15 17:47*	*1*
Tetrachloro-m-xylene (Surr)	*67*		*35 - 140*	*04/10/15 04:25*	*04/14/15 17:47*	*1*
PCB-205 (Surr)	*82*		*35 - 140*	*04/10/15 04:25*	*04/14/15 17:47*	*1*
PCB-205 (Surr)	*77*		*35 - 140*	*04/10/15 04:25*	*04/14/15 17:47*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.58	0.19	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-18	ND		0.58	0.16	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-28	ND		0.58	0.083	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-44	ND		0.58	0.066	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-49	ND		0.58	0.12	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-52	ND		0.58	0.11	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-66	ND		0.58	0.053	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-77	ND		0.58	0.063	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-87	ND		0.58	0.059	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-101	ND		0.58	0.068	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-105	ND		0.58	0.048	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-118	ND		0.58	0.053	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-126	ND		0.58	0.20	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-128	ND		0.58	0.062	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-138	ND		0.58	0.049	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-153	ND		0.58	0.050	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-156	ND		0.58	0.039	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-169	ND		0.58	0.037	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-170	ND		0.58	0.044	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-180	ND		0.58	0.050	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-183	ND		0.58	0.13	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-184	ND		0.58	0.052	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-187	ND		0.58	0.072	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-195	ND		0.58	0.12	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
PCB-206	ND		0.58	0.041	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1
DCB Decachlorobiphenyl	ND		0.58	0.041	ug/Kg	☼	04/10/15 04:25	04/14/15 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*74*		*35 - 140*	*04/10/15 04:25*	*04/14/15 18:19*	*1*
Tetrachloro-m-xylene (Surr)	*65*		*35 - 140*	*04/10/15 04:25*	*04/14/15 18:19*	*1*
PCB-205 (Surr)	*79*		*35 - 140*	*04/10/15 04:25*	*04/14/15 18:19*	*1*
PCB-205 (Surr)	*76*		*35 - 140*	*04/10/15 04:25*	*04/14/15 18:19*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.65	0.21	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-18	ND		0.65	0.18	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-28	ND		0.65	0.092	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-44	ND		0.65	0.072	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-49	ND		0.65	0.13	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-52	ND		0.65	0.12	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-66	ND		0.65	0.058	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-77	ND		0.65	0.069	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-87	ND		0.65	0.066	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-101	ND		0.65	0.076	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-105	ND		0.65	0.053	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-118	ND		0.65	0.058	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-126	ND		0.65	0.22	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-128	ND		0.65	0.069	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-138	ND		0.65	0.054	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-153	ND		0.65	0.056	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-156	ND		0.65	0.043	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-169	ND		0.65	0.041	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-170	ND		0.65	0.049	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-180	ND		0.65	0.056	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-183	ND		0.65	0.14	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-184	ND		0.65	0.058	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-187	ND		0.65	0.080	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-195	ND		0.65	0.13	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
PCB-206	ND		0.65	0.045	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1
DCB Decachlorobiphenyl	ND		0.65	0.045	ug/Kg	☼	04/10/15 04:25	04/14/15 18:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*77*		*35 - 140*	*04/10/15 04:25*	*04/14/15 18:50*	*1*
Tetrachloro-m-xylene (Surr)	*66*		*35 - 140*	*04/10/15 04:25*	*04/14/15 18:50*	*1*
PCB-205 (Surr)	*81*		*35 - 140*	*04/10/15 04:25*	*04/14/15 18:50*	*1*
PCB-205 (Surr)	*78*		*35 - 140*	*04/10/15 04:25*	*04/14/15 18:50*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: SRM Sediment
Date Collected: 04/07/15 00:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-7
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-44	**810**		25	2.8	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-66	**620**		25	2.3	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-77	ND		25	2.7	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-87	**140**		25	2.5	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-101	**340**	**p**	25	2.9	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-105	**160**		25	2.0	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-118	**160**	**p**	25	2.3	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-126	ND		25	8.4	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-128	**100**		25	2.7	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-138	**180**	**p**	25	2.1	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-153	**190**		25	2.2	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-156	**30**	**p**	25	1.7	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-169	ND		25	1.6	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-170	**96**		25	1.9	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-180	**110**		25	2.2	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-183	**36**		25	5.4	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-184	ND		25	2.2	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-187	**94**		25	3.1	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-195	**15**	**J**	25	4.9	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
PCB-206	**26**		25	1.7	ug/Kg		04/21/15 04:50	04/28/15 23:18	50
DCB Decachlorobiphenyl	**9.9**	**J**	25	1.7	ug/Kg		04/21/15 04:50	04/28/15 23:18	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*0*	*X D*	*35 - 140*	*04/21/15 04:50*	*04/28/15 23:18*	*50*
Tetrachloro-m-xylene (Surr)	*0*	*X D*	*35 - 140*	*04/21/15 04:50*	*04/28/15 23:18*	*50*
PCB-205 (Surr)	*0*	*X D*	*35 - 140*	*04/21/15 04:50*	*04/28/15 23:18*	*50*
PCB-205 (Surr)	*0*	*X D*	*35 - 140*	*04/21/15 04:50*	*04/28/15 23:18*	*50*

Method: 8082A - PCB Congeners (GC) - DL

Client Sample ID: SRM Sediment
Date Collected: 04/07/15 00:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-7
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	2900		250	82	ug/Kg		04/21/15 04:50	05/01/15 06:56	500
PCB-18	4100		250	70	ug/Kg		04/21/15 04:50	05/01/15 06:56	500
PCB-28	3800		250	36	ug/Kg		04/21/15 04:50	05/01/15 06:56	500
PCB-49	2700		250	51	ug/Kg		04/21/15 04:50	05/01/15 06:56	500
PCB-52	2600		250	48	ug/Kg		04/21/15 04:50	05/01/15 06:56	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*0*	*X D*	*35 - 140*	*04/21/15 04:50*	*05/01/15 06:56*	*500*
Tetrachloro-m-xylene (Surr)	*0*	*X D*	*35 - 140*	*04/21/15 04:50*	*05/01/15 06:56*	*500*
PCB-205 (Surr)	*0*	*X D*	*35 - 140*	*04/21/15 04:50*	*05/01/15 06:56*	*500*
PCB-205 (Surr)	*0*	*X D*	*35 - 140*	*04/21/15 04:50*	*05/01/15 06:56*	*500*

Method: 8082A - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		2.9	0.60	ug/Kg	☼	04/20/15 05:08	04/20/15 18:48	5
PCB-1221	ND		2.9	0.73	ug/Kg	☼	04/20/15 05:08	04/20/15 18:48	5
PCB-1232	ND		2.9	1.0	ug/Kg	☼	04/20/15 05:08	04/20/15 18:48	5
PCB-1242	ND		2.9	0.74	ug/Kg	☼	04/20/15 05:08	04/20/15 18:48	5
PCB-1248	ND		2.9	0.73	ug/Kg	☼	04/20/15 05:08	04/20/15 18:48	5
PCB-1254	ND		2.9	0.70	ug/Kg	☼	04/20/15 05:08	04/20/15 18:48	5
PCB-1260	**1.4**	**J**	2.9	0.64	ug/Kg	☼	04/20/15 05:08	04/20/15 18:48	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*80*		*20 - 150*	*04/20/15 05:08*	*04/20/15 18:48*	*5*
DCB Decachlorobiphenyl (Surr)	*81*		*20 - 150*	*04/20/15 05:08*	*04/20/15 18:48*	*5*
Tetrachloro-m-xylene (Surr)	*70*		*30 - 150*	*04/20/15 05:08*	*04/20/15 18:48*	*5*
Tetrachloro-m-xylene (Surr)	*75*		*30 - 150*	*04/20/15 05:08*	*04/20/15 18:48*	*5*

Method: 8082A - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		2.5	0.50	ug/Kg	☼	04/20/15 05:08	04/20/15 19:08	5
PCB-1221	ND		2.5	0.62	ug/Kg	☼	04/20/15 05:08	04/20/15 19:08	5
PCB-1232	ND		2.5	0.85	ug/Kg	☼	04/20/15 05:08	04/20/15 19:08	5
PCB-1242	ND		2.5	0.62	ug/Kg	☼	04/20/15 05:08	04/20/15 19:08	5
PCB-1248	ND		2.5	0.62	ug/Kg	☼	04/20/15 05:08	04/20/15 19:08	5
PCB-1254	ND		2.5	0.59	ug/Kg	☼	04/20/15 05:08	04/20/15 19:08	5
PCB-1260	ND		2.5	0.54	ug/Kg	☼	04/20/15 05:08	04/20/15 19:08	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*73*		*20 - 150*	*04/20/15 05:08*	*04/20/15 19:08*	*5*
DCB Decachlorobiphenyl (Surr)	*70*		*20 - 150*	*04/20/15 05:08*	*04/20/15 19:08*	*5*
Tetrachloro-m-xylene (Surr)	*67*		*30 - 150*	*04/20/15 05:08*	*04/20/15 19:08*	*5*
Tetrachloro-m-xylene (Surr)	*79*		*30 - 150*	*04/20/15 05:08*	*04/20/15 19:08*	*5*

Method: 8082A - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		2.5	0.51	ug/Kg	☼	04/20/15 05:08	04/20/15 19:28	5
PCB-1221	ND		2.5	0.62	ug/Kg	☼	04/20/15 05:08	04/20/15 19:28	5
PCB-1232	ND		2.5	0.86	ug/Kg	☼	04/20/15 05:08	04/20/15 19:28	5
PCB-1242	ND		2.5	0.63	ug/Kg	☼	04/20/15 05:08	04/20/15 19:28	5
PCB-1248	ND		2.5	0.62	ug/Kg	☼	04/20/15 05:08	04/20/15 19:28	5
PCB-1254	ND		2.5	0.59	ug/Kg	☼	04/20/15 05:08	04/20/15 19:28	5
PCB-1260	ND		2.5	0.55	ug/Kg	☼	04/20/15 05:08	04/20/15 19:28	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*79*		*20 - 150*	*04/20/15 05:08*	*04/20/15 19:28*	*5*
DCB Decachlorobiphenyl (Surr)	*76*		*20 - 150*	*04/20/15 05:08*	*04/20/15 19:28*	*5*
Tetrachloro-m-xylene (Surr)	*76*		*30 - 150*	*04/20/15 05:08*	*04/20/15 19:28*	*5*
Tetrachloro-m-xylene (Surr)	*75*		*30 - 150*	*04/20/15 05:08*	*04/20/15 19:28*	*5*

Method: 8082A - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		2.4	0.50	ug/Kg	☼	04/20/15 05:08	04/20/15 19:47	5
PCB-1221	ND		2.4	0.61	ug/Kg	☼	04/20/15 05:08	04/20/15 19:47	5
PCB-1232	ND		2.4	0.84	ug/Kg	☼	04/20/15 05:08	04/20/15 19:47	5
PCB-1242	ND		2.4	0.62	ug/Kg	☼	04/20/15 05:08	04/20/15 19:47	5
PCB-1248	ND		2.4	0.61	ug/Kg	☼	04/20/15 05:08	04/20/15 19:47	5
PCB-1254	ND		2.4	0.58	ug/Kg	☼	04/20/15 05:08	04/20/15 19:47	5
PCB-1260	ND		2.4	0.53	ug/Kg	☼	04/20/15 05:08	04/20/15 19:47	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*85*		*20 - 150*	*04/20/15 05:08*	*04/20/15 19:47*	*5*
DCB Decachlorobiphenyl (Surr)	*83*		*20 - 150*	*04/20/15 05:08*	*04/20/15 19:47*	*5*
Tetrachloro-m-xylene (Surr)	*88*		*30 - 150*	*04/20/15 05:08*	*04/20/15 19:47*	*5*
Tetrachloro-m-xylene (Surr)	*95*		*30 - 150*	*04/20/15 05:08*	*04/20/15 19:47*	*5*

Method: 8082A - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		2.7	0.55	ug/Kg	☼	04/20/15 05:08	04/20/15 20:07	5
PCB-1221	ND		2.7	0.67	ug/Kg	☼	04/20/15 05:08	04/20/15 20:07	5
PCB-1232	ND		2.7	0.92	ug/Kg	☼	04/20/15 05:08	04/20/15 20:07	5
PCB-1242	ND		2.7	0.68	ug/Kg	☼	04/20/15 05:08	04/20/15 20:07	5
PCB-1248	ND		2.7	0.67	ug/Kg	☼	04/20/15 05:08	04/20/15 20:07	5
PCB-1254	ND		2.7	0.64	ug/Kg	☼	04/20/15 05:08	04/20/15 20:07	5
PCB-1260	ND		2.7	0.59	ug/Kg	☼	04/20/15 05:08	04/20/15 20:07	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*58*		*20 - 150*	*04/20/15 05:08*	*04/20/15 20:07*	*5*
DCB Decachlorobiphenyl (Surr)	*56*		*20 - 150*	*04/20/15 05:08*	*04/20/15 20:07*	*5*
Tetrachloro-m-xylene (Surr)	*75*		*30 - 150*	*04/20/15 05:08*	*04/20/15 20:07*	*5*
Tetrachloro-m-xylene (Surr)	*75*		*30 - 150*	*04/20/15 05:08*	*04/20/15 20:07*	*5*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: WBREF-B-SED
Date Collected: 04/06/15 11:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-1
Matrix: Sediment
Percent Solids: 70.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Demeton, Total	ND		46	4.2	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Malathion	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Methyl parathion	ND		23	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Parathion	ND		23	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Bolstar	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Chlorpyrifos	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Coumaphos	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Diazinon	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Dichlorvos	ND		23	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Dimethoate	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Disulfoton	ND		23	2.5	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
EPN	ND		23	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Mocap	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Famphur	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Fensulfothion	ND		23	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Fenthion	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Mevinphos	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Phorate	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Ronnel	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Stirophos	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Sulfotepp	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Thionazin	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Tokuthion	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
Trichloronate	ND		23	2.7	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1
O,O,O-Triethyl phosphorothioate	ND		23	4.5	ug/Kg	☼	04/13/15 03:33	04/15/15 16:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*81*		*47 - 130*	*04/13/15 03:33*	*04/15/15 16:38*	*1*
Tributyl phosphate	*79*		*47 - 130*	*04/13/15 03:33*	*04/15/15 16:38*	*1*
Triphenylphosphate	*82*		*55 - 125*	*04/13/15 03:33*	*04/15/15 16:38*	*1*
Triphenylphosphate	*85*		*55 - 125*	*04/13/15 03:33*	*04/15/15 16:38*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Demeton, Total	ND		46	4.2	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Malathion	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Methyl parathion	ND		23	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Parathion	ND		23	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Bolstar	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Chlorpyrifos	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Coumaphos	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Diazinon	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Dichlorvos	ND		23	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Dimethoate	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Disulfoton	ND		23	2.5	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
EPN	ND		23	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Mocap	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Famphur	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Fensulfothion	ND		23	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Fenthion	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Mevinphos	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Phorate	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Ronnel	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Stirophos	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Sulfotepp	ND		23	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Thionazin	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Tokuthion	ND		23	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
Trichloronate	ND		23	2.7	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1
O,O,O-Triethyl phosphorothioate	ND		23	4.5	ug/Kg	☼	04/13/15 03:33	04/15/15 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*78*		*47 - 130*	*04/13/15 03:33*	*04/15/15 17:12*	*1*
Tributyl phosphate	*75*		*47 - 130*	*04/13/15 03:33*	*04/15/15 17:12*	*1*
Triphenylphosphate	*77*		*55 - 125*	*04/13/15 03:33*	*04/15/15 17:12*	*1*
Triphenylphosphate	*79*		*55 - 125*	*04/13/15 03:33*	*04/15/15 17:12*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Demeton, Total	ND		39	3.5	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Malathion	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Methyl parathion	ND		19	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Parathion	ND		19	1.6	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Bolstar	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Chlorpyrifos	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Coumaphos	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Diazinon	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Dichlorvos	ND		19	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Dimethoate	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Disulfoton	ND		19	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
EPN	ND		19	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Mocap	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Famphur	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Fensulfothion	ND		19	1.5	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Fenthion	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Mevinphos	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Phorate	ND		19	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Ronnel	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Stirophos	ND		19	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Sulfotepp	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Thionazin	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Tokuthion	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
Trichloronate	ND		19	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1
O,O,O-Triethyl phosphorothioate	ND		19	3.8	ug/Kg	☼	04/13/15 03:33	04/15/15 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*82*		*47 - 130*	*04/13/15 03:33*	*04/15/15 18:53*	*1*
Tributyl phosphate	*79*		*47 - 130*	*04/13/15 03:33*	*04/15/15 18:53*	*1*
Triphenylphosphate	*84*		*55 - 125*	*04/13/15 03:33*	*04/15/15 18:53*	*1*
Triphenylphosphate	*86*		*55 - 125*	*04/13/15 03:33*	*04/15/15 18:53*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Demeton, Total	ND		39	3.5	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Malathion	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Methyl parathion	ND		19	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Parathion	ND		19	1.6	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Bolstar	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Chlorpyrifos	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Coumaphos	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Diazinon	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Dichlorvos	ND		19	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Dimethoate	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Disulfoton	ND		19	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
EPN	ND		19	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Mocap	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Famphur	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Fensulfothion	ND		19	1.5	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Fenthion	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Mevinphos	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Phorate	ND		19	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Ronnel	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Stirophos	ND		19	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Sulfotepp	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Thionazin	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Tokuthion	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
Trichloronate	ND		19	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1
O,O,O-Triethyl phosphorothioate	ND		19	3.8	ug/Kg	☼	04/13/15 03:33	04/15/15 19:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*87*		*47 - 130*	*04/13/15 03:33*	*04/15/15 19:27*	*1*
Tributyl phosphate	*85*		*47 - 130*	*04/13/15 03:33*	*04/15/15 19:27*	*1*
Triphenylphosphate	*91*		*55 - 125*	*04/13/15 03:33*	*04/15/15 19:27*	*1*
Triphenylphosphate	*93*		*55 - 125*	*04/13/15 03:33*	*04/15/15 19:27*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Demeton, Total	ND		38	3.5	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Malathion	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Methyl parathion	ND		19	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Parathion	ND		19	1.5	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Bolstar	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Chlorpyrifos	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Coumaphos	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Diazinon	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Dichlorvos	ND		19	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Dimethoate	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Disulfoton	ND		19	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
EPN	ND		19	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Mocap	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Famphur	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Fensulfothion	ND		19	1.5	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Fenthion	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Mevinphos	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Phorate	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Ronnel	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Stirophos	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Sulfotepp	ND		19	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Thionazin	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Tokuthion	ND		19	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
Trichloronate	ND		19	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1
O,O,O-Triethyl phosphorothioate	ND		19	3.7	ug/Kg	☼	04/13/15 03:33	04/15/15 20:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*76*		*47 - 130*	*04/13/15 03:33*	*04/15/15 20:00*	*1*
Tributyl phosphate	*73*		*47 - 130*	*04/13/15 03:33*	*04/15/15 20:00*	*1*
Triphenylphosphate	*75*		*55 - 125*	*04/13/15 03:33*	*04/15/15 20:00*	*1*
Triphenylphosphate	*77*		*55 - 125*	*04/13/15 03:33*	*04/15/15 20:00*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Demeton, Total	ND		42	3.9	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Malathion	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Methyl parathion	ND		21	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Parathion	ND		21	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Bolstar	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Chlorpyrifos	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Coumaphos	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Diazinon	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Dichlorvos	ND		21	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Dimethoate	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Disulfoton	ND		21	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
EPN	ND		21	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Mocap	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Famphur	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Fensulfothion	ND		21	1.6	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Fenthion	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Mevinphos	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Phorate	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Ronnel	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Stirophos	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Sulfotepp	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Thionazin	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Tokuthion	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
Trichloronate	ND		21	2.5	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1
O,O,O-Triethyl phosphorothioate	ND		21	4.1	ug/Kg	☼	04/13/15 03:33	04/15/15 20:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*72*		*47 - 130*	*04/13/15 03:33*	*04/15/15 20:34*	*1*
Tributyl phosphate	*69*		*47 - 130*	*04/13/15 03:33*	*04/15/15 20:34*	*1*
Triphenylphosphate	*74*		*55 - 125*	*04/13/15 03:33*	*04/15/15 20:34*	*1*
Triphenylphosphate	*75*		*55 - 125*	*04/13/15 03:33*	*04/15/15 20:34*	*1*

Method: 8151A - Herbicides (GC) - TCLP

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.0045	mg/L		04/16/15 16:35	04/23/15 16:46	20
Silvex (2,4,5-TP)	ND		0.010	0.0011	mg/L		04/16/15 16:35	04/23/15 16:46	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*76*		*32 - 140*	*04/16/15 16:35*	*04/23/15 16:46*	*20*
2,4-Dichlorophenylacetic acid	*63*		*32 - 140*	*04/16/15 16:35*	*04/23/15 16:46*	*20*

Method: 8151A - Herbicides (GC) - TCLP

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.0045	mg/L		04/16/15 16:35	04/23/15 17:06	20
Silvex (2,4,5-TP)	ND		0.010	0.0011	mg/L		04/16/15 16:35	04/23/15 17:06	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*82*		*32 - 140*	*04/16/15 16:35*	*04/23/15 17:06*	*20*
2,4-Dichlorophenylacetic acid	*67*		*32 - 140*	*04/16/15 16:35*	*04/23/15 17:06*	*20*

Method: 8151A - Herbicides (GC) - TCLP

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.0045	mg/L		04/16/15 16:35	04/23/15 17:27	20
Silvex (2,4,5-TP)	ND		0.010	0.0011	mg/L		04/16/15 16:35	04/23/15 17:27	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*82*		*32 - 140*	*04/16/15 16:35*	*04/23/15 17:27*	*20*
2,4-Dichlorophenylacetic acid	*69*		*32 - 140*	*04/16/15 16:35*	*04/23/15 17:27*	*20*

Method: 8151A - Herbicides (GC) - TCLP

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.0045	mg/L		04/16/15 16:35	04/23/15 17:47	20
Silvex (2,4,5-TP)	ND		0.010	0.0011	mg/L		04/16/15 16:35	04/23/15 17:47	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*72*		*32 - 140*	*04/16/15 16:35*	*04/23/15 17:47*	*20*
2,4-Dichlorophenylacetic acid	*60*		*32 - 140*	*04/16/15 16:35*	*04/23/15 17:47*	*20*

Method: 8151A - Herbicides (GC) - TCLP

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.0045	mg/L		04/16/15 16:35	04/23/15 18:08	20
Silvex (2,4,5-TP)	ND		0.010	0.0011	mg/L		04/16/15 16:35	04/23/15 18:08	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*86*		*32 - 140*	*04/16/15 16:35*	*04/23/15 18:08*	*20*
2,4-Dichlorophenylacetic acid	*72*		*32 - 140*	*04/16/15 16:35*	*04/23/15 18:08*	*20*

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: WBREF-B-SED
Date Collected: 04/06/15 11:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-1
Matrix: Sediment
Percent Solids: 70.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.043	J	0.18	0.0058	mg/Kg	☼	04/18/15 10:40	04/24/15 11:39	1
Copper SEM	1.7		0.88	0.079	mg/Kg	☼	04/18/15 10:40	04/24/15 11:39	1
Lead SEM	4.4		0.35	0.070	mg/Kg	☼	04/18/15 10:40	04/24/15 11:39	1
Nickel SEM	6.7		1.4	0.041	mg/Kg	☼	04/18/15 10:40	04/24/15 11:39	1
Zinc SEM	21	B	3.5	0.26	mg/Kg	☼	04/18/15 10:40	04/24/15 11:39	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00038	J	0.0016	0.000052	umol/g	☼	04/18/15 10:40	04/24/15 11:39	1
Copper SEM	0.027		0.014	0.0012	umol/g	☼	04/18/15 10:40	04/24/15 11:39	1
Lead SEM	0.021		0.0017	0.00034	umol/g	☼	04/18/15 10:40	04/24/15 11:39	1
Nickel SEM	0.11		0.024	0.00069	umol/g	☼	04/18/15 10:40	04/24/15 11:39	1
Zinc SEM	0.33	B	0.054	0.0040	umol/g	☼	04/18/15 10:40	04/24/15 11:39	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.092	J	0.18	0.0058	mg/Kg	☼	04/18/15 10:40	04/24/15 11:42	1
Copper SEM	2.6		0.88	0.079	mg/Kg	☼	04/18/15 10:40	04/24/15 11:42	1
Lead SEM	6.0		0.35	0.070	mg/Kg	☼	04/18/15 10:40	04/24/15 11:42	1
Nickel SEM	5.0		1.4	0.040	mg/Kg	☼	04/18/15 10:40	04/24/15 11:42	1
Zinc SEM	26	B	3.5	0.26	mg/Kg	☼	04/18/15 10:40	04/24/15 11:42	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00082	J	0.0016	0.000051	umol/g	☼	04/18/15 10:40	04/24/15 11:42	1
Copper SEM	0.040		0.014	0.0012	umol/g	☼	04/18/15 10:40	04/24/15 11:42	1
Lead SEM	0.029		0.0017	0.00034	umol/g	☼	04/18/15 10:40	04/24/15 11:42	1
Nickel SEM	0.085		0.024	0.00069	umol/g	☼	04/18/15 10:40	04/24/15 11:42	1
Zinc SEM	0.40	B	0.054	0.0040	umol/g	☼	04/18/15 10:40	04/24/15 11:42	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.020	J	0.15	0.0049	mg/Kg	☼	04/18/15 10:40	04/24/15 11:46	1
Copper SEM	1.6		0.74	0.067	mg/Kg	☼	04/18/15 10:40	04/24/15 11:46	1
Lead SEM	1.9		0.30	0.059	mg/Kg	☼	04/18/15 10:40	04/24/15 11:46	1
Nickel SEM	1.8		1.2	0.034	mg/Kg	☼	04/18/15 10:40	04/24/15 11:46	1
Zinc SEM	11	B	3.0	0.22	mg/Kg	☼	04/18/15 10:40	04/24/15 11:46	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00018	J	0.0013	0.000043	umol/g	☼	04/18/15 10:40	04/24/15 11:46	1
Copper SEM	0.025		0.012	0.0010	umol/g	☼	04/18/15 10:40	04/24/15 11:46	1
Lead SEM	0.0093		0.0014	0.00028	umol/g	☼	04/18/15 10:40	04/24/15 11:46	1
Nickel SEM	0.031		0.020	0.00058	umol/g	☼	04/18/15 10:40	04/24/15 11:46	1
Zinc SEM	0.17	B	0.045	0.0034	umol/g	☼	04/18/15 10:40	04/24/15 11:46	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.011	J	0.15	0.0049	mg/Kg	☼	04/18/15 10:40	04/24/15 11:49	1
Copper SEM	1.0		0.75	0.067	mg/Kg	☼	04/18/15 10:40	04/24/15 11:49	1
Lead SEM	1.1		0.30	0.059	mg/Kg	☼	04/18/15 10:40	04/24/15 11:49	1
Nickel SEM	0.98	J	1.2	0.034	mg/Kg	☼	04/18/15 10:40	04/24/15 11:49	1
Zinc SEM	5.6	B	3.0	0.22	mg/Kg	☼	04/18/15 10:40	04/24/15 11:49	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00010	J	0.0013	0.000044	umol/g	☼	04/18/15 10:40	04/24/15 11:49	1
Copper SEM	0.016		0.012	0.0011	umol/g	☼	04/18/15 10:40	04/24/15 11:49	1
Lead SEM	0.0053		0.0014	0.00029	umol/g	☼	04/18/15 10:40	04/24/15 11:49	1
Nickel SEM	0.017	J	0.020	0.00058	umol/g	☼	04/18/15 10:40	04/24/15 11:49	1
Zinc SEM	0.086	B	0.046	0.0034	umol/g	☼	04/18/15 10:40	04/24/15 11:49	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.010	J	0.15	0.0048	mg/Kg	☼	04/18/15 10:40	04/24/15 11:53	1
Copper SEM	0.89		0.73	0.066	mg/Kg	☼	04/18/15 10:40	04/24/15 11:53	1
Lead SEM	0.93		0.29	0.058	mg/Kg	☼	04/18/15 10:40	04/24/15 11:53	1
Nickel SEM	1.1	J	1.2	0.034	mg/Kg	☼	04/18/15 10:40	04/24/15 11:53	1
Zinc SEM	4.9	B	2.9	0.22	mg/Kg	☼	04/18/15 10:40	04/24/15 11:53	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.000091	J	0.0013	0.000043	umol/g	☼	04/18/15 10:40	04/24/15 11:53	1
Copper SEM	0.014		0.012	0.0010	umol/g	☼	04/18/15 10:40	04/24/15 11:53	1
Lead SEM	0.0045		0.0014	0.00028	umol/g	☼	04/18/15 10:40	04/24/15 11:53	1
Nickel SEM	0.019	J	0.020	0.00057	umol/g	☼	04/18/15 10:40	04/24/15 11:53	1
Zinc SEM	0.075	B	0.045	0.0033	umol/g	☼	04/18/15 10:40	04/24/15 11:53	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.043	J	0.16	0.0053	mg/Kg	☼	04/18/15 10:40	04/24/15 11:57	1
Copper SEM	0.74	J	0.81	0.073	mg/Kg	☼	04/18/15 10:40	04/24/15 11:57	1
Lead SEM	1.4		0.65	0.13	mg/Kg	☼	04/18/15 10:40	04/24/15 12:34	2
Nickel SEM	3.1		2.6	0.074	mg/Kg	☼	04/18/15 10:40	04/24/15 12:34	2
Zinc SEM	18	B	3.2	0.24	mg/Kg	☼	04/18/15 10:40	04/24/15 11:57	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00038	J	0.0014	0.000047	umol/g	☼	04/18/15 10:40	04/24/15 11:57	1
Copper SEM	0.012	J	0.013	0.0011	umol/g	☼	04/18/15 10:40	04/24/15 11:57	1
Lead SEM	0.0069		0.0031	0.00062	umol/g	☼	04/18/15 10:40	04/24/15 12:34	2
Nickel SEM	0.053		0.044	0.0013	umol/g	☼	04/18/15 10:40	04/24/15 12:34	2
Zinc SEM	0.28	B	0.050	0.0037	umol/g	☼	04/18/15 10:40	04/24/15 11:57	1

Method: 6010C - Metals (ICP) - TCLP

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.030	mg/L		04/16/15 09:05	04/17/15 12:02	1
Barium	**0.033**	**J B**	2.0	0.0019	mg/L		04/16/15 09:05	04/17/15 12:02	1
Cadmium	ND		0.50	0.0017	mg/L		04/16/15 09:05	04/17/15 12:02	1
Chromium	ND		0.50	0.010	mg/L		04/16/15 09:05	04/17/15 12:02	1
Lead	ND		0.50	0.015	mg/L		04/16/15 09:05	04/17/15 12:02	1
Selenium	ND		0.50	0.017	mg/L		04/16/15 09:05	04/17/15 12:02	1
Silver	ND		0.50	0.0027	mg/L		04/16/15 09:05	04/17/15 12:02	1

Method: 6010C - Metals (ICP) - TCLP

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.030	mg/L		04/16/15 09:05	04/17/15 12:07	1
Barium	**0.020**	**J B**	2.0	0.0019	mg/L		04/16/15 09:05	04/17/15 12:07	1
Cadmium	**0.0022**	**J**	0.50	0.0017	mg/L		04/16/15 09:05	04/17/15 12:07	1
Chromium	ND		0.50	0.010	mg/L		04/16/15 09:05	04/17/15 12:07	1
Lead	ND		0.50	0.015	mg/L		04/16/15 09:05	04/17/15 12:07	1
Selenium	ND		0.50	0.017	mg/L		04/16/15 09:05	04/17/15 12:07	1
Silver	ND		0.50	0.0027	mg/L		04/16/15 09:05	04/17/15 12:07	1

Method: 6010C - Metals (ICP) - TCLP

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.030	mg/L		04/16/15 09:05	04/17/15 12:13	1
Barium	**0.061**	**J B**	2.0	0.0019	mg/L		04/16/15 09:05	04/17/15 12:13	1
Cadmium	ND		0.50	0.0017	mg/L		04/16/15 09:05	04/17/15 12:13	1
Chromium	ND		0.50	0.010	mg/L		04/16/15 09:05	04/17/15 12:13	1
Lead	ND		0.50	0.015	mg/L		04/16/15 09:05	04/17/15 12:13	1
Selenium	**0.021**	**J**	0.50	0.017	mg/L		04/16/15 09:05	04/17/15 12:13	1
Silver	ND		0.50	0.0027	mg/L		04/16/15 09:05	04/17/15 12:13	1

Method: 6010C - Metals (ICP) - TCLP

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.030	mg/L		04/16/15 09:05	04/17/15 12:18	1
Barium	**0.060**	**J B**	2.0	0.0019	mg/L		04/16/15 09:05	04/17/15 12:18	1
Cadmium	ND		0.50	0.0017	mg/L		04/16/15 09:05	04/17/15 12:18	1
Chromium	ND		0.50	0.010	mg/L		04/16/15 09:05	04/17/15 12:18	1
Lead	ND		0.50	0.015	mg/L		04/16/15 09:05	04/17/15 12:18	1
Selenium	ND		0.50	0.017	mg/L		04/16/15 09:05	04/17/15 12:18	1
Silver	ND		0.50	0.0027	mg/L		04/16/15 09:05	04/17/15 12:18	1

Method: 6010C - Metals (ICP) - TCLP

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.030	mg/L		04/16/15 09:05	04/17/15 12:23	1
Barium	**0.15**	**J B**	2.0	0.0019	mg/L		04/16/15 09:05	04/17/15 12:23	1
Cadmium	ND		0.50	0.0017	mg/L		04/16/15 09:05	04/17/15 12:23	1
Chromium	ND		0.50	0.010	mg/L		04/16/15 09:05	04/17/15 12:23	1
Lead	**0.016**	**J**	0.50	0.015	mg/L		04/16/15 09:05	04/17/15 12:23	1
Selenium	ND		0.50	0.017	mg/L		04/16/15 09:05	04/17/15 12:23	1
Silver	ND		0.50	0.0027	mg/L		04/16/15 09:05	04/17/15 12:23	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: WBREF-B-SED
Date Collected: 04/06/15 11:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-1
Matrix: Sediment
Percent Solids: 70.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7000	B	2.1	0.20	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Antimony	0.037	J	0.14	0.0018	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Arsenic	3.7		0.070	0.013	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Barium	16		0.70	0.0075	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Beryllium	0.37		0.070	0.0053	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Cadmium	0.095		0.070	0.0049	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Chromium	15	B	0.14	0.0043	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Calcium	3800	B	35	0.93	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Cobalt	4.5		0.035	0.0011	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Copper	3.6		0.14	0.023	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Iron	15000	B	3.5	0.25	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Lead	5.8		0.070	0.0027	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Nickel	8.8		0.070	0.0079	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Potassium	1800		35	0.95	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Selenium	0.16	J	0.35	0.035	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Magnesium	4100	B	35	0.13	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Silver	0.013	J	0.070	0.0027	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Thallium	0.098		0.070	0.0014	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Sodium	3100		35	0.96	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Zinc	27		0.35	0.046	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Vanadium	18		0.070	0.0056	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1
Manganese	160	B	0.35	0.0072	mg/Kg	☼	04/20/15 17:26	04/28/15 04:41	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4500	B	2.1	0.20	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Antimony	0.048	J	0.14	0.0018	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Arsenic	2.9		0.070	0.013	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Barium	19		0.70	0.0075	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Beryllium	0.22		0.070	0.0052	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Cadmium	0.099		0.070	0.0049	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Chromium	11	B	0.14	0.0042	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Calcium	13000	B	35	0.92	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Cobalt	3.3		0.035	0.0010	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Copper	3.7		0.14	0.023	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Iron	11000	B	3.5	0.25	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Lead	5.9		0.070	0.0026	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Nickel	6.5		0.070	0.0079	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Potassium	1400		35	0.95	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Selenium	0.15	J	0.35	0.035	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Magnesium	2900	B	35	0.13	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Silver	0.027	J	0.070	0.0027	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Thallium	0.079		0.070	0.0014	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Sodium	2500		35	0.95	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Zinc	27		0.35	0.045	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Vanadium	15		0.070	0.0055	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1
Manganese	130	B	0.35	0.0072	mg/Kg	☼	04/20/15 17:26	04/28/15 04:59	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1400	B	1.8	0.17	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Antimony	0.031	J	0.12	0.0015	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Arsenic	1.3		0.059	0.011	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Barium	3.5		0.59	0.0063	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Beryllium	0.11		0.059	0.0044	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Cadmium	0.019	J	0.059	0.0041	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Chromium	3.8	B	0.12	0.0036	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Calcium	540	B	29	0.78	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Cobalt	1.0		0.029	0.00088	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Copper	1.3		0.12	0.019	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Iron	3400	B	2.9	0.21	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Lead	1.8		0.059	0.0022	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Nickel	2.2		0.059	0.0067	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Potassium	350		29	0.80	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Selenium	0.042	J	0.29	0.030	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Magnesium	630	B	29	0.11	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Silver	ND		0.059	0.0023	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Thallium	0.020	J	0.059	0.0012	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Sodium	1500		29	0.81	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Zinc	6.0		0.29	0.038	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Vanadium	4.6		0.059	0.0047	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1
Manganese	26	B	0.29	0.0061	mg/Kg	☼	04/20/15 17:26	04/28/15 05:03	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**920**	**B**	1.8	0.17	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Antimony	**0.022**	**J**	0.12	0.0015	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Arsenic	**1.1**		0.059	0.011	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Barium	**3.3**		0.59	0.0064	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Beryllium	**0.086**		0.059	0.0045	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Cadmium	**0.022**	**J**	0.059	0.0042	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Chromium	**2.9**	**B**	0.12	0.0036	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Calcium	**1400**	**B**	30	0.79	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Cobalt	**0.85**		0.030	0.00089	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Copper	**1.0**		0.12	0.020	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Iron	**2800**	**B**	3.0	0.21	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Lead	**1.5**		0.059	0.0023	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Nickel	**1.8**		0.059	0.0067	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Potassium	**260**		30	0.81	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Selenium	ND		0.30	0.030	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Magnesium	**450**	**B**	30	0.11	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Silver	ND		0.059	0.0023	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Thallium	**0.013**	**J**	0.059	0.0012	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Sodium	**1600**		30	0.81	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Zinc	**4.3**		0.30	0.038	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Vanadium	**3.2**		0.059	0.0047	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1
Manganese	**24**	**B**	0.30	0.0061	mg/Kg	☼	04/20/15 17:26	04/28/15 05:07	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1200	B	1.7	0.16	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Antimony	0.030	J	0.11	0.0015	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Arsenic	1.3		0.057	0.010	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Barium	3.1		0.57	0.0061	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Beryllium	0.12		0.057	0.0043	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Cadmium	0.021	J	0.057	0.0040	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Chromium	3.3	B	0.11	0.0035	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Calcium	820	B	29	0.76	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Cobalt	1.4		0.029	0.00086	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Copper	1.5		0.11	0.019	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Iron	3000	B	2.9	0.20	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Lead	1.9		0.057	0.0022	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Nickel	2.3		0.057	0.0065	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Potassium	280		29	0.78	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Selenium	0.035	J	0.29	0.029	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Magnesium	480	B	29	0.11	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Silver	ND		0.057	0.0022	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Thallium	0.014	J	0.057	0.0011	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Sodium	1500		29	0.78	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Zinc	6.0		0.29	0.037	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Vanadium	3.7		0.057	0.0045	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1
Manganese	19	B	0.29	0.0059	mg/Kg	☼	04/20/15 17:26	04/28/15 05:10	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4100	B	1.9	0.18	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Antimony	0.084	J	0.13	0.0017	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Arsenic	7.2		0.064	0.012	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Barium	27		0.64	0.0069	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Beryllium	0.35		0.064	0.0048	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Cadmium	0.15		0.064	0.0045	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Chromium	15	B	0.13	0.0039	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Calcium	50000	B	32	0.85	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Cobalt	4.3		0.032	0.00096	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Copper	2.8		0.13	0.021	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Iron	21000	B	3.2	0.23	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Lead	5.0		0.064	0.0024	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Nickel	6.3		0.064	0.0073	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Potassium	1500		32	0.87	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Selenium	0.11	J	0.32	0.032	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Magnesium	3000	B	32	0.12	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Silver	0.026	J	0.064	0.0025	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Thallium	0.068		0.064	0.0013	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Sodium	2800		32	0.88	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Zinc	21		0.32	0.042	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Vanadium	17		0.064	0.0051	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1
Manganese	210	B	0.32	0.0066	mg/Kg	☼	04/20/15 17:26	04/28/15 23:07	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: SRM Sediment
Date Collected: 04/07/15 00:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-7
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	5100		2.9	0.27	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Antimony	0.39		0.19	0.0025	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Arsenic	4.7		0.095	0.017	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Barium	15		0.95	0.010	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Beryllium	0.31		0.095	0.0071	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Cadmium	0.11		0.095	0.0067	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Chromium	17		0.19	0.0058	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Calcium	2800		48	1.3	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Cobalt	2.9		0.048	0.0014	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Copper	8.2		0.19	0.031	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Iron	13000		4.8	0.34	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Lead	7.3		0.095	0.0036	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Nickel	16		0.095	0.011	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Potassium	1400		48	1.3	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Selenium	0.20	J	0.48	0.048	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Magnesium	2500		48	0.18	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Silver	0.043	J	0.095	0.0037	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Thallium	0.080	J	0.095	0.0019	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Sodium	3700		48	1.3	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Zinc	27		0.48	0.062	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Vanadium	15		0.095	0.0075	mg/Kg		04/29/15 11:56	04/29/15 22:29	1
Manganese	98		0.48	0.0098	mg/Kg		04/29/15 11:56	04/29/15 22:29	1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000078	mg/L		04/19/15 09:26	04/19/15 13:02	1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000078	mg/L		04/19/15 09:26	04/19/15 13:04	1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000078	mg/L		04/19/15 09:26	04/19/15 13:06	1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000078	mg/L		04/19/15 09:26	04/19/15 13:08	1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000078	mg/L		04/19/15 09:26	04/19/15 13:10	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: WBREF-B-SED
Date Collected: 04/06/15 11:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-1
Matrix: Sediment
Percent Solids: 70.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0080	mg/Kg	☼	04/28/15 09:05	04/29/15 11:45	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.020	J	0.022	0.0076	mg/Kg	☼	04/28/15 09:05	04/29/15 11:47	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.019	0.0064	mg/Kg	☼	04/28/15 09:05	04/29/15 11:49	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.019	0.0067	mg/Kg	☼	04/28/15 09:05	04/29/15 11:51	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.019	0.0063	mg/Kg	☼	04/28/15 09:05	04/29/15 11:53	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0071	mg/Kg	☼	04/28/15 09:05	04/29/15 11:55	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: SRM Sediment
Date Collected: 04/07/15 00:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-7
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.039		0.033	0.011	mg/Kg		04/28/15 09:05	04/29/15 11:57	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: WBREF-B-SED
Date Collected: 04/06/15 11:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	**NC**		0.0010	0.0010	NONE			04/27/15 11:55	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.23		0.0010	0.0010	NONE			04/27/15 11:55	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	0.0010	NONE			04/27/15 11:55	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	0.0010	NONE			04/27/15 11:55	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	0.0010	NONE			04/27/15 11:55	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	1.4		0.0010	0.0010	NONE			04/27/15 11:55	1

General Chemistry

Client Sample ID: WBREF-B-SED
Date Collected: 04/06/15 11:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**30**		0.10	0.10	%			04/09/15 13:16	1
Ammonia, distilled	**25**		6.9	4.4	mg/Kg	☼	04/29/15 13:17	04/30/15 11:26	1
Cyanide, Total	ND		0.36	0.12	mg/Kg	☼	04/15/15 12:00	04/15/15 13:17	1
Sulfide	**13**	**J**	43	8.6	mg/Kg	☼	04/10/15 10:45	04/10/15 14:06	1
Total Organic Carbon - Duplicates	**3900**		1400	130	mg/Kg	☼		04/16/15 08:37	1
Total Phosphorus as P	**400**		70	6.3	mg/Kg	☼	04/13/15 06:44	04/13/15 13:51	5
Nitrogen, Kjeldahl	**450**		220	74	mg/Kg	☼	04/16/15 13:40	04/17/15 11:44	1

General Chemistry

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**29**		0.10	0.10	%			04/09/15 13:16	1
Ammonia, distilled	**19**		6.8	4.4	mg/Kg	☼	04/29/15 13:17	04/30/15 11:32	1
Ignitability	**No**		1.0	1.0	No Unit			04/30/15 12:52	1
Cyanide, Total	ND		0.35	0.12	mg/Kg	☼	04/15/15 12:00	04/15/15 13:19	1
Halogens, Extractable Organic	ND		280	47	mg/Kg	☼	04/16/15 07:47	04/16/15 11:47	1
Sulfide	**37**	**J**	42	8.4	mg/Kg	☼	04/10/15 10:45	04/10/15 14:08	1
pH	**8.08**	**H**	0.100	0.100	SU			04/25/15 13:58	1
Free Liquid	**CNF**				NONE			04/14/15 09:39	1
Total Organic Carbon - Duplicates	**4800**		1400	120	mg/Kg	☼		04/16/15 09:21	1
Total Phosphorus as P	**360**		68	6.2	mg/Kg	☼	04/13/15 06:47	04/13/15 13:51	5
Nitrogen, Kjeldahl	**420**		220	76	mg/Kg	☼	04/16/15 13:40	04/17/15 11:45	1

General Chemistry

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**16**		0.10	0.10	%			04/09/15 13:16	1
Ammonia, distilled	ND		5.7	3.7	mg/Kg	☼	04/29/15 13:17	04/30/15 11:33	1
Ignitability	**No**		1.0	1.0	No Unit			04/30/15 12:55	1
Cyanide, Total	ND		0.30	0.097	mg/Kg	☼	04/15/15 12:00	04/15/15 13:21	1
Halogens, Extractable Organic	ND		240	40	mg/Kg	☼	04/16/15 07:49	04/16/15 11:56	1
Sulfide	ND		36	7.1	mg/Kg	☼	04/10/15 10:45	04/10/15 14:10	1
pH	**8.30**	**H**	0.100	0.100	SU			04/25/15 14:00	1
Free Liquid	**CNF**				NONE			04/14/15 09:39	1
Total Organic Carbon - Duplicates	ND		1200	110	mg/Kg	☼		04/16/15 09:36	1
Total Phosphorus as P	**100**		12	1.1	mg/Kg	☼	04/13/15 06:48	04/13/15 13:39	1
Nitrogen, Kjeldahl	**95**	**J**	170	57	mg/Kg	☼	04/16/15 13:40	04/17/15 11:46	1

General Chemistry

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**17**		0.10	0.10	%			04/09/15 13:16	1
Ammonia, distilled	ND		5.8	3.8	mg/Kg	☼	04/29/15 13:17	04/30/15 11:17	1
Ignitability	**No**		1.0	1.0	No Unit			04/30/15 12:58	1
Cyanide, Total	ND		0.30	0.098	mg/Kg	☼	04/15/15 12:00	04/15/15 13:23	1
Halogens, Extractable Organic	ND		230	40	mg/Kg	☼	04/16/15 07:50	04/16/15 12:00	1
Sulfide	**10**	**J**	36	7.2	mg/Kg	☼	04/12/15 09:15	04/12/15 11:21	1
pH	**8.36**	**H**	0.100	0.100	SU			04/25/15 14:02	1
Free Liquid	**CFL**				NONE			04/14/15 09:39	1
Total Organic Carbon - Duplicates	ND		1200	110	mg/Kg	☼		04/21/15 10:13	1
Total Phosphorus as P	**110**		12	1.1	mg/Kg	☼	04/13/15 06:49	04/13/15 13:39	1
Nitrogen, Kjeldahl	**63**	**J**	170	57	mg/Kg	☼	04/16/15 13:40	04/17/15 11:47	1

General Chemistry

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**14**		0.10	0.10	%			04/09/15 13:16	1
Ammonia, distilled	ND		5.5	3.6	mg/Kg	☼	04/29/15 13:17	04/30/15 11:19	1
Ignitability	**No**		1.0	1.0	No Unit			04/30/15 13:01	1
Cyanide, Total	ND		0.29	0.094	mg/Kg	☼	04/15/15 12:00	04/15/15 13:30	1
Halogens, Extractable Organic	ND		230	39	mg/Kg	☼	04/16/15 07:51	04/16/15 12:04	1
Sulfide	**13**	**J**	35	7.0	mg/Kg	☼	04/12/15 09:15	04/12/15 11:23	1
pH	**8.47**	**H**	0.100	0.100	SU			04/25/15 14:04	1
Free Liquid	**CNF**				NONE			04/14/15 09:39	1
Total Organic Carbon - Duplicates	ND		1200	100	mg/Kg	☼		04/21/15 10:29	1
Total Phosphorus as P	**59**		11	1.0	mg/Kg	☼	04/13/15 06:50	04/13/15 13:41	1
Nitrogen, Kjeldahl	ND		170	57	mg/Kg	☼	04/16/15 13:40	04/17/15 11:48	1

General Chemistry

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**23**		0.10	0.10	%			04/09/15 13:16	1
Ammonia, distilled	ND		6.5	4.2	mg/Kg	☼	04/29/15 13:17	04/30/15 11:20	1
Ignitability	**No**		1.0	1.0	No Unit			04/30/15 13:04	1
Cyanide, Total	ND		0.32	0.10	mg/Kg	☼	04/15/15 12:00	04/15/15 13:32	1
Halogens, Extractable Organic	ND		260	45	mg/Kg	☼	04/16/15 07:52	04/16/15 12:10	1
Sulfide	**21**	**J**	39	7.7	mg/Kg	☼	04/12/15 09:15	04/12/15 11:24	1
pH	**8.22**	**H**	0.100	0.100	SU			04/25/15 14:06	1
Free Liquid	**CNF**				NONE			04/14/15 09:39	1
Total Organic Carbon - Duplicates	**2100**	**^**	1300	110	mg/Kg	☼		04/21/15 10:55	1
Total Organic Carbon - Duplicates	**1600**	**H**	1300	110	mg/Kg	☼		04/23/15 11:56	1
Total Phosphorus as P	**290**		62	5.6	mg/Kg	☼	04/13/15 06:51	04/13/15 13:53	5
Nitrogen, Kjeldahl	**200**		180	61	mg/Kg	☼	04/16/15 13:40	04/17/15 11:49	1

General Chemistry - Soluble

Client Sample ID: WBREF-B-SED
Date Collected: 04/06/15 11:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-1
Matrix: Sediment
Percent Solids: 70.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.4	0.31	mg/Kg	☼		04/28/15 15:36	1

General Chemistry - Soluble

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.4	0.30	mg/Kg	☼		04/28/15 15:37	1

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42815-1

General Chemistry - Soluble

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.2	0.25	mg/Kg	☼		04/28/15 15:39	1

General Chemistry - Soluble

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.2	0.26	mg/Kg	☼		04/28/15 15:46	1

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42815-1

General Chemistry - Soluble

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.2	0.25	mg/Kg	☼		04/28/15 15:47	1

General Chemistry - Soluble

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.3	0.28	mg/Kg	☼		04/28/15 15:49	1

General Chemistry - SEM/AVS

Client Sample ID: WBREF-B-SED
Date Collected: 04/06/15 11:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-1
Matrix: Sediment
Percent Solids: 70.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		21	4.2	mg/Kg	☼	04/18/15 10:40	04/18/15 12:06	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.66	0.13	umol/g	☼	04/18/15 10:40	04/18/15 12:06	1

General Chemistry - SEM/AVS

Client Sample ID: TS-1-SED
Date Collected: 04/06/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-2
Matrix: Sediment
Percent Solids: 71.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	79		21	4.2	mg/Kg	☼	04/18/15 10:40	04/18/15 12:07	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	2.5		0.66	0.13	umol/g	☼	04/18/15 10:40	04/18/15 12:07	1

General Chemistry - SEM/AVS

Client Sample ID: TS-2ST-SED
Date Collected: 04/06/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-3
Matrix: Sediment
Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		18	3.6	mg/Kg	☼	04/18/15 10:40	04/18/15 12:09	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.55	0.11	umol/g	☼	04/18/15 10:40	04/18/15 12:09	1

General Chemistry - SEM/AVS

Client Sample ID: TS-2MT-SED
Date Collected: 04/07/15 10:45
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-4
Matrix: Sediment
Percent Solids: 83.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		18	3.6	mg/Kg	☼	04/18/15 10:40	04/18/15 12:10	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.56	0.11	umol/g	☼	04/18/15 10:40	04/18/15 12:10	1

General Chemistry - SEM/AVS

Client Sample ID: TS-2NT-SED
Date Collected: 04/07/15 14:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-5
Matrix: Sediment
Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		18	3.5	mg/Kg	☼	04/18/15 10:40	04/18/15 12:12	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.55	0.11	umol/g	☼	04/18/15 10:40	04/18/15 12:12	1

General Chemistry - SEM/AVS

Client Sample ID: TS-3ST-SED
Date Collected: 04/07/15 16:00
Date Received: 04/08/15 09:30

Lab Sample ID: 180-42815-6
Matrix: Sediment
Percent Solids: 77.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	8.1	J	19	3.9	mg/Kg	☼	04/18/15 10:40	04/18/15 12:13	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	0.25	J	0.61	0.12	umol/g	☼	04/18/15 10:40	04/18/15 12:13	1

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42815-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	RL	MDL	Units	Method
Benzene	5.0	0.68	ug/Kg	8260C
Ethylbenzene	5.0	0.64	ug/Kg	8260C
m-Xylene & p-Xylene	10	1.5	ug/Kg	8260C
o-Xylene	5.0	0.78	ug/Kg	8260C
Toluene	5.0	0.73	ug/Kg	8260C
Xylenes, Total	15	2.2	ug/Kg	8260C

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	RL	MDL	Units	Method
1,1-Dichloroethene	5.0	1.1	ug/L	8260C
1,2-Dichloroethane	5.0	0.96	ug/L	8260C
2-Butanone (MEK)	5.0	1.1	ug/L	8260C
Benzene	5.0	0.99	ug/L	8260C
Carbon tetrachloride	5.0	1.1	ug/L	8260C
Chlorobenzene	5.0	0.53	ug/L	8260C
Chloroform	5.0	1.0	ug/L	8260C
Tetrachloroethene	5.0	0.82	ug/L	8260C
Trichloroethene	5.0	0.80	ug/L	8260C
Vinyl chloride	5.0	1.3	ug/L	8260C

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
1,2,4-Trichlorobenzene	17	0.92	ug/Kg	8270D LL
1,2-Dichlorobenzene	17	1.7	ug/Kg	8270D LL
1,2-Diphenylhydrazine(as Azobenzene)	17	2.1	ug/Kg	8270D LL
1,3-Dichlorobenzene	17	1.3	ug/Kg	8270D LL
1,4-Dichlorobenzene	17	1.2	ug/Kg	8270D LL
1-Methylnaphthalene	3.4	0.36	ug/Kg	8270D LL
2,2'-oxybis[1-chloropropane]	3.4	0.36	ug/Kg	8270D LL
2,4,6-Trichlorophenol	17	2.5	ug/Kg	8270D LL
2,4-Dichlorophenol	3.4	0.33	ug/Kg	8270D LL
2,4-Dimethylphenol	17	2.6	ug/Kg	8270D LL
2,4-Dinitrophenol	85	20	ug/Kg	8270D LL
2,4-Dinitrotoluene	17	1.3	ug/Kg	8270D LL
2,6-Dinitrotoluene	17	1.7	ug/Kg	8270D LL
2-Chloronaphthalene	3.4	0.35	ug/Kg	8270D LL
2-Chlorophenol	17	1.4	ug/Kg	8270D LL
2-Methylnaphthalene	3.4	0.30	ug/Kg	8270D LL
2-Methylphenol	17	1.2	ug/Kg	8270D LL
2-Nitrophenol	17	1.8	ug/Kg	8270D LL
3,3'-Dichlorobenzidine	17	1.8	ug/Kg	8270D LL
4,6-Dinitro-2-methylphenol	85	6.7	ug/Kg	8270D LL
4-Bromophenyl phenyl ether	17	1.5	ug/Kg	8270D LL
4-Chloro-3-methylphenol	17	1.5	ug/Kg	8270D LL
4-Chlorophenyl phenyl ether	17	1.9	ug/Kg	8270D LL
4-Nitrophenol	85	6.1	ug/Kg	8270D LL
Acenaphthene	3.4	0.32	ug/Kg	8270D LL
Acenaphthylene	3.4	0.38	ug/Kg	8270D LL
Anthracene	3.4	0.33	ug/Kg	8270D LL
Benzidine	340	70	ug/Kg	8270D LL

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	RL	MDL	Units	Method
Benzo[a]anthracene	3.4	0.42	ug/Kg	8270D LL
Benzo[a]pyrene	3.4	0.33	ug/Kg	8270D LL
Benzo[b]fluoranthene	3.4	0.52	ug/Kg	8270D LL
Benzo[g,h,i]perylene	3.4	0.33	ug/Kg	8270D LL
Benzo[k]fluoranthene	3.4	0.67	ug/Kg	8270D LL
Benzoic acid	85	6.9	ug/Kg	8270D LL
Benzyl alcohol	17	2.0	ug/Kg	8270D LL
Bis(2-chloroethoxy)methane	17	1.1	ug/Kg	8270D LL
Bis(2-chloroethyl)ether	3.4	0.45	ug/Kg	8270D LL
Bis(2-ethylhexyl) phthalate	33	2.7	ug/Kg	8270D LL
Butyl benzyl phthalate	17	2.3	ug/Kg	8270D LL
Chrysene	3.4	0.40	ug/Kg	8270D LL
Dibenz(a,h)anthracene	3.4	0.37	ug/Kg	8270D LL
Dibenzofuran	17	1.6	ug/Kg	8270D LL
Diethyl phthalate	17	1.8	ug/Kg	8270D LL
Dimethyl phthalate	17	1.8	ug/Kg	8270D LL
Di-n-butyl phthalate	17	2.1	ug/Kg	8270D LL
Di-n-octyl phthalate	17	1.8	ug/Kg	8270D LL
Fluoranthene	3.4	0.36	ug/Kg	8270D LL
Fluorene	3.4	0.44	ug/Kg	8270D LL
Hexachlorobenzene	3.4	0.36	ug/Kg	8270D LL
Hexachlorobutadiene	3.4	0.37	ug/Kg	8270D LL
Hexachlorocyclopentadiene	17	1.8	ug/Kg	8270D LL
Hexachloroethane	17	1.2	ug/Kg	8270D LL
Indeno[1,2,3-cd]pyrene	3.4	0.34	ug/Kg	8270D LL
Isophorone	17	1.3	ug/Kg	8270D LL
Methylphenol, 3 & 4	17	1.6	ug/Kg	8270D LL
Naphthalene	3.4	0.29	ug/Kg	8270D LL
Nitrobenzene	33	1.4	ug/Kg	8270D LL
N-Nitrosodimethylamine	17	1.4	ug/Kg	8270D LL
N-Nitrosodi-n-propylamine	3.4	0.39	ug/Kg	8270D LL
N-Nitrosodiphenylamine	17	1.5	ug/Kg	8270D LL
Pentachlorophenol	17	1.5	ug/Kg	8270D LL
Phenanthrene	3.4	0.53	ug/Kg	8270D LL
Phenol	3.4	0.39	ug/Kg	8270D LL
Pyrene	3.4	0.34	ug/Kg	8270D LL

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	RL	MDL	Units	Method
1,4-Dichlorobenzene	0.050	0.012	mg/L	8270D
2,4,5-Trichlorophenol	0.050	0.013	mg/L	8270D
2,4,6-Trichlorophenol	0.050	0.011	mg/L	8270D
2,4-Dinitrotoluene	0.050	0.010	mg/L	8270D
2-Methylphenol	0.050	0.014	mg/L	8270D
Hexachlorobenzene	0.050	0.011	mg/L	8270D
Hexachlorobutadiene	0.050	0.013	mg/L	8270D
Hexachloroethane	0.050	0.013	mg/L	8270D
Methylphenol, 3 & 4	0.050	0.027	mg/L	8270D
Nitrobenzene	0.050	0.013	mg/L	8270D
Pentachlorophenol	0.25	0.022	mg/L	8270D
Pyridine	0.10	0.0083	mg/L	8270D

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42815-1

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Analyte	RL	MDL	Units	Method
C6-C10	100	46	ug/Kg	8015D

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	RL	MDL	Units	Method
C10-C34	17	4.1	mg/Kg	8015D

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.042	0.0025	ug/Kg	8081B_LL
2,4'-DDE	0.042	0.0039	ug/Kg	8081B_LL
2,4'-DDT	0.042	0.0036	ug/Kg	8081B_LL
4,4'-DDD	0.042	0.0055	ug/Kg	8081B_LL
4,4'-DDE	0.042	0.0063	ug/Kg	8081B_LL
4,4'-DDT	0.042	0.0063	ug/Kg	8081B_LL
Aldrin	0.042	0.0075	ug/Kg	8081B_LL
alpha-BHC	0.042	0.0068	ug/Kg	8081B_LL
beta-BHC	0.042	0.011	ug/Kg	8081B_LL
Chlordane (technical)	0.42	0.018	ug/Kg	8081B_LL
Chlorobenside	0.042	0.022	ug/Kg	8081B_LL
DCPA	0.042	0.0064	ug/Kg	8081B_LL
delta-BHC	0.042	0.0064	ug/Kg	8081B_LL
Dieldrin	0.042	0.0070	ug/Kg	8081B_LL
Endosulfan I	0.042	0.0079	ug/Kg	8081B_LL
Endosulfan II	0.042	0.0074	ug/Kg	8081B_LL
Endosulfan sulfate	0.042	0.0044	ug/Kg	8081B_LL
Endrin	0.042	0.0081	ug/Kg	8081B_LL
Endrin aldehyde	0.042	0.0081	ug/Kg	8081B_LL
gamma-BHC (Lindane)	0.042	0.0073	ug/Kg	8081B_LL
Heptachlor	0.042	0.0093	ug/Kg	8081B_LL
Heptachlor epoxide	0.042	0.0081	ug/Kg	8081B_LL
Methoxychlor	0.083	0.0087	ug/Kg	8081B_LL
Mirex	0.042	0.0039	ug/Kg	8081B_LL
Toxaphene	1.7	0.28	ug/Kg	8081B_LL

Method: 8081B - Organochlorine Pesticides (GC) - TCLP

Analyte	RL	MDL	Units	Method
Chlordane (technical)	0.0050	0.00066	mg/L	8081B
Endrin	0.00050	0.00039	mg/L	8081B
gamma-BHC (Lindane)	0.00050	0.00032	mg/L	8081B
Heptachlor	0.00050	0.00040	mg/L	8081B
Heptachlor epoxide	0.00050	0.00039	mg/L	8081B
Methoxychlor	0.0010	0.00037	mg/L	8081B
Toxaphene	0.020	0.0074	mg/L	8081B

Method: 8082A - PCB Congeners (GC)

Analyte	RL	MDL	Units	Method
DCB Decachlorobiphenyl	1.0	0.070	ug/Kg	8082A
PCB-101	1.0	0.12	ug/Kg	8082A

Method: 8082A - PCB Congeners (GC) (Continued)

Analyte	RL	MDL	Units	Method
PCB-105	1.0	0.082	ug/Kg	8082A
PCB-118	1.0	0.090	ug/Kg	8082A
PCB-126	1.0	0.33	ug/Kg	8082A
PCB-128	1.0	0.11	ug/Kg	8082A
PCB-138	1.0	0.084	ug/Kg	8082A
PCB-153	1.0	0.086	ug/Kg	8082A
PCB-156	1.0	0.067	ug/Kg	8082A
PCB-169	1.0	0.064	ug/Kg	8082A
PCB-170	1.0	0.076	ug/Kg	8082A
PCB-18	1.0	0.28	ug/Kg	8082A
PCB-180	1.0	0.086	ug/Kg	8082A
PCB-183	1.0	0.22	ug/Kg	8082A
PCB-184	1.0	0.090	ug/Kg	8082A
PCB-187	1.0	0.12	ug/Kg	8082A
PCB-195	1.0	0.20	ug/Kg	8082A
PCB-206	1.0	0.070	ug/Kg	8082A
PCB-28	1.0	0.14	ug/Kg	8082A
PCB-44	1.0	0.11	ug/Kg	8082A
PCB-49	1.0	0.21	ug/Kg	8082A
PCB-52	1.0	0.19	ug/Kg	8082A
PCB-66	1.0	0.090	ug/Kg	8082A
PCB-77	1.0	0.11	ug/Kg	8082A
PCB-8	1.0	0.33	ug/Kg	8082A
PCB-87	1.0	0.10	ug/Kg	8082A

Method: 8082A - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	RL	MDL	Units	Method
PCB-1016	0.42	0.085	ug/Kg	8082A
PCB-1221	0.42	0.10	ug/Kg	8082A
PCB-1232	0.42	0.14	ug/Kg	8082A
PCB-1242	0.42	0.11	ug/Kg	8082A
PCB-1248	0.42	0.10	ug/Kg	8082A
PCB-1254	0.42	0.099	ug/Kg	8082A
PCB-1260	0.42	0.091	ug/Kg	8082A

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
Azinphos-methyl	17	1.6	ug/Kg	8141B
Bolstar	17	1.6	ug/Kg	8141B
Chlorpyrifos	17	1.6	ug/Kg	8141B
Coumaphos	17	1.6	ug/Kg	8141B
Demeton, Total	33	3.0	ug/Kg	8141B
Diazinon	17	1.6	ug/Kg	8141B
Dichlorvos	17	1.5	ug/Kg	8141B
Dimethoate	17	1.6	ug/Kg	8141B
Disulfoton	17	1.8	ug/Kg	8141B
EPN	17	1.4	ug/Kg	8141B
Famphur	17	1.6	ug/Kg	8141B
Fensulfothion	17	1.3	ug/Kg	8141B
Fenthion	17	1.6	ug/Kg	8141B

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42815-1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
Malathion	17	1.6	ug/Kg	8141B
Methyl parathion	17	1.5	ug/Kg	8141B
Mevinphos	17	1.6	ug/Kg	8141B
Mocap	17	1.6	ug/Kg	8141B
O,O,O-Triethyl phosphorothioate	17	3.2	ug/Kg	8141B
Parathion	17	1.3	ug/Kg	8141B
Phorate	17	1.7	ug/Kg	8141B
Ronnel	17	1.6	ug/Kg	8141B
Stirophos	17	1.7	ug/Kg	8141B
Sulfotepp	17	1.6	ug/Kg	8141B
Thionazin	17	1.6	ug/Kg	8141B
Tokuthion	17	1.6	ug/Kg	8141B
Trichloronate	17	1.9	ug/Kg	8141B

Method: 8151A - Herbicides (GC) - TCLP

Analyte	RL	MDL	Units	Method
2,4-D	0.040	0.0045	mg/L	8151A
Silvex (2,4,5-TP)	0.010	0.0011	mg/L	8151A

Method: 6010B - Metals (ICP) - SEM/AVS

Analyte	RL	MDL	Units	Method
Cadmium SEM	0.13	0.0041	mg/Kg	6010B
Cadmium SEM	0.0011	0.000036	umol/g	6010B
Copper SEM	0.63	0.056	mg/Kg	6010B
Copper SEM	0.0098	0.00088	umol/g	6010B
Lead SEM	0.25	0.050	mg/Kg	6010B
Lead SEM	0.0012	0.00024	umol/g	6010B
Nickel SEM	1.0	0.029	mg/Kg	6010B
Nickel SEM	0.017	0.00049	umol/g	6010B
Zinc SEM	2.5	0.18	mg/Kg	6010B
Zinc SEM	0.038	0.0028	umol/g	6010B

Method: 6010C - Metals (ICP) - TCLP

Analyte	RL	MDL	Units	Method
Arsenic	0.050	0.0030	mg/L	6010C
Barium	0.20	0.00019	mg/L	6010C
Cadmium	0.050	0.00017	mg/L	6010C
Chromium	0.050	0.0010	mg/L	6010C
Lead	0.050	0.0015	mg/L	6010C
Selenium	0.050	0.0017	mg/L	6010C
Silver	0.050	0.00027	mg/L	6010C

Method: 6020A - Metals (ICP/MS)

Analyte	RL	MDL	Units	Method
Aluminum	1.5	0.14	mg/Kg	6020A
Antimony	0.10	0.0013	mg/Kg	6020A
Arsenic	0.050	0.0091	mg/Kg	6020A
Barium	0.50	0.0054	mg/Kg	6020A

Method: 6020A - Metals (ICP/MS) (Continued)

Analyte	RL	MDL	Units	Method
Beryllium	0.050	0.0038	mg/Kg	6020A
Cadmium	0.050	0.0035	mg/Kg	6020A
Calcium	25	0.66	mg/Kg	6020A
Chromium	0.10	0.0031	mg/Kg	6020A
Cobalt	0.025	0.00075	mg/Kg	6020A
Copper	0.10	0.017	mg/Kg	6020A
Iron	2.5	0.18	mg/Kg	6020A
Lead	0.050	0.0019	mg/Kg	6020A
Magnesium	25	0.094	mg/Kg	6020A
Manganese	0.25	0.0052	mg/Kg	6020A
Nickel	0.050	0.0057	mg/Kg	6020A
Potassium	25	0.68	mg/Kg	6020A
Selenium	0.25	0.025	mg/Kg	6020A
Silver	0.050	0.0020	mg/Kg	6020A
Sodium	25	0.68	mg/Kg	6020A
Thallium	0.050	0.0010	mg/Kg	6020A
Vanadium	0.050	0.0040	mg/Kg	6020A
Zinc	0.25	0.032	mg/Kg	6020A

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	RL	MDL	Units	Method
Mercury	0.00020	0.000078	mg/L	7470A

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	RL	MDL	Units	Method
Mercury	0.017	0.0057	mg/Kg	7471B

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	RL	MDL	Units	Method
SEM/AVS Ratio	0.0010	0.0010	NONE	SEM

General Chemistry

Analyte	RL	MDL	Units	Method
Percent Moisture	0.10	0.10	%	2540G
Ammonia, distilled	5.0	3.2	mg/Kg	350.1
Ignitability	1.0	1.0	No Unit	7.1.2
Cyanide, Total	0.25	0.082	mg/Kg	9014
Halogens, Extractable Organic	200	34	mg/Kg	9023
Sulfide	30	6.0	mg/Kg	9034
pH	0.100	0.100	SU	9045D
Total Organic Carbon - Duplicates	1000	89	mg/Kg	Lloyd Kahn
Total Phosphorus as P	10	0.91	mg/Kg	SM4500 P E-1999
Nitrogen, Kjeldahl	150	51	mg/Kg	SM4500_NH3_E

General Chemistry - Soluble

Analyte	RL	MDL	Units	Method
Nitrate Nitrite as N	0.10	0.022	mg/Kg	353.2

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42815-1

General Chemistry - SEM/AVS

Analyte	RL	MDL	Units	Method
Acid Volatile Sulfides (AVS)	30	6.0	mg/Kg	9034
Acid Volatile Sulfides (AVS)	0.94	0.19	umol/g	9034

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42815-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	12DCE (52-124)	BFB (63-120)	DBFM (68-121)	TOL (72-127)
180-42815-2	TS-1-SED	85	93	94	98
180-42815-2 MS	TS-1-SED	94	97	98	98
180-42815-2 MSD	TS-1-SED	92	100	96	102
180-42815-3	TS-2ST-SED	84	97	92	105
180-42815-4	TS-2MT-SED	81	97	92	102
180-42815-5	TS-2NT-SED	92	101	98	103
180-42815-6	TS-3ST-SED	90	98	99	105
LCS 180-138103/2-A	Lab Control Sample	95	99	95	98
MB 180-138103/1-A	Method Blank	95	96	97	96

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	12DCE (62-123)	BFB (75-120)	DBFM (80-120)	TOL (80-120)
LCS 180-139036/12	Lab Control Sample	104	96	101	94

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Sediment **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	12DCE (62-123)	BFB (75-120)	DBFM (80-120)	TOL (80-120)
180-42815-2	TS-1-SED	107	91	99	103
180-42815-2 MS	TS-1-SED	110	96	99	95
180-42815-2 MSD	TS-1-SED	107	97	102	98
180-42815-3	TS-2ST-SED	113	93	102	104
180-42815-4	TS-2MT-SED	115	94	104	101
180-42815-5	TS-2NT-SED	120	95	104	104
180-42815-6	TS-3ST-SED	103	88	96	102
LB 180-138945/15-A	Method Blank	99	85	93	97

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42815-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Sediment — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(35-115)	(20-110)	(19-138)	(39-115)	(30-118)	(30-143)
LCS 180-138775/2-A	Lab Control Sample	76	78	72	77	79	76
LCSD 180-138775/3-A	Lab Control Sample Dup	76	85	73	77	86	76
MB 180-138775/1-A	Method Blank	73	78	66	74	78	74

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Sediment — **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(35-115)	(20-110)	(19-138)	(39-115)	(30-118)	(30-143)
180-42815-2	TS-1-SED	68	77	62	71	78	72
180-42815-3	TS-2ST-SED	77	82	67	81	82	79
180-42815-4	TS-2MT-SED	83	87	68	81	84	83
180-42815-5	TS-2NT-SED	80	77	64	73	77	77
180-42815-6	TS-3ST-SED	72	78	62	77	81	74
LB 180-138579/11-D	Method Blank	78	80	70	77	80	76

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Sediment — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(38-103)	(34-103)	(20-113)	(41-108)	(35-103)	(28-109)
180-42815-1	WBREF-B-SED	62	64	50	62	66	57
180-42815-2	TS-1-SED	64	71	49	65	73	52
180-42815-3	TS-2ST-SED	76	80	59	75	84	68
180-42815-4	TS-2MT-SED	63	64	52	61	67	57
180-42815-5	TS-2NT-SED	58	63	41	58	64	53
180-42815-6	TS-3ST-SED	54	57	40	53	62	53
180-42815-7	SRM Sediment	64	65	58	62	77	52
LCS 180-138970/2-A	Lab Control Sample	54	56	50	52	57	51
MB 180-138970/1-A	Method Blank	56	61	50	56	62	53

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		TFT2
Lab Sample ID	Client Sample ID	(40-139)
180-42815-2	TS-1-SED	77
180-42815-3	TS-2ST-SED	81
180-42815-4	TS-2MT-SED	79
180-42815-5	TS-2NT-SED	82
180-42815-6	TS-3ST-SED	75
180-42815-6 MS	TS-3ST-SED	28 X
180-42815-6 MSD	TS-3ST-SED	52
LCS 240-176195/2-A	Lab Control Sample	104
MB 240-176195/1-A	Method Blank	83

Surrogate Legend

TFT = Trifluorotoluene (Surr)

Method: 8015D - Diesel Range Organics (DRO) (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		OTPH
Lab Sample ID	Client Sample ID	(40-160)
180-42815-2	TS-1-SED	84
180-42815-3	TS-2ST-SED	76
180-42815-4	TS-2MT-SED	82
180-42815-5	TS-2NT-SED	75
180-42815-6	TS-3ST-SED	75
LCS 240-176306/24-A	Lab Control Sample	79
MB 240-176306/23-A	Method Blank	73

Surrogate Legend

OTPH = o-Terphenyl

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(45-140)	(45-140)	(45-140)	(45-140)
LCS 180-138774/2-A	Lab Control Sample	89	83	94	90
LCSD 180-138774/3-A	Lab Control Sample Dup	89	82	94	87
MB 180-138774/1-A	Method Blank	73	72	77	77

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42815-1

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Sediment **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(45-140)	(45-140)	(45-140)	(45-140)
180-42815-2	TS-1-SED	82	77	90	88
180-42815-3	TS-2ST-SED	89	80	93	90
180-42815-4	TS-2MT-SED	86	80	91	90
180-42815-5	TS-2NT-SED	89	82	91	90
180-42815-6	TS-3ST-SED	87	81	90	87
LB 180-138579/11-C	Method Blank	83	76	90	88

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(10-140)	(10-140)	(10-140)	(10-140)
180-42815-1	WBREF-B-SED	60	65	88	84
180-42815-2	TS-1-SED	47	52	63	60
180-42815-3	TS-2ST-SED	0.5 X	0.5 X	2 X	2 X
180-42815-3 - RE	TS-2ST-SED	48	56	61	58
180-42815-3 - RA	TS-2ST-SED	46	59	57	70
180-42815-4	TS-2MT-SED	33	36	63	62
180-42815-5	TS-2NT-SED	58	63	70	67
180-42815-6	TS-3ST-SED	57	62	76	73
180-42815-7	SRM Sediment	331 X	286 X	277 X	356 X
180-42815-7 - DL	SRM Sediment	270 X	176 X	216 X	332 X
LCS 180-138973/2-B	Lab Control Sample	83	77	82	81
LCS 180-139823/2-B	Lab Control Sample	59	71	63	60
MB 180-138973/1-B	Method Blank	75	73	76	77
MB 180-139823/1-B	Method Blank	81	80	94	89

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
180-42815-1	WBREF-B-SED	84	74	87	87
180-42815-2	TS-1-SED	53	46	83	80
180-42815-3	TS-2ST-SED	81	71	85	84
180-42815-3 MS	TS-2ST-SED	75	66	79	77
180-42815-3 MSD	TS-2ST-SED	79	70	85	82
180-42815-4	TS-2MT-SED	76	67	82	77
180-42815-5	TS-2NT-SED	74	65	79	76
180-42815-6	TS-3ST-SED	77	66	81	78

Method: 8082A - PCB Congeners (GC) (Continued)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
180-42815-7	SRM Sediment	0 X D	0 X D	0 X D	0 X D
180-42815-7 - DL	SRM Sediment	0 X D	0 X D	0 X D	0 X D
LCS 180-138101/2-C	Lab Control Sample	82	71	94	93
LCS 180-139100/2-C	Lab Control Sample	78	78	85	89
MB 180-138101/1-C	Method Blank	81	70	92	89
MB 180-139100/1-C	Method Blank	79	75	85	89

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(20-150)	(20-150)	(30-150)	(30-150)
180-42815-2	TS-1-SED	80	81	70	75
180-42815-3	TS-2ST-SED	73	70	67	79
180-42815-4	TS-2MT-SED	79	76	76	75
180-42815-5	TS-2NT-SED	85	83	88	95
180-42815-6	TS-3ST-SED	58	56	75	75
LCS 180-138974/2-C	Lab Control Sample	90	88	93	91
MB 180-138974/1-C	Method Blank	85	83	82	89

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene (Surr)

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(47-130)	(47-130)	(55-125)	(55-125)
180-42815-1	WBREF-B-SED	81	79	82	85
180-42815-2	TS-1-SED	78	75	77	79
180-42815-3	TS-2ST-SED	82	79	84	86
180-42815-4	TS-2MT-SED	87	85	91	93
180-42815-5	TS-2NT-SED	76	73	75	77
180-42815-6	TS-3ST-SED	72	69	74	75
LCS 180-138256/2-A	Lab Control Sample	95	95	96	100
MB 180-138256/1-A	Method Blank	69	67	84	86

Surrogate Legend

TBPH = Tributyl phosphate
TPP = Triphenylphosphate

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42815-1

Method: 8151A - Herbicides (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	DCPA1 (32-140)	DCPA2 (32-140)
LCS 180-138788/2-A	Lab Control Sample	86	73
LCSD 180-138788/3-A	Lab Control Sample Dup	80	65
MB 180-138788/1-A	Method Blank	61	51

Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

Method: 8151A - Herbicides (GC)

Matrix: Sediment **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	DCPA1 (32-140)	DCPA2 (32-140)
180-42815-2	TS-1-SED	76	63
180-42815-3	TS-2ST-SED	82	67
180-42815-4	TS-2MT-SED	82	69
180-42815-5	TS-2NT-SED	72	60
180-42815-6	TS-3ST-SED	86	72
LB 180-138579/11-E	Method Blank	66	57

Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 180-138103/1-A
Matrix: Sediment
Analysis Batch: 138098

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138103

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		5.0	0.73	ug/Kg		04/10/15 03:30	04/10/15 05:47	1
Benzene	ND		5.0	0.68	ug/Kg		04/10/15 03:30	04/10/15 05:47	1
Ethylbenzene	ND		5.0	0.64	ug/Kg		04/10/15 03:30	04/10/15 05:47	1
Xylenes, Total	ND		15	2.2	ug/Kg		04/10/15 03:30	04/10/15 05:47	1
m-Xylene & p-Xylene	ND		10	1.5	ug/Kg		04/10/15 03:30	04/10/15 05:47	1
o-Xylene	ND		5.0	0.78	ug/Kg		04/10/15 03:30	04/10/15 05:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*52 - 124*	*04/10/15 03:30*	*04/10/15 05:47*	*1*
4-Bromofluorobenzene (Surr)	*96*		*63 - 120*	*04/10/15 03:30*	*04/10/15 05:47*	*1*
Dibromofluoromethane (Surr)	*97*		*68 - 121*	*04/10/15 03:30*	*04/10/15 05:47*	*1*
Toluene-d8 (Surr)	*96*		*72 - 127*	*04/10/15 03:30*	*04/10/15 05:47*	*1*

Lab Sample ID: LCS 180-138103/2-A
Matrix: Sediment
Analysis Batch: 138098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138103

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	40.0	41.0		ug/Kg		103	78 - 124
Benzene	40.0	39.9		ug/Kg		100	77 - 120
Ethylbenzene	40.0	40.3		ug/Kg		101	78 - 125
Xylenes, Total	80.0	77.9		ug/Kg		97	83 - 126
m-Xylene & p-Xylene	40.0	39.0		ug/Kg		98	75 - 126
o-Xylene	40.0	38.9		ug/Kg		97	83 - 127

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*52 - 124*
4-Bromofluorobenzene (Surr)	*99*		*63 - 120*
Dibromofluoromethane (Surr)	*95*		*68 - 121*
Toluene-d8 (Surr)	*98*		*72 - 127*

Lab Sample ID: 180-42815-2 MS
Matrix: Sediment
Analysis Batch: 138098

Client Sample ID: TS-1-SED
Prep Type: Total/NA
Prep Batch: 138103

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	ND		56.3	59.2		ug/Kg	☼	105	78 - 124
Benzene	ND		56.3	57.9		ug/Kg	☼	103	77 - 120
Ethylbenzene	ND		56.3	58.6		ug/Kg	☼	104	78 - 125
Xylenes, Total	ND		113	114		ug/Kg	☼	101	83 - 126
m-Xylene & p-Xylene	ND		56.3	56.8		ug/Kg	☼	101	75 - 126
o-Xylene	ND		56.3	56.8		ug/Kg	☼	101	83 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*52 - 124*
4-Bromofluorobenzene (Surr)	*97*		*63 - 120*
Dibromofluoromethane (Surr)	*98*		*68 - 121*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 180-42815-2 MS
Matrix: Sediment
Analysis Batch: 138098

Client Sample ID: TS-1-SED
Prep Type: Total/NA
Prep Batch: 138103

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	*98*		*72 - 127*

Lab Sample ID: 180-42815-2 MSD
Matrix: Sediment
Analysis Batch: 138098

Client Sample ID: TS-1-SED
Prep Type: Total/NA
Prep Batch: 138103

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	ND		56.3	59.4		ug/Kg	☼	106	78 - 124	0	21
Benzene	ND		56.3	57.1		ug/Kg	☼	101	77 - 120	1	20
Ethylbenzene	ND		56.3	57.7		ug/Kg	☼	103	78 - 125	2	21
Xylenes, Total	ND		113	118		ug/Kg	☼	105	83 - 126	4	20
m-Xylene & p-Xylene	ND		56.3	58.9		ug/Kg	☼	105	75 - 126	4	21
o-Xylene	ND		56.3	59.3		ug/Kg	☼	105	83 - 127	4	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*92*		*52 - 124*
4-Bromofluorobenzene (Surr)	*100*		*63 - 120*
Dibromofluoromethane (Surr)	*96*		*68 - 121*
Toluene-d8 (Surr)	*102*		*72 - 127*

Lab Sample ID: LCS 180-139036/12
Matrix: Sediment
Analysis Batch: 139036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	40.0	44.5		ug/L		111	63 - 140
2-Butanone (MEK)	40.0	19.4		ug/L		48	31 - 139
Benzene	40.0	43.0		ug/L		108	80 - 120
Carbon tetrachloride	40.0	48.7		ug/L		122	63 - 139
Chlorobenzene	40.0	37.7		ug/L		94	83 - 120
Chloroform	40.0	43.8		ug/L		110	77 - 119
Tetrachloroethene	40.0	43.6		ug/L		109	78 - 126
Trichloroethene	40.0	41.7		ug/L		104	80 - 120
Vinyl chloride	40.0	42.9		ug/L		107	57 - 128
1,1-Dichloroethene	40.0	67.9	*	ug/L		170	69 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*104*		*62 - 123*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*94*		*80 - 120*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 180-138945/15-A
Matrix: Sediment
Analysis Batch: 139036

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		50	9.6	ug/L			04/20/15 12:01	1
2-Butanone (MEK)	ND		50	11	ug/L			04/20/15 12:01	1
Benzene	ND		50	9.9	ug/L			04/20/15 12:01	1
Carbon tetrachloride	ND		50	11	ug/L			04/20/15 12:01	1
Chlorobenzene	ND		50	5.3	ug/L			04/20/15 12:01	1
Chloroform	ND		50	10	ug/L			04/20/15 12:01	1
Tetrachloroethene	ND		50	8.2	ug/L			04/20/15 12:01	1
Trichloroethene	ND		50	8.0	ug/L			04/20/15 12:01	1
Vinyl chloride	ND		50	13	ug/L			04/20/15 12:01	1
1,1-Dichloroethene	ND		50	11	ug/L			04/20/15 12:01	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*62 - 123*		*04/20/15 12:01*	*1*
4-Bromofluorobenzene (Surr)	*85*		*75 - 120*		*04/20/15 12:01*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*04/20/15 12:01*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*04/20/15 12:01*	*1*

Lab Sample ID: 180-42815-2 MS
Matrix: Sediment
Analysis Batch: 139036

Client Sample ID: TS-1-SED
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	ND		1600	1930		ug/L		121	63 - 140
2-Butanone (MEK)	ND		1600	796		ug/L		50	31 - 139
Benzene	ND		1600	1800		ug/L		113	80 - 120
Carbon tetrachloride	ND		1600	2100		ug/L		131	63 - 139
Chlorobenzene	ND		1600	1550		ug/L		97	83 - 120
Chloroform	ND		1600	1840		ug/L		115	77 - 119
Tetrachloroethene	ND		1600	1850		ug/L		116	78 - 126
Trichloroethene	ND		1600	1730		ug/L		108	80 - 120
Vinyl chloride	ND		1600	1880		ug/L		117	57 - 128
1,1-Dichloroethene	ND	F1 *	1600	2830	F1	ug/L		177	69 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*110*		*62 - 123*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: 180-42815-2 MSD
Matrix: Sediment
Analysis Batch: 139036

Client Sample ID: TS-1-SED
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	ND		1600	1830		ug/L		114	63 - 140	6	25
2-Butanone (MEK)	ND		1600	773		ug/L		48	31 - 139	3	35
Benzene	ND		1600	1840		ug/L		115	80 - 120	2	20

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 180-42815-2 MSD
Matrix: Sediment
Analysis Batch: 139036

Client Sample ID: TS-1-SED
Prep Type: TCLP

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon tetrachloride	ND		1600	2080		ug/L		130	63 - 139	1	25
Chlorobenzene	ND		1600	1530		ug/L		96	83 - 120	1	20
Chloroform	ND		1600	1840		ug/L		115	77 - 119	0	20
Tetrachloroethene	ND		1600	1870		ug/L		117	78 - 126	1	25
Trichloroethene	ND		1600	1710		ug/L		107	80 - 120	1	20
Vinyl chloride	ND		1600	1840		ug/L		115	57 - 128	2	26
1,1-Dichloroethene	ND	F1 *	1600	2880	F1	ug/L		180	69 - 127	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*62 - 123*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 180-138775/1-A
Matrix: Sediment
Analysis Batch: 138813

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138775

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.012	mg/L		04/16/15 11:45	04/17/15 08:08	1
2,4,5-Trichlorophenol	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 08:08	1
2,4,6-Trichlorophenol	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 08:08	1
2,4-Dinitrotoluene	ND		0.050	0.010	mg/L		04/16/15 11:45	04/17/15 08:08	1
2-Methylphenol	ND		0.050	0.014	mg/L		04/16/15 11:45	04/17/15 08:08	1
Methylphenol, 3 & 4	ND		0.050	0.027	mg/L		04/16/15 11:45	04/17/15 08:08	1
Hexachlorobenzene	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 08:08	1
Hexachlorobutadiene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 08:08	1
Hexachloroethane	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 08:08	1
Nitrobenzene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 08:08	1
Pentachlorophenol	ND		0.25	0.022	mg/L		04/16/15 11:45	04/17/15 08:08	1
Pyridine	ND		0.10	0.0083	mg/L		04/16/15 11:45	04/17/15 08:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*35 - 115*	*04/16/15 11:45*	*04/17/15 08:08*	*1*
2-Fluorophenol (Surr)	*78*		*20 - 110*	*04/16/15 11:45*	*04/17/15 08:08*	*1*
2,4,6-Tribromophenol (Surr)	*66*		*19 - 138*	*04/16/15 11:45*	*04/17/15 08:08*	*1*
Nitrobenzene-d5 (Surr)	*74*		*39 - 115*	*04/16/15 11:45*	*04/17/15 08:08*	*1*
Phenol-d5 (Surr)	*78*		*30 - 118*	*04/16/15 11:45*	*04/17/15 08:08*	*1*
Terphenyl-d14 (Surr)	*74*		*30 - 143*	*04/16/15 11:45*	*04/17/15 08:08*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 180-138775/2-A
Matrix: Sediment
Analysis Batch: 138813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138775

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dichlorobenzene			0.250	0.173		mg/L		69	37 - 115		
2,4,5-Trichlorophenol			0.250	0.181		mg/L		73	35 - 115		
2,4,6-Trichlorophenol			0.250	0.196		mg/L		78	40 - 115		
2,4-Dinitrotoluene			0.250	0.156		mg/L		62	40 - 115		
2-Methylphenol			0.250	0.189		mg/L		75	43 - 115		
Methylphenol, 3 & 4			0.500	0.341		mg/L		68	30 - 121		
Hexachlorobenzene			0.250	0.166		mg/L		66	45 - 115		
Hexachlorobutadiene			0.250	0.183		mg/L		73	42 - 115		
Hexachloroethane			0.250	0.172		mg/L		69	25 - 106		
Nitrobenzene			0.250	0.171		mg/L		68	40 - 115		
Pentachlorophenol			0.250	0.0679	J	mg/L		27	16 - 140		
Pyridine			0.250	0.178		mg/L		71	22 - 105		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*76*		*35 - 115*
2-Fluorophenol (Surr)	*78*		*20 - 110*
2,4,6-Tribromophenol (Surr)	*72*		*19 - 138*
Nitrobenzene-d5 (Surr)	*77*		*39 - 115*
Phenol-d5 (Surr)	*79*		*30 - 118*
Terphenyl-d14 (Surr)	*76*		*30 - 143*

Lab Sample ID: LCSD 180-138775/3-A
Matrix: Sediment
Analysis Batch: 138813

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138775

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene			0.250	0.194		mg/L		77	37 - 115	11	35
2,4,5-Trichlorophenol			0.250	0.172		mg/L		69	35 - 115	5	40
2,4,6-Trichlorophenol			0.250	0.189		mg/L		76	40 - 115	3	37
2,4-Dinitrotoluene			0.250	0.149		mg/L		60	40 - 115	5	42
2-Methylphenol			0.250	0.196		mg/L		78	43 - 115	4	47
Methylphenol, 3 & 4			0.500	0.370		mg/L		74	30 - 121	8	35
Hexachlorobenzene			0.250	0.164		mg/L		65	45 - 115	1	22
Hexachlorobutadiene			0.250	0.196		mg/L		78	42 - 115	7	28
Hexachloroethane			0.250	0.183		mg/L		73	25 - 106	6	38
Nitrobenzene			0.250	0.188		mg/L		75	40 - 115	9	26
Pentachlorophenol			0.250	0.0718	J	mg/L		29	16 - 140	6	40
Pyridine			0.250	0.196		mg/L		78	22 - 105	10	40

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*76*		*35 - 115*
2-Fluorophenol (Surr)	*85*		*20 - 110*
2,4,6-Tribromophenol (Surr)	*73*		*19 - 138*
Nitrobenzene-d5 (Surr)	*77*		*39 - 115*
Phenol-d5 (Surr)	*86*		*30 - 118*
Terphenyl-d14 (Surr)	*76*		*30 - 143*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 180-138579/11-D
Matrix: Sediment
Analysis Batch: 138813

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 138775

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.012	mg/L		04/16/15 11:45	04/17/15 08:36	1
2,4,5-Trichlorophenol	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 08:36	1
2,4,6-Trichlorophenol	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 08:36	1
2,4-Dinitrotoluene	ND		0.050	0.010	mg/L		04/16/15 11:45	04/17/15 08:36	1
2-Methylphenol	ND		0.050	0.014	mg/L		04/16/15 11:45	04/17/15 08:36	1
Methylphenol, 3 & 4	ND		0.050	0.027	mg/L		04/16/15 11:45	04/17/15 08:36	1
Hexachlorobenzene	ND		0.050	0.011	mg/L		04/16/15 11:45	04/17/15 08:36	1
Hexachlorobutadiene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 08:36	1
Hexachloroethane	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 08:36	1
Nitrobenzene	ND		0.050	0.013	mg/L		04/16/15 11:45	04/17/15 08:36	1
Pentachlorophenol	ND		0.25	0.022	mg/L		04/16/15 11:45	04/17/15 08:36	1
Pyridine	ND		0.10	0.0083	mg/L		04/16/15 11:45	04/17/15 08:36	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*35 - 115*	*04/16/15 11:45*	*04/17/15 08:36*	*1*
2-Fluorophenol (Surr)	*80*		*20 - 110*	*04/16/15 11:45*	*04/17/15 08:36*	*1*
2,4,6-Tribromophenol (Surr)	*70*		*19 - 138*	*04/16/15 11:45*	*04/17/15 08:36*	*1*
Nitrobenzene-d5 (Surr)	*77*		*39 - 115*	*04/16/15 11:45*	*04/17/15 08:36*	*1*
Phenol-d5 (Surr)	*80*		*30 - 118*	*04/16/15 11:45*	*04/17/15 08:36*	*1*
Terphenyl-d14 (Surr)	*76*		*30 - 143*	*04/16/15 11:45*	*04/17/15 08:36*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-138970/1-A
Matrix: Sediment
Analysis Batch: 139220

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138970

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		340	70	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
1,2-Dichlorobenzene	ND		17	1.7	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
1,3-Dichlorobenzene	ND		17	1.3	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
1,4-Dichlorobenzene	ND		17	1.2	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Benzoic acid	ND		85	6.9	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Bis(2-chloroethyl)ether	ND		3.4	0.45	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Bis(2-chloroethoxy)methane	ND		17	1.1	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Bis(2-ethylhexyl) phthalate	ND		33	2.7	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
4-Bromophenyl phenyl ether	ND		17	1.5	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Butyl benzyl phthalate	ND		17	2.3	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
4-Chloro-3-methylphenol	ND		17	1.5	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
2-Chloronaphthalene	ND		3.4	0.35	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
2-Chlorophenol	ND		17	1.4	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
4-Chlorophenyl phenyl ether	ND		17	1.9	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Di-n-butyl phthalate	ND		17	2.1	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
3,3'-Dichlorobenzidine	ND		17	1.8	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
2,4-Dichlorophenol	ND		3.4	0.33	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Diethyl phthalate	ND		17	1.8	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
4,6-Dinitro-2-methylphenol	ND		85	6.7	ug/Kg		04/20/15 03:00	04/22/15 04:41	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-138970/1-A
Matrix: Sediment
Analysis Batch: 139220

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138970

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		17	2.6	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Dimethyl phthalate	ND		17	1.8	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
2,4-Dinitrophenol	ND		85	20	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
2,4-Dinitrotoluene	ND		17	1.3	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
2,6-Dinitrotoluene	ND		17	1.7	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		17	2.1	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Di-n-octyl phthalate	ND		17	1.8	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Hexachlorobenzene	ND		3.4	0.36	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Hexachlorobutadiene	ND		3.4	0.37	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Hexachloroethane	ND		17	1.2	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Hexachlorocyclopentadiene	ND		17	1.8	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Isophorone	ND		17	1.3	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
2-Methylphenol	ND		17	1.2	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Methylphenol, 3 & 4	ND		17	1.6	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Nitrobenzene	ND		33	1.4	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
2-Nitrophenol	ND		17	1.8	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
4-Nitrophenol	ND		85	6.1	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
N-Nitrosodiphenylamine	ND		17	1.5	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
N-Nitrosodimethylamine	ND		17	1.4	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
N-Nitrosodi-n-propylamine	ND		3.4	0.39	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
2,2'-oxybis[1-chloropropane]	ND		3.4	0.36	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Pentachlorophenol	ND		17	1.5	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Phenol	ND		3.4	0.39	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
1,2,4-Trichlorobenzene	ND		17	0.92	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
2,4,6-Trichlorophenol	ND		17	2.5	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
2-Methylnaphthalene	ND		3.4	0.30	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
1-Methylnaphthalene	ND		3.4	0.36	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Naphthalene	ND		3.4	0.29	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Acenaphthylene	ND		3.4	0.38	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Acenaphthene	ND		3.4	0.32	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Fluorene	ND		3.4	0.44	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Phenanthrene	ND		3.4	0.53	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Anthracene	ND		3.4	0.33	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Fluoranthene	ND		3.4	0.36	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Pyrene	ND		3.4	0.34	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Benzo[a]anthracene	ND		3.4	0.42	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Chrysene	ND		3.4	0.40	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Benzo[b]fluoranthene	ND		3.4	0.52	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Benzo[k]fluoranthene	ND		3.4	0.67	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Benzo[a]pyrene	ND		3.4	0.33	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Indeno[1,2,3-cd]pyrene	ND		3.4	0.34	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Dibenz(a,h)anthracene	ND		3.4	0.37	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Benzo[g,h,i]perylene	ND		3.4	0.33	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Benzyl alcohol	ND		17	2.0	ug/Kg		04/20/15 03:00	04/22/15 04:41	1
Dibenzofuran	ND		17	1.6	ug/Kg		04/20/15 03:00	04/22/15 04:41	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-138970/1-A
Matrix: Sediment
Analysis Batch: 139220

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138970

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	56		38 - 103	04/20/15 03:00	04/22/15 04:41	1
2-Fluorophenol (Surr)	61		34 - 103	04/20/15 03:00	04/22/15 04:41	1
2,4,6-Tribromophenol (Surr)	50		20 - 113	04/20/15 03:00	04/22/15 04:41	1
Nitrobenzene-d5 (Surr)	56		41 - 108	04/20/15 03:00	04/22/15 04:41	1
Phenol-d5 (Surr)	62		35 - 103	04/20/15 03:00	04/22/15 04:41	1
Terphenyl-d14 (Surr)	53		28 - 109	04/20/15 03:00	04/22/15 04:41	1

Lab Sample ID: LCS 180-138970/2-A
Matrix: Sediment
Analysis Batch: 139220

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138970

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	333	86.6	J	ug/Kg		26	10 - 101
1,2-Dichlorobenzene	333	187		ug/Kg		56	30 - 100
1,3-Dichlorobenzene	333	180		ug/Kg		54	30 - 100
1,4-Dichlorobenzene	333	184		ug/Kg		55	29 - 100
Benzoic acid	333	131		ug/Kg		39	10 - 131
Bis(2-chloroethyl)ether	333	182		ug/Kg		55	31 - 100
Bis(2-chloroethoxy)methane	333	193		ug/Kg		58	31 - 100
Bis(2-ethylhexyl) phthalate	333	209		ug/Kg		63	32 - 106
4-Bromophenyl phenyl ether	333	189		ug/Kg		57	33 - 100
Butyl benzyl phthalate	333	206		ug/Kg		62	33 - 105
4-Chloro-3-methylphenol	333	214		ug/Kg		64	37 - 100
2-Chloronaphthalene	333	174		ug/Kg		52	29 - 100
2-Chlorophenol	333	195		ug/Kg		58	31 - 100
4-Chlorophenyl phenyl ether	333	198		ug/Kg		59	35 - 100
Di-n-butyl phthalate	333	202		ug/Kg		60	36 - 102
3,3'-Dichlorobenzidine	333	191		ug/Kg		57	29 - 100
2,4-Dichlorophenol	333	207		ug/Kg		62	34 - 100
Diethyl phthalate	333	195		ug/Kg		59	36 - 103
4,6-Dinitro-2-methylphenol	667	399		ug/Kg		60	36 - 100
2,4-Dimethylphenol	333	198		ug/Kg		59	34 - 100
Dimethyl phthalate	333	196		ug/Kg		59	36 - 100
2,4-Dinitrophenol	667	399		ug/Kg		60	30 - 100
2,4-Dinitrotoluene	333	227		ug/Kg		68	36 - 102
2,6-Dinitrotoluene	333	211		ug/Kg		63	37 - 100
1,2-Diphenylhydrazine(as Azobenzene)	333	165		ug/Kg		49	29 - 103
Di-n-octyl phthalate	333	195		ug/Kg		59	26 - 112
Hexachlorobenzene	333	179		ug/Kg		54	30 - 104
Hexachlorobutadiene	333	176		ug/Kg		53	30 - 104
Hexachloroethane	333	182		ug/Kg		55	31 - 100
Hexachlorocyclopentadiene	333	115		ug/Kg		34	21 - 113
Isophorone	333	188		ug/Kg		57	34 - 100
2-Methylphenol	333	203		ug/Kg		61	33 - 100
Methylphenol, 3 & 4	333	207		ug/Kg		62	33 - 100
Nitrobenzene	333	178		ug/Kg		53	30 - 100
2-Nitrophenol	333	212		ug/Kg		64	33 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-138970/2-A
Matrix: Sediment
Analysis Batch: 139220

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138970

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Nitrophenol	667	353		ug/Kg		53	23 - 138
N-Nitrosodiphenylamine	667	380		ug/Kg		57	32 - 100
N-Nitrosodimethylamine	333	202		ug/Kg		61	23 - 102
N-Nitrosodi-n-propylamine	333	187		ug/Kg		56	33 - 100
2,2'-oxybis[1-chloropropane]	333	185		ug/Kg		55	29 - 100
Pentachlorophenol	667	247		ug/Kg		37	24 - 106
Phenol	333	199		ug/Kg		60	34 - 100
1,2,4-Trichlorobenzene	333	188		ug/Kg		56	31 - 100
2,4,6-Trichlorophenol	333	192		ug/Kg		58	34 - 103
2-Methylnaphthalene	333	201		ug/Kg		60	33 - 100
1-Methylnaphthalene	333	190		ug/Kg		57	31 - 100
Naphthalene	333	189		ug/Kg		57	32 - 100
Acenaphthylene	333	196		ug/Kg		59	34 - 100
Acenaphthene	333	190		ug/Kg		57	34 - 100
Fluorene	333	205		ug/Kg		62	35 - 100
Phenanthrene	333	192		ug/Kg		58	33 - 100
Anthracene	333	196		ug/Kg		59	35 - 100
Fluoranthene	333	206		ug/Kg		62	36 - 100
Pyrene	333	185		ug/Kg		56	32 - 100
Benzo[a]anthracene	333	209		ug/Kg		63	37 - 100
Chrysene	333	192		ug/Kg		58	37 - 100
Benzo[b]fluoranthene	333	181		ug/Kg		54	31 - 100
Benzo[k]fluoranthene	333	188		ug/Kg		56	34 - 100
Benzo[a]pyrene	333	199		ug/Kg		60	36 - 100
Indeno[1,2,3-cd]pyrene	333	199		ug/Kg		60	31 - 103
Dibenz(a,h)anthracene	333	205		ug/Kg		62	31 - 106
Benzo[g,h,i]perylene	333	204		ug/Kg		61	29 - 106
Benzyl alcohol	333	208		ug/Kg		62	30 - 100
Dibenzofuran	333	196		ug/Kg		59	35 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*54*		*38 - 103*
2-Fluorophenol (Surr)	*56*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*50*		*20 - 113*
Nitrobenzene-d5 (Surr)	*52*		*41 - 108*
Phenol-d5 (Surr)	*57*		*35 - 103*
Terphenyl-d14 (Surr)	*51*		*28 - 109*

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 240-176195/1-A
Matrix: Sediment
Analysis Batch: 176205

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 176195

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		100	46	ug/Kg		04/13/15 11:55	04/13/15 15:59	1

Method: 8015D - Gasoline Range Organics (GRO) (GC) (Continued)

Lab Sample ID: MB 240-176195/1-A
Matrix: Sediment
Analysis Batch: 176205

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 176195

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Trifluorotoluene (Surr)	83		40 - 139	04/13/15 11:55	04/13/15 15:59	1

Lab Sample ID: LCS 240-176195/2-A
Matrix: Sediment
Analysis Batch: 176205

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 176195

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C10			800	815		ug/Kg		102	74 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Trifluorotoluene (Surr)	104		40 - 139

Lab Sample ID: 180-42815-6 MS
Matrix: Sediment
Analysis Batch: 176205

Client Sample ID: TS-3ST-SED
Prep Type: Total/NA
Prep Batch: 176195

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C10	ND	F2	1030	181		ug/Kg	☼	18	10 - 136		

Surrogate	MS %Recovery	MS Qualifier	Limits
Trifluorotoluene (Surr)	28	X	40 - 139

Lab Sample ID: 180-42815-6 MSD
Matrix: Sediment
Analysis Batch: 176205

Client Sample ID: TS-3ST-SED
Prep Type: Total/NA
Prep Batch: 176195

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C10	ND	F2	1030	380	F2	ug/Kg	☼	37	10 - 136	71	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Trifluorotoluene (Surr)	52		40 - 139

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 240-176306/23-A
Matrix: Sediment
Analysis Batch: 176534

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 176306

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C10-C34	ND		17	4.1	mg/Kg		04/14/15 07:56	04/15/15 19:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	73		40 - 160	04/14/15 07:56	04/15/15 19:07	1

Method: 8015D - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 240-176306/24-A
Matrix: Sediment
Analysis Batch: 176534

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 176306

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10 - C28]	83.3	64.8		mg/Kg		78	52 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*79*		*40 - 160*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-138774/1-A
Matrix: Sediment
Analysis Batch: 138829

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138774

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.00066	mg/L		04/16/15 11:45	04/17/15 19:46	1
Endrin	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 19:46	1
gamma-BHC (Lindane)	ND		0.00050	0.00032	mg/L		04/16/15 11:45	04/17/15 19:46	1
Heptachlor	ND		0.00050	0.00040	mg/L		04/16/15 11:45	04/17/15 19:46	1
Heptachlor epoxide	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 19:46	1
Methoxychlor	ND		0.0010	0.00037	mg/L		04/16/15 11:45	04/17/15 19:46	1
Toxaphene	ND		0.020	0.0074	mg/L		04/16/15 11:45	04/17/15 19:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*73*		*45 - 140*	*04/16/15 11:45*	*04/17/15 19:46*	*1*
DCB Decachlorobiphenyl (Surr)	*72*		*45 - 140*	*04/16/15 11:45*	*04/17/15 19:46*	*1*
Tetrachloro-m-xylene	*77*		*45 - 140*	*04/16/15 11:45*	*04/17/15 19:46*	*1*
Tetrachloro-m-xylene	*77*		*45 - 140*	*04/16/15 11:45*	*04/17/15 19:46*	*1*

Lab Sample ID: LCS 180-138774/2-A
Matrix: Sediment
Analysis Batch: 138829

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138774

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Endrin	0.0100	0.00957		mg/L		96	46 - 137
gamma-BHC (Lindane)	0.0100	0.00979		mg/L		98	55 - 137
Heptachlor	0.0100	0.0104		mg/L		104	57 - 124
Heptachlor epoxide	0.0100	0.00994		mg/L		99	53 - 135
Methoxychlor	0.0100	0.0106		mg/L		106	30 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*89*		*45 - 140*
DCB Decachlorobiphenyl (Surr)	*83*		*45 - 140*
Tetrachloro-m-xylene	*94*		*45 - 140*
Tetrachloro-m-xylene	*90*		*45 - 140*

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 180-138774/3-A
Matrix: Sediment
Analysis Batch: 138829

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138774

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Endrin			0.0100	0.0103		mg/L		103	46 - 137	7	30
gamma-BHC (Lindane)			0.0100	0.0103		mg/L		103	55 - 137	6	22
Heptachlor			0.0100	0.0109		mg/L		109	57 - 124	5	32
Heptachlor epoxide			0.0100	0.0106		mg/L		106	53 - 135	7	31
Methoxychlor			0.0100	0.0109		mg/L		109	30 - 150	3	29

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*89*		*45 - 140*
DCB Decachlorobiphenyl (Surr)	*82*		*45 - 140*
Tetrachloro-m-xylene	*94*		*45 - 140*
Tetrachloro-m-xylene	*87*		*45 - 140*

Lab Sample ID: LB 180-138579/11-C
Matrix: Sediment
Analysis Batch: 138829

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 138774

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.00066	mg/L		04/16/15 11:45	04/17/15 21:04	1
Endrin	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 21:04	1
gamma-BHC (Lindane)	ND		0.00050	0.00032	mg/L		04/16/15 11:45	04/17/15 21:04	1
Heptachlor	ND		0.00050	0.00040	mg/L		04/16/15 11:45	04/17/15 21:04	1
Heptachlor epoxide	ND		0.00050	0.00039	mg/L		04/16/15 11:45	04/17/15 21:04	1
Methoxychlor	ND		0.0010	0.00037	mg/L		04/16/15 11:45	04/17/15 21:04	1
Toxaphene	ND		0.020	0.0074	mg/L		04/16/15 11:45	04/17/15 21:04	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*83*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:04*	*1*
DCB Decachlorobiphenyl (Surr)	*76*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:04*	*1*
Tetrachloro-m-xylene	*90*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:04*	*1*
Tetrachloro-m-xylene	*88*		*45 - 140*	*04/16/15 11:45*	*04/17/15 21:04*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-138973/1-B
Matrix: Sediment
Analysis Batch: 139571

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138973

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.042	0.0075	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
alpha-BHC	ND		0.042	0.0068	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
beta-BHC	ND		0.042	0.011	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
delta-BHC	ND		0.042	0.0064	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
gamma-BHC (Lindane)	ND		0.042	0.0073	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
Chlordane (technical)	ND		0.42	0.018	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
Chlorobenside	ND		0.042	0.022	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
DCPA	ND		0.042	0.0064	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
4,4'-DDD	ND		0.042	0.0055	ug/Kg		04/20/15 04:59	04/24/15 22:56	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 180-138973/1-B
Matrix: Sediment
Analysis Batch: 139571

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138973

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	ND		0.042	0.0063	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
4,4'-DDT	ND		0.042	0.0063	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
Dieldrin	ND		0.042	0.0070	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
Endosulfan I	ND		0.042	0.0079	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
Endosulfan II	ND		0.042	0.0074	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
Endosulfan sulfate	ND		0.042	0.0044	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
Endrin	ND		0.042	0.0081	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
Endrin aldehyde	ND		0.042	0.0081	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
Heptachlor	ND		0.042	0.0093	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
Heptachlor epoxide	ND		0.042	0.0081	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
Methoxychlor	ND		0.083	0.0087	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
Mirex	ND		0.042	0.0039	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
Toxaphene	ND		1.7	0.28	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
2,4'-DDD	ND		0.042	0.0025	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
2,4'-DDE	ND		0.042	0.0039	ug/Kg		04/20/15 04:59	04/24/15 22:56	1
2,4'-DDT	ND		0.042	0.0036	ug/Kg		04/20/15 04:59	04/24/15 22:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*75*		*10 - 140*	*04/20/15 04:59*	*04/24/15 22:56*	*1*
Tetrachloro-m-xylene	*73*		*10 - 140*	*04/20/15 04:59*	*04/24/15 22:56*	*1*
DCB Decachlorobiphenyl (Surr)	*76*		*10 - 140*	*04/20/15 04:59*	*04/24/15 22:56*	*1*
DCB Decachlorobiphenyl (Surr)	*77*		*10 - 140*	*04/20/15 04:59*	*04/24/15 22:56*	*1*

Lab Sample ID: LCS 180-138973/2-B
Matrix: Sediment
Analysis Batch: 139571

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138973

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	1.67	1.35		ug/Kg		81	10 - 150
alpha-BHC	1.67	1.30		ug/Kg		78	10 - 150
beta-BHC	1.67	1.38		ug/Kg		83	10 - 150
delta-BHC	1.67	1.04		ug/Kg		62	20 - 124
gamma-BHC (Lindane)	1.67	1.40		ug/Kg		84	10 - 150
4,4'-DDD	1.67	1.28		ug/Kg		77	15 - 150
4,4'-DDE	1.67	1.34		ug/Kg		80	10 - 150
4,4'-DDT	1.67	1.56		ug/Kg		94	10 - 150
Dieldrin	1.67	1.33		ug/Kg		80	20 - 150
Endosulfan I	1.67	1.35		ug/Kg		81	20 - 150
Endosulfan II	1.67	1.36		ug/Kg		82	10 - 150
Endosulfan sulfate	1.67	1.31		ug/Kg		79	13 - 140
Endrin	1.67	1.35		ug/Kg		81	10 - 150
Endrin aldehyde	1.67	1.32		ug/Kg		79	10 - 150
Heptachlor	1.67	1.37		ug/Kg		82	10 - 150
Heptachlor epoxide	1.67	1.37		ug/Kg		82	10 - 150
Methoxychlor	1.67	1.55		ug/Kg		93	10 - 150

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-138973/2-B
Matrix: Sediment
Analysis Batch: 139571

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138973

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	83		10 - 140
Tetrachloro-m-xylene	77		10 - 140
DCB Decachlorobiphenyl (Surr)	82		10 - 140
DCB Decachlorobiphenyl (Surr)	81		10 - 140

Lab Sample ID: MB 180-139823/1-B
Matrix: Sediment
Analysis Batch: 140438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139823

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.042	0.0075	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
alpha-BHC	ND		0.042	0.0068	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
beta-BHC	0.0224	J p	0.042	0.011	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
delta-BHC	ND		0.042	0.0064	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
gamma-BHC (Lindane)	ND		0.042	0.0073	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Chlordane (technical)	ND		0.42	0.018	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Chlorobenside	ND		0.042	0.022	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
DCPA	0.0138	J p	0.042	0.0064	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
4,4'-DDD	0.00684	J p	0.042	0.0055	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
4,4'-DDE	ND		0.042	0.0063	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
4,4'-DDT	0.0115	J	0.042	0.0063	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Dieldrin	0.0101	J p	0.042	0.0070	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endosulfan I	ND		0.042	0.0079	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endosulfan II	0.0227	J p	0.042	0.0074	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endosulfan sulfate	ND		0.042	0.0044	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endrin	0.0302	J p	0.042	0.0081	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endrin aldehyde	ND		0.042	0.0081	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Heptachlor	ND		0.042	0.0093	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Heptachlor epoxide	0.0126	J p	0.042	0.0081	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Methoxychlor	0.0301	J	0.083	0.0087	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Mirex	ND		0.042	0.0039	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Toxaphene	ND		1.7	0.28	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
2,4'-DDD	0.0195	J p	0.042	0.0025	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
2,4'-DDE	ND		0.042	0.0039	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
2,4'-DDT	ND		0.042	0.0036	ug/Kg		04/28/15 03:30	05/04/15 19:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	81		10 - 140	04/28/15 03:30	05/04/15 19:58	1
Tetrachloro-m-xylene	80		10 - 140	04/28/15 03:30	05/04/15 19:58	1
DCB Decachlorobiphenyl (Surr)	94		10 - 140	04/28/15 03:30	05/04/15 19:58	1
DCB Decachlorobiphenyl (Surr)	89		10 - 140	04/28/15 03:30	05/04/15 19:58	1

Lab Sample ID: LCS 180-139823/2-B
Matrix: Sediment
Analysis Batch: 140438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139823

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aldrin			1.67	0.916		ug/Kg		55	10 - 150		

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-139823/2-B
Matrix: Sediment
Analysis Batch: 140438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139823

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
alpha-BHC	1.67	0.874		ug/Kg		52	10 - 150
beta-BHC	1.67	0.918		ug/Kg		55	10 - 150
delta-BHC	1.67	0.668		ug/Kg		40	20 - 124
gamma-BHC (Lindane)	1.67	0.975		ug/Kg		59	10 - 150
4,4'-DDD	1.67	0.909		ug/Kg		55	15 - 150
4,4'-DDE	1.67	0.906		ug/Kg		54	10 - 150
4,4'-DDT	1.67	0.987		ug/Kg		59	10 - 150
Dieldrin	1.67	0.901		ug/Kg		54	20 - 150
Endosulfan I	1.67	0.881		ug/Kg		53	20 - 150
Endosulfan II	1.67	0.872		ug/Kg		52	10 - 150
Endosulfan sulfate	1.67	0.841		ug/Kg		50	13 - 140
Endrin	1.67	0.930		ug/Kg		56	10 - 150
Endrin aldehyde	1.67	0.860		ug/Kg		52	10 - 150
Heptachlor	1.67	0.993		ug/Kg		60	10 - 150
Heptachlor epoxide	1.67	0.877		ug/Kg		53	10 - 150
Methoxychlor	1.67	1.33		ug/Kg		80	10 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*59*		*10 - 140*
Tetrachloro-m-xylene	*71*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*63*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*60*		*10 - 140*

Method: 8082A - PCB Congeners (GC)

Lab Sample ID: MB 180-138101/1-C
Matrix: Sediment
Analysis Batch: 138424

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138101

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.50	0.16	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-18	ND		0.50	0.14	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-28	ND		0.50	0.071	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-44	ND		0.50	0.056	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-49	ND		0.50	0.10	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-52	ND		0.50	0.096	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-66	ND		0.50	0.045	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-77	ND		0.50	0.054	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-87	ND		0.50	0.051	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-101	ND		0.50	0.059	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-105	ND		0.50	0.041	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-118	ND		0.50	0.045	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-126	ND		0.50	0.17	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-128	ND		0.50	0.053	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-138	ND		0.50	0.042	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-153	ND		0.50	0.043	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-156	ND		0.50	0.033	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-169	ND		0.50	0.032	ug/Kg		04/10/15 04:25	04/14/15 14:33	1

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: MB 180-138101/1-C
Matrix: Sediment
Analysis Batch: 138424

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138101

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-170	ND		0.50	0.038	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-180	ND		0.50	0.043	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-183	ND		0.50	0.11	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-184	ND		0.50	0.045	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-187	ND		0.50	0.062	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-195	ND		0.50	0.099	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
PCB-206	ND		0.50	0.035	ug/Kg		04/10/15 04:25	04/14/15 14:33	1
DCB Decachlorobiphenyl	ND		0.50	0.035	ug/Kg		04/10/15 04:25	04/14/15 14:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*81*		*35 - 140*	*04/10/15 04:25*	*04/14/15 14:33*	*1*
Tetrachloro-m-xylene (Surr)	*70*		*35 - 140*	*04/10/15 04:25*	*04/14/15 14:33*	*1*
PCB-205 (Surr)	*92*		*35 - 140*	*04/10/15 04:25*	*04/14/15 14:33*	*1*
PCB-205 (Surr)	*89*		*35 - 140*	*04/10/15 04:25*	*04/14/15 14:33*	*1*

Lab Sample ID: LCS 180-138101/2-C
Matrix: Sediment
Analysis Batch: 138424

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138101

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	10.0	7.95		ug/Kg		79	50 - 140
PCB-18	10.0	7.94		ug/Kg		79	50 - 140
PCB-28	10.0	8.05		ug/Kg		80	50 - 140
PCB-44	10.0	7.99		ug/Kg		80	50 - 140
PCB-49	10.0	7.79		ug/Kg		78	50 - 140
PCB-52	10.0	7.27		ug/Kg		73	50 - 140
PCB-66	10.0	9.16		ug/Kg		92	50 - 140
PCB-77	10.0	8.69		ug/Kg		87	50 - 140
PCB-87	10.0	9.90		ug/Kg		99	50 - 140
PCB-101	10.0	7.91		ug/Kg		79	50 - 140
PCB-105	10.0	8.76		ug/Kg		88	50 - 140
PCB-118	10.0	7.31		ug/Kg		73	50 - 140
PCB-126	10.0	8.16		ug/Kg		82	50 - 140
PCB-128	10.0	8.37		ug/Kg		84	50 - 140
PCB-138	10.0	7.98		ug/Kg		80	50 - 140
PCB-153	10.0	7.98		ug/Kg		80	50 - 140
PCB-156	10.0	8.29		ug/Kg		83	50 - 140
PCB-169	10.0	8.06		ug/Kg		81	50 - 140
PCB-170	10.0	8.78		ug/Kg		88	50 - 140
PCB-180	10.0	8.55		ug/Kg		86	50 - 140
PCB-183	10.0	7.92		ug/Kg		79	50 - 140
PCB-184	10.0	7.94		ug/Kg		79	50 - 140
PCB-187	10.0	7.95		ug/Kg		80	50 - 140
PCB-195	10.0	8.62		ug/Kg		86	50 - 140
PCB-206	10.0	7.86		ug/Kg		79	50 - 140
DCB Decachlorobiphenyl	10.0	8.45		ug/Kg		84	50 - 140

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: LCS 180-138101/2-C
Matrix: Sediment
Analysis Batch: 138424

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138101

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene (Surr)	*82*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*71*		*35 - 140*
PCB-205 (Surr)	*94*		*35 - 140*
PCB-205 (Surr)	*93*		*35 - 140*

Lab Sample ID: 180-42815-3 MS
Matrix: Sediment
Analysis Batch: 138424

Client Sample ID: TS-2ST-SED
Prep Type: Total/NA
Prep Batch: 138101

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	ND		11.9	9.27		ug/Kg	☼	78	50 - 140
PCB-18	ND		11.9	8.83		ug/Kg	☼	74	50 - 140
PCB-28	ND		11.9	9.24		ug/Kg	☼	78	50 - 140
PCB-44	ND		11.9	8.78		ug/Kg	☼	74	50 - 140
PCB-49	ND		11.9	8.61		ug/Kg	☼	72	50 - 140
PCB-52	ND		11.9	8.07		ug/Kg	☼	68	50 - 140
PCB-66	ND		11.9	10.3		ug/Kg	☼	87	50 - 140
PCB-77	ND		11.9	9.51		ug/Kg	☼	80	50 - 140
PCB-87	ND		11.9	10.7		ug/Kg	☼	90	50 - 140
PCB-101	ND		11.9	8.63		ug/Kg	☼	72	50 - 140
PCB-105	ND		11.9	9.37		ug/Kg	☼	79	50 - 140
PCB-118	ND		11.9	7.91		ug/Kg	☼	66	50 - 140
PCB-126	ND		11.9	8.60		ug/Kg	☼	72	50 - 140
PCB-128	ND		11.9	8.80		ug/Kg	☼	74	50 - 140
PCB-138	ND		11.9	8.51		ug/Kg	☼	71	50 - 140
PCB-153	ND		11.9	8.69		ug/Kg	☼	73	50 - 140
PCB-156	ND		11.9	8.97		ug/Kg	☼	75	50 - 140
PCB-169	ND		11.9	8.65		ug/Kg	☼	73	50 - 140
PCB-170	ND		11.9	9.15		ug/Kg	☼	77	50 - 140
PCB-180	ND		11.9	9.27		ug/Kg	☼	78	50 - 140
PCB-183	ND		11.9	8.31		ug/Kg	☼	70	50 - 140
PCB-184	ND		11.9	8.37		ug/Kg	☼	70	50 - 140
PCB-187	ND		11.9	8.39		ug/Kg	☼	70	50 - 140
PCB-195	ND		11.9	9.16		ug/Kg	☼	77	50 - 140
PCB-206	ND		11.9	8.32		ug/Kg	☼	70	50 - 140
DCB Decachlorobiphenyl	ND		11.9	8.97		ug/Kg	☼	75	50 - 140

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene (Surr)	*75*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*66*		*35 - 140*
PCB-205 (Surr)	*79*		*35 - 140*
PCB-205 (Surr)	*77*		*35 - 140*

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: 180-42815-3 MSD
Matrix: Sediment
Analysis Batch: 138424

Client Sample ID: TS-2ST-SED
Prep Type: Total/NA
Prep Batch: 138101

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-8	ND		11.9	9.80		ug/Kg	☼	82	50 - 140	6	40
PCB-18	ND		11.9	9.24		ug/Kg	☼	78	50 - 140	5	40
PCB-28	ND		11.9	9.83		ug/Kg	☼	83	50 - 140	6	40
PCB-44	ND		11.9	9.33		ug/Kg	☼	78	50 - 140	6	40
PCB-49	ND		11.9	9.07		ug/Kg	☼	76	50 - 140	5	40
PCB-52	ND		11.9	8.44		ug/Kg	☼	71	50 - 140	4	40
PCB-66	ND		11.9	10.9		ug/Kg	☼	92	50 - 140	6	40
PCB-77	ND		11.9	10.3		ug/Kg	☼	86	50 - 140	8	40
PCB-87	ND		11.9	11.2		ug/Kg	☼	94	50 - 140	5	40
PCB-101	ND		11.9	9.13		ug/Kg	☼	77	50 - 140	6	40
PCB-105	ND		11.9	10.1		ug/Kg	☼	85	50 - 140	8	40
PCB-118	ND		11.9	8.48		ug/Kg	☼	71	50 - 140	7	40
PCB-126	ND		11.9	9.86		ug/Kg	☼	83	50 - 140	14	40
PCB-128	ND		11.9	9.52		ug/Kg	☼	80	50 - 140	8	40
PCB-138	ND		11.9	8.90		ug/Kg	☼	75	50 - 140	5	40
PCB-153	ND		11.9	9.05		ug/Kg	☼	76	50 - 140	4	40
PCB-156	ND		11.9	9.48		ug/Kg	☼	80	50 - 140	5	40
PCB-169	ND		11.9	9.02		ug/Kg	☼	76	50 - 140	4	40
PCB-170	ND		11.9	9.81		ug/Kg	☼	82	50 - 140	7	40
PCB-180	ND		11.9	9.84		ug/Kg	☼	83	50 - 140	6	40
PCB-183	ND		11.9	8.69		ug/Kg	☼	73	50 - 140	4	40
PCB-184	ND		11.9	9.01		ug/Kg	☼	76	50 - 140	7	40
PCB-187	ND		11.9	8.78		ug/Kg	☼	74	50 - 140	5	40
PCB-195	ND		11.9	9.84		ug/Kg	☼	83	50 - 140	7	40
PCB-206	ND		11.9	8.81		ug/Kg	☼	74	50 - 140	6	40
DCB Decachlorobiphenyl	ND		11.9	9.37		ug/Kg	☼	79	50 - 140	4	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*79*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*70*		*35 - 140*
PCB-205 (Surr)	*85*		*35 - 140*
PCB-205 (Surr)	*82*		*35 - 140*

Lab Sample ID: MB 180-139100/1-C
Matrix: Sediment
Analysis Batch: 139880

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139100

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.50	0.16	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-18	ND		0.50	0.14	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-28	ND		0.50	0.071	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-44	ND		0.50	0.056	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-49	ND		0.50	0.10	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-52	ND		0.50	0.096	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-66	ND		0.50	0.045	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-77	ND		0.50	0.054	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-87	ND		0.50	0.051	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-101	ND		0.50	0.059	ug/Kg		04/21/15 04:50	04/28/15 13:51	1

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: MB 180-139100/1-C
Matrix: Sediment
Analysis Batch: 139880

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139100

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-105	ND		0.50	0.041	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-118	ND		0.50	0.045	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-126	ND		0.50	0.17	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-128	ND		0.50	0.053	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-138	ND		0.50	0.042	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-153	ND		0.50	0.043	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-156	ND		0.50	0.033	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-169	ND		0.50	0.032	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-170	ND		0.50	0.038	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-180	ND		0.50	0.043	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-183	ND		0.50	0.11	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-184	ND		0.50	0.045	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-187	ND		0.50	0.062	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-195	ND		0.50	0.099	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-206	ND		0.50	0.035	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
DCB Decachlorobiphenyl	ND		0.50	0.035	ug/Kg		04/21/15 04:50	04/28/15 13:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*79*		*35 - 140*	*04/21/15 04:50*	*04/28/15 13:51*	*1*
Tetrachloro-m-xylene (Surr)	*75*		*35 - 140*	*04/21/15 04:50*	*04/28/15 13:51*	*1*
PCB-205 (Surr)	*85*		*35 - 140*	*04/21/15 04:50*	*04/28/15 13:51*	*1*
PCB-205 (Surr)	*89*		*35 - 140*	*04/21/15 04:50*	*04/28/15 13:51*	*1*

Lab Sample ID: LCS 180-139100/2-C
Matrix: Sediment
Analysis Batch: 139880

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139100

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	10.0	8.70		ug/Kg		87	50 - 140
PCB-18	10.0	8.81		ug/Kg		88	50 - 140
PCB-28	10.0	9.15		ug/Kg		91	50 - 140
PCB-44	10.0	8.11		ug/Kg		81	50 - 140
PCB-49	10.0	8.56		ug/Kg		86	50 - 140
PCB-52	10.0	8.17		ug/Kg		82	50 - 140
PCB-66	10.0	9.78		ug/Kg		98	50 - 140
PCB-77	10.0	9.92		ug/Kg		99	50 - 140
PCB-87	10.0	10.1		ug/Kg		101	50 - 140
PCB-101	10.0	8.83		ug/Kg		88	50 - 140
PCB-105	10.0	8.79		ug/Kg		88	50 - 140
PCB-118	10.0	9.02		ug/Kg		90	50 - 140
PCB-126	10.0	8.15		ug/Kg		81	50 - 140
PCB-128	10.0	8.22		ug/Kg		82	50 - 140
PCB-138	10.0	8.69		ug/Kg		87	50 - 140
PCB-153	10.0	7.93		ug/Kg		79	50 - 140
PCB-156	10.0	8.74		ug/Kg		87	50 - 140
PCB-169	10.0	7.68		ug/Kg		77	50 - 140
PCB-170	10.0	8.23		ug/Kg		82	50 - 140
PCB-180	10.0	8.83		ug/Kg		88	50 - 140

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: LCS 180-139100/2-C
Matrix: Sediment
Analysis Batch: 139880

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139100

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-183	10.0	7.98		ug/Kg		80	50 - 140
PCB-184	10.0	9.14		ug/Kg		91	50 - 140
PCB-187	10.0	8.43		ug/Kg		84	50 - 140
PCB-195	10.0	8.35		ug/Kg		83	50 - 140
PCB-206	10.0	7.68		ug/Kg		77	50 - 140
DCB Decachlorobiphenyl	10.0	8.36		ug/Kg		84	50 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*78*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*78*		*35 - 140*
PCB-205 (Surr)	*85*		*35 - 140*
PCB-205 (Surr)	*89*		*35 - 140*

Method: 8082A - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 180-138974/1-C
Matrix: Sediment
Analysis Batch: 139039

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138974

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.42	0.085	ug/Kg		04/20/15 05:08	04/20/15 13:38	1
PCB-1221	ND		0.42	0.10	ug/Kg		04/20/15 05:08	04/20/15 13:38	1
PCB-1232	ND		0.42	0.14	ug/Kg		04/20/15 05:08	04/20/15 13:38	1
PCB-1242	ND		0.42	0.11	ug/Kg		04/20/15 05:08	04/20/15 13:38	1
PCB-1248	ND		0.42	0.10	ug/Kg		04/20/15 05:08	04/20/15 13:38	1
PCB-1254	ND		0.42	0.099	ug/Kg		04/20/15 05:08	04/20/15 13:38	1
PCB-1260	ND		0.42	0.091	ug/Kg		04/20/15 05:08	04/20/15 13:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*85*		*20 - 150*	*04/20/15 05:08*	*04/20/15 13:38*	*1*
DCB Decachlorobiphenyl (Surr)	*83*		*20 - 150*	*04/20/15 05:08*	*04/20/15 13:38*	*1*
Tetrachloro-m-xylene (Surr)	*82*		*30 - 150*	*04/20/15 05:08*	*04/20/15 13:38*	*1*
Tetrachloro-m-xylene (Surr)	*89*		*30 - 150*	*04/20/15 05:08*	*04/20/15 13:38*	*1*

Lab Sample ID: LCS 180-138974/2-C
Matrix: Sediment
Analysis Batch: 139039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138974

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	33.3	24.1		ug/Kg		72	50 - 120
PCB-1260	33.3	23.8		ug/Kg		71	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*90*		*20 - 150*
DCB Decachlorobiphenyl (Surr)	*88*		*20 - 150*
Tetrachloro-m-xylene (Surr)	*93*		*30 - 150*
Tetrachloro-m-xylene (Surr)	*91*		*30 - 150*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Lab Sample ID: MB 180-138256/1-A
Matrix: Sediment
Analysis Batch: 138548

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138256

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Demeton, Total	ND		33	3.0	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Malathion	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Methyl parathion	ND		17	1.5	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Parathion	ND		17	1.3	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Bolstar	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Chlorpyrifos	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Coumaphos	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Diazinon	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Dichlorvos	ND		17	1.5	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Dimethoate	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Disulfoton	ND		17	1.8	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
EPN	ND		17	1.4	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Mocap	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Famphur	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Fensulfothion	ND		17	1.3	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Fenthion	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Mevinphos	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Phorate	ND		17	1.7	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Ronnel	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Stirophos	ND		17	1.7	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Sulfotepp	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Thionazin	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Tokuthion	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Trichloronate	ND		17	1.9	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
O,O,O-Triethyl phosphorothioate	ND		17	3.2	ug/Kg		04/13/15 03:33	04/15/15 12:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*69*		*47 - 130*	*04/13/15 03:33*	*04/15/15 12:41*	*1*
Tributyl phosphate	*67*		*47 - 130*	*04/13/15 03:33*	*04/15/15 12:41*	*1*
Triphenylphosphate	*84*		*55 - 125*	*04/13/15 03:33*	*04/15/15 12:41*	*1*
Triphenylphosphate	*86*		*55 - 125*	*04/13/15 03:33*	*04/15/15 12:41*	*1*

Lab Sample ID: LCS 180-138256/2-A
Matrix: Sediment
Analysis Batch: 138548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138256

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	167	145		ug/Kg		87	40 - 150
Malathion	167	152		ug/Kg		91	50 - 135
Methyl parathion	167	148		ug/Kg		89	43 - 146
Parathion	167	150		ug/Kg		90	52 - 133
Bolstar	167	155		ug/Kg		93	10 - 150
Chlorpyrifos	167	151		ug/Kg		91	50 - 130
Coumaphos	167	150		ug/Kg		90	10 - 150
Diazinon	167	148		ug/Kg		89	50 - 150

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCS 180-138256/2-A
Matrix: Sediment
Analysis Batch: 138548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138256

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorvos	167	172		ug/Kg		103	10 - 150
Dimethoate	167	134		ug/Kg		81	40 - 143
Disulfoton	167	150		ug/Kg		90	31 - 136
EPN	167	149		ug/Kg		89	10 - 150
Mocap	167	148		ug/Kg		89	10 - 150
Famphur	167	144		ug/Kg		86	54 - 137
Fensulfothion	167	136		ug/Kg		82	10 - 150
Fenthion	167	150		ug/Kg		90	10 - 150
Mevinphos	167	130		ug/Kg		78	10 - 150
Phorate	167	153		ug/Kg		92	41 - 143
Ronnel	167	145		ug/Kg		87	10 - 150
Stirophos	167	138		ug/Kg		83	10 - 150
Sulfotepp	167	152		ug/Kg		91	48 - 126
Thionazin	167	149		ug/Kg		89	48 - 126
Tokuthion	167	149		ug/Kg		90	10 - 150
Trichloronate	167	151		ug/Kg		90	10 - 150
O,O,O-Triethyl phosphorothioate	167	142		ug/Kg		85	45 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tributyl phosphate	*95*		*47 - 130*
Tributyl phosphate	*95*		*47 - 130*
Triphenylphosphate	*96*		*55 - 125*
Triphenylphosphate	*100*		*55 - 125*

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 180-138788/1-A
Matrix: Sediment
Analysis Batch: 139371

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138788

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.0045	mg/L		04/16/15 16:35	04/23/15 16:25	20
Silvex (2,4,5-TP)	ND		0.010	0.0011	mg/L		04/16/15 16:35	04/23/15 16:25	20

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*61*		*32 - 140*	*04/16/15 16:35*	*04/23/15 16:25*	*20*
2,4-Dichlorophenylacetic acid	*51*		*32 - 140*	*04/16/15 16:35*	*04/23/15 16:25*	*20*

Lab Sample ID: LCS 180-138788/2-A
Matrix: Sediment
Analysis Batch: 139371

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138788

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D	0.100	0.0861		mg/L		86	32 - 140
Silvex (2,4,5-TP)	0.0250	0.0252		mg/L		101	32 - 140

Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 180-138788/2-A
Matrix: Sediment
Analysis Batch: 139371

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138788

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid	*86*		*32 - 140*
2,4-Dichlorophenylacetic acid	*73*		*32 - 140*

Lab Sample ID: LCSD 180-138788/3-A
Matrix: Sediment
Analysis Batch: 139371

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138788

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-D			0.100	0.0868		mg/L		87	32 - 140	1	30
Silvex (2,4,5-TP)			0.0250	0.0264		mg/L		106	32 - 140	5	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4-Dichlorophenylacetic acid	*80*		*32 - 140*
2,4-Dichlorophenylacetic acid	*65*		*32 - 140*

Lab Sample ID: LB 180-138579/11-E
Matrix: Sediment
Analysis Batch: 139371

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 138788

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.0045	mg/L		04/16/15 16:35	04/23/15 19:09	20
Silvex (2,4,5-TP)	ND		0.010	0.0011	mg/L		04/16/15 16:35	04/23/15 19:09	20

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	*66*		*32 - 140*	*04/16/15 16:35*	*04/23/15 19:09*	*20*
2,4-Dichlorophenylacetic acid	*57*		*32 - 140*	*04/16/15 16:35*	*04/23/15 19:09*	*20*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 180-138931/1-A
Matrix: Sediment
Analysis Batch: 139594

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 138931

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.13	0.0041	mg/Kg		04/18/15 10:40	04/24/15 11:31	1
Copper SEM	ND		0.63	0.056	mg/Kg		04/18/15 10:40	04/24/15 11:31	1
Lead SEM	ND		0.25	0.050	mg/Kg		04/18/15 10:40	04/24/15 11:31	1
Nickel SEM	ND		1.0	0.029	mg/Kg		04/18/15 10:40	04/24/15 11:31	1
Zinc SEM	0.817	J	2.5	0.18	mg/Kg		04/18/15 10:40	04/24/15 11:31	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.0011	0.000036	umol/g		04/18/15 10:40	04/24/15 11:31	1
Copper SEM	ND		0.0098	0.00088	umol/g		04/18/15 10:40	04/24/15 11:31	1
Lead SEM	ND		0.0012	0.00024	umol/g		04/18/15 10:40	04/24/15 11:31	1
Nickel SEM	ND		0.017	0.00049	umol/g		04/18/15 10:40	04/24/15 11:31	1
Zinc SEM	0.0125	J	0.038	0.0028	umol/g		04/18/15 10:40	04/24/15 11:31	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 180-138931/2-A
Matrix: Sediment
Analysis Batch: 139594

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 138931

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	1.25	1.33		mg/Kg		106	80 - 120
Copper SEM	6.25	6.24		mg/Kg		100	80 - 120
Lead SEM	12.5	12.3		mg/Kg		99	80 - 120
Nickel SEM	12.5	11.9		mg/Kg		95	80 - 120
Zinc SEM	12.5	14.1		mg/Kg		113	80 - 120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	0.011	0.0118		umol/g		106	80 - 120
Copper SEM	0.098	0.0983		umol/g		100	80 - 120
Lead SEM	0.060	0.0595		umol/g		99	80 - 120
Nickel SEM	0.21	0.203		umol/g		95	80 - 120
Zinc SEM	0.19	0.215		umol/g		113	80 - 120

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 180-138680/1-A
Matrix: Sediment
Analysis Batch: 138888

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138680

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050	0.0030	mg/L		04/16/15 09:05	04/17/15 10:45	1
Barium	ND		0.20	0.00019	mg/L		04/16/15 09:05	04/17/15 10:45	1
Cadmium	ND		0.050	0.00017	mg/L		04/16/15 09:05	04/17/15 10:45	1
Chromium	ND		0.050	0.0010	mg/L		04/16/15 09:05	04/17/15 10:45	1
Lead	ND		0.050	0.0015	mg/L		04/16/15 09:05	04/17/15 10:45	1
Selenium	ND		0.050	0.0017	mg/L		04/16/15 09:05	04/17/15 10:45	1
Silver	ND		0.050	0.00027	mg/L		04/16/15 09:05	04/17/15 10:45	1

Lab Sample ID: LCS 180-138680/2-A
Matrix: Sediment
Analysis Batch: 138888

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138680

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.500	0.519		mg/L		104	80 - 120
Barium	2.00	2.08		mg/L		104	80 - 120
Cadmium	0.0500	0.0498	J	mg/L		100	80 - 120
Chromium	0.200	0.199		mg/L		100	80 - 120
Lead	0.500	0.505		mg/L		101	80 - 120
Selenium	0.500	0.522		mg/L		104	80 - 120
Silver	0.0500	0.0520		mg/L		104	80 - 120

Lab Sample ID: LB 180-138579/11-B
Matrix: Sediment
Analysis Batch: 138888

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 138680

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.030	mg/L		04/16/15 09:05	04/17/15 10:50	1
Barium	0.0100	J	2.0	0.0019	mg/L		04/16/15 09:05	04/17/15 10:50	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LB 180-138579/11-B
Matrix: Sediment
Analysis Batch: 138888

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 138680

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.50	0.0017	mg/L		04/16/15 09:05	04/17/15 10:50	1
Chromium	ND		0.50	0.010	mg/L		04/16/15 09:05	04/17/15 10:50	1
Lead	ND		0.50	0.015	mg/L		04/16/15 09:05	04/17/15 10:50	1
Selenium	ND		0.50	0.017	mg/L		04/16/15 09:05	04/17/15 10:50	1
Silver	ND		0.50	0.0027	mg/L		04/16/15 09:05	04/17/15 10:50	1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-139089/1-A
Matrix: Sediment
Analysis Batch: 139939

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139089

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.603	J	1.5	0.14	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Antimony	ND		0.099	0.0013	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Arsenic	ND		0.050	0.0090	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Barium	ND		0.50	0.0053	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Beryllium	ND		0.050	0.0037	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Cadmium	ND		0.050	0.0035	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Chromium	0.00842	J	0.099	0.0030	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Calcium	1.26	J	25	0.66	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Cobalt	ND		0.025	0.00074	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Copper	ND		0.099	0.016	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Iron	1.73	J	2.5	0.18	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Lead	ND		0.050	0.0019	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Nickel	ND		0.050	0.0056	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Potassium	ND		25	0.67	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Selenium	ND		0.25	0.025	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Magnesium	0.324	J	25	0.093	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Silver	ND		0.050	0.0019	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Thallium	ND		0.050	0.00099	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Sodium	ND		25	0.68	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Zinc	ND		0.25	0.032	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Vanadium	ND		0.050	0.0039	mg/Kg		04/20/15 17:26	04/28/15 03:23	1
Manganese	0.0177	J	0.25	0.0051	mg/Kg		04/20/15 17:26	04/28/15 03:23	1

Lab Sample ID: LCS 180-139089/2-A
Matrix: Sediment
Analysis Batch: 139939

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139089

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	100	84.5		mg/Kg		85	80 - 120
Antimony	25.0	23.8		mg/Kg		95	80 - 120
Arsenic	2.00	1.67		mg/Kg		83	80 - 120
Barium	100	97.2		mg/Kg		97	80 - 120
Beryllium	2.50	2.08		mg/Kg		83	80 - 120
Cadmium	2.50	2.33		mg/Kg		93	80 - 120
Chromium	10.0	9.50		mg/Kg		95	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-139089/2-A
Matrix: Sediment
Analysis Batch: 139939

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139089

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	2500	2670		mg/Kg		107	80 - 120
Cobalt	25.0	24.5		mg/Kg		98	80 - 120
Copper	12.5	11.2		mg/Kg		89	80 - 120
Iron	50.0	55.0		mg/Kg		110	80 - 120
Lead	1.00	1.03		mg/Kg		103	80 - 120
Nickel	25.0	22.2		mg/Kg		89	80 - 120
Potassium	2500	2470		mg/Kg		99	80 - 120
Selenium	0.500	0.436		mg/Kg		87	80 - 120
Magnesium	2500	2070		mg/Kg		83	80 - 120
Silver	2.50	2.29		mg/Kg		92	80 - 120
Thallium	2.50	2.54		mg/Kg		102	80 - 120
Sodium	2500	2070		mg/Kg		83	80 - 120
Zinc	25.0	22.4		mg/Kg		90	80 - 120
Vanadium	25.0	25.1		mg/Kg		100	80 - 120
Manganese	25.0	26.6		mg/Kg		107	80 - 120

Lab Sample ID: MB 180-140029/1-A
Matrix: Sediment
Analysis Batch: 140127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140029

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.5	0.14	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Antimony	ND		0.10	0.0013	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Arsenic	ND		0.050	0.0091	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Barium	ND		0.50	0.0054	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Beryllium	ND		0.050	0.0038	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Cadmium	ND		0.050	0.0035	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Chromium	ND		0.10	0.0031	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Calcium	ND		25	0.66	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Cobalt	ND		0.025	0.00075	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Copper	ND		0.10	0.017	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Iron	ND		2.5	0.18	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Lead	ND		0.050	0.0019	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Nickel	ND		0.050	0.0057	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Potassium	ND		25	0.68	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Selenium	ND		0.25	0.025	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Magnesium	ND		25	0.094	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Silver	ND		0.050	0.0020	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Thallium	ND		0.050	0.0010	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Sodium	ND		25	0.68	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Zinc	ND		0.25	0.032	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Vanadium	ND		0.050	0.0040	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Manganese	ND		0.25	0.0052	mg/Kg		04/29/15 11:56	04/29/15 22:05	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-140029/2-A
Matrix: Sediment
Analysis Batch: 140127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140029

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	99.0	91.3		mg/Kg		92	80 - 120
Antimony	24.8	22.7		mg/Kg		92	80 - 120
Arsenic	1.98	1.82		mg/Kg		92	80 - 120
Barium	99.0	89.7		mg/Kg		91	80 - 120
Beryllium	2.48	2.30		mg/Kg		93	80 - 120
Cadmium	2.48	2.40		mg/Kg		97	80 - 120
Chromium	9.90	8.94		mg/Kg		90	80 - 120
Calcium	2480	2280		mg/Kg		92	80 - 120
Cobalt	24.8	22.5		mg/Kg		91	80 - 120
Copper	12.4	11.6		mg/Kg		94	80 - 120
Iron	49.5	45.2		mg/Kg		91	80 - 120
Lead	0.990	1.01		mg/Kg		102	80 - 120
Nickel	24.8	22.7		mg/Kg		92	80 - 120
Potassium	2480	2160		mg/Kg		87	80 - 120
Selenium	0.495	0.418		mg/Kg		85	80 - 120
Magnesium	2480	2250		mg/Kg		91	80 - 120
Silver	2.48	2.38		mg/Kg		96	80 - 120
Thallium	2.48	2.45		mg/Kg		99	80 - 120
Sodium	2480	2340		mg/Kg		94	80 - 120
Zinc	24.8	20.7		mg/Kg		84	80 - 120
Vanadium	24.8	22.6		mg/Kg		91	80 - 120
Manganese	24.8	24.1		mg/Kg		97	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-138942/1-A
Matrix: Sediment
Analysis Batch: 138965

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138942

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000078	mg/L		04/19/15 09:26	04/19/15 12:55	1

Lab Sample ID: LCS 180-138942/2-A
Matrix: Sediment
Analysis Batch: 138965

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138942

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00267		mg/L		107	80 - 120

Lab Sample ID: LCSD 180-138942/3-A
Matrix: Sediment
Analysis Batch: 138965

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138942

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00250	0.00260		mg/L		104	80 - 120	3	20

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LB 180-138579/11-F
Matrix: Sediment
Analysis Batch: 138965

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 138942

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000078	mg/L		04/19/15 09:26	04/19/15 13:00	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Lab Sample ID: MB 180-139859/1-A
Matrix: Sediment
Analysis Batch: 140049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139859

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.016	0.0055	mg/Kg		04/28/15 09:05	04/29/15 11:41	1

Lab Sample ID: LCS 180-139859/2-A
Matrix: Sediment
Analysis Batch: 140049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139859

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.208	0.198		mg/Kg		95	80 - 120

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 180-140056/1-A
Matrix: Sediment
Analysis Batch: 140173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140056

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		4.9	3.1	mg/Kg		04/29/15 13:17	04/30/15 10:58	1

Lab Sample ID: LCS 180-140056/2-A
Matrix: Sediment
Analysis Batch: 140173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140056

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	97.1	96.8		mg/Kg		100	90 - 110

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: LB 180-139721/2-A
Matrix: Sediment
Analysis Batch: 139943

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.0	0.21	mg/Kg			04/28/15 15:22	1

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 180-139721/1-A
Matrix: Sediment
Analysis Batch: 139943

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	39.9	41.9		mg/Kg		105	90 - 110

Method: 9014 - Cyanide

Lab Sample ID: MB 180-138541/4-A
Matrix: Sediment
Analysis Batch: 138612

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138541

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.25	0.082	mg/Kg		04/15/15 12:00	04/15/15 13:10	1

Lab Sample ID: HLCS 180-138541/2-A
Matrix: Sediment
Analysis Batch: 138612

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138541

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.252		mg/Kg		101	90 - 110

Lab Sample ID: LCS 180-138541/3-A
Matrix: Sediment
Analysis Batch: 138612

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138541

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	70.3	90.0		mg/Kg		128	38 - 162

Lab Sample ID: LLCS 180-138541/1-A
Matrix: Sediment
Analysis Batch: 138612

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138541

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0500	0.0496		mg/Kg		99	90 - 110

Method: 9023 - Organic Halides, Extractable (EOX)

Lab Sample ID: MB 240-176659/3-A
Matrix: Sediment
Analysis Batch: 176749

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 176659

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Extractable Organic	ND		200	34	mg/Kg		04/16/15 07:32	04/16/15 09:24	1

Lab Sample ID: LCS 240-176659/4-A
Matrix: Sediment
Analysis Batch: 176749

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 176659

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Halogens, Extractable Organic	1000	1020		mg/Kg		102	75 - 125

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-138137/1-A
Matrix: Sediment
Analysis Batch: 138175

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138137

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		30	6.0	mg/Kg		04/10/15 10:45	04/10/15 14:03	1

Lab Sample ID: LCS 180-138137/2-A
Matrix: Sediment
Analysis Batch: 138175

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138137

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	192	172		mg/Kg		89	85 - 115

Lab Sample ID: 180-42815-3 MS
Matrix: Sediment
Analysis Batch: 138175

Client Sample ID: TS-2ST-SED
Prep Type: Total/NA
Prep Batch: 138137

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	ND		228	199		mg/Kg	☼	87	75 - 125

Lab Sample ID: 180-42815-3 MSD
Matrix: Sediment
Analysis Batch: 138175

Client Sample ID: TS-2ST-SED
Prep Type: Total/NA
Prep Batch: 138137

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	ND		229	203		mg/Kg	☼	89	75 - 125	2	20

Lab Sample ID: MB 180-138240/1-A
Matrix: Sediment
Analysis Batch: 138379

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138240

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		30	6.0	mg/Kg		04/12/15 09:15	04/12/15 11:18	1

Lab Sample ID: LCS 180-138240/2-A
Matrix: Sediment
Analysis Batch: 138379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138240

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	192	169		mg/Kg		88	85 - 115

Lab Sample ID: MB 180-138932/1-A
Matrix: Sediment
Analysis Batch: 139134

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 138932

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		15	3.0	mg/Kg		04/18/15 10:40	04/18/15 12:03	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.47	0.094	umol/g		04/18/15 10:40	04/18/15 12:03	1

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric) (Continued)

Lab Sample ID: LCS 180-138932/2-A
Matrix: Sediment
Analysis Batch: 139134

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 138932

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	96.1	88.7		mg/Kg		92	85 - 115

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	3.0	2.77		umol/g		92	85 - 115

Method: 9045D - pH

Lab Sample ID: LCS 180-139637/1
Matrix: Sediment
Analysis Batch: 139637

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.030		SU		100	99 - 101

Method: 9095B - Paint Filter

Lab Sample ID: 180-42815-6 DU
Matrix: Sediment
Analysis Batch: 138407

Client Sample ID: TS-3ST-SED
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Free Liquid	CNF		CNF		NONE		NC	20

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 180-139153/3
Matrix: Sediment
Analysis Batch: 139153

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	89	mg/Kg			04/16/15 03:33	1

Lab Sample ID: LCS 180-139153/4
Matrix: Sediment
Analysis Batch: 139153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	35000	29500		mg/Kg		84	75 - 125

Lab Sample ID: MB 180-139359/3
Matrix: Sediment
Analysis Batch: 139359

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	89	mg/Kg			04/21/15 05:20	1

Method: Lloyd Kahn - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCS 180-139359/4
Matrix: Sediment
Analysis Batch: 139359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	35000	30300		mg/Kg		87	75 - 125

Lab Sample ID: MB 180-139540/3
Matrix: Sediment
Analysis Batch: 139540

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	89	mg/Kg			04/23/15 09:51	1

Lab Sample ID: LCS 180-139540/4
Matrix: Sediment
Analysis Batch: 139540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	35000	37300		mg/Kg		107	75 - 125

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-176096/3-A
Matrix: Sediment
Analysis Batch: 176238

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 176096

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		9.6	0.88	mg/Kg		04/13/15 06:42	04/13/15 13:39	1

Lab Sample ID: LCS 240-176096/4-A
Matrix: Sediment
Analysis Batch: 176238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 176096

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	16.9	16.8		mg/Kg		99	75 - 125

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total

Lab Sample ID: MB 240-176755/1-A
Matrix: Sediment
Analysis Batch: 176849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 176755

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		140	49	mg/Kg		04/16/15 13:40	04/17/15 11:42	1

Lab Sample ID: LCS 240-176755/2-A
Matrix: Sediment
Analysis Batch: 176849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 176755

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	360	339		mg/Kg		94	70 - 133

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Analysis Batch: 138098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	8260C	138103
180-42815-2 MS	TS-1-SED	Total/NA	Sediment	8260C	138103
180-42815-2 MSD	TS-1-SED	Total/NA	Sediment	8260C	138103
180-42815-3	TS-2ST-SED	Total/NA	Sediment	8260C	138103
180-42815-4	TS-2MT-SED	Total/NA	Sediment	8260C	138103
180-42815-5	TS-2NT-SED	Total/NA	Sediment	8260C	138103
180-42815-6	TS-3ST-SED	Total/NA	Sediment	8260C	138103
LCS 180-138103/2-A	Lab Control Sample	Total/NA	Sediment	8260C	138103
MB 180-138103/1-A	Method Blank	Total/NA	Sediment	8260C	138103

Prep Batch: 138103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	5030C	
180-42815-2 MS	TS-1-SED	Total/NA	Sediment	5030C	
180-42815-2 MSD	TS-1-SED	Total/NA	Sediment	5030C	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	5030C	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	5030C	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	5030C	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	5030C	
LCS 180-138103/2-A	Lab Control Sample	Total/NA	Sediment	5030C	
MB 180-138103/1-A	Method Blank	Total/NA	Sediment	5030C	

Leach Batch: 138945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	1311	
180-42815-2 MS	TS-1-SED	TCLP	Sediment	1311	
180-42815-2 MSD	TS-1-SED	TCLP	Sediment	1311	
180-42815-3	TS-2ST-SED	TCLP	Sediment	1311	
180-42815-4	TS-2MT-SED	TCLP	Sediment	1311	
180-42815-5	TS-2NT-SED	TCLP	Sediment	1311	
180-42815-6	TS-3ST-SED	TCLP	Sediment	1311	
LB 180-138945/15-A	Method Blank	TCLP	Sediment	1311	

Analysis Batch: 139036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	8260C	138945
180-42815-2 MS	TS-1-SED	TCLP	Sediment	8260C	138945
180-42815-2 MSD	TS-1-SED	TCLP	Sediment	8260C	138945
180-42815-3	TS-2ST-SED	TCLP	Sediment	8260C	138945
180-42815-4	TS-2MT-SED	TCLP	Sediment	8260C	138945
180-42815-5	TS-2NT-SED	TCLP	Sediment	8260C	138945
180-42815-6	TS-3ST-SED	TCLP	Sediment	8260C	138945
LB 180-138945/15-A	Method Blank	TCLP	Sediment	8260C	138945
LCS 180-139036/12	Lab Control Sample	Total/NA	Sediment	8260C	

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Leach Batch: 138579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	1311	

GC/MS Semi VOA (Continued)

Leach Batch: 138579 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-3	TS-2ST-SED	TCLP	Sediment	1311	
180-42815-4	TS-2MT-SED	TCLP	Sediment	1311	
180-42815-5	TS-2NT-SED	TCLP	Sediment	1311	
180-42815-6	TS-3ST-SED	TCLP	Sediment	1311	
LB 180-138579/11-D	Method Blank	TCLP	Sediment	1311	

Prep Batch: 138775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	3510C	138579
180-42815-3	TS-2ST-SED	TCLP	Sediment	3510C	138579
180-42815-4	TS-2MT-SED	TCLP	Sediment	3510C	138579
180-42815-5	TS-2NT-SED	TCLP	Sediment	3510C	138579
180-42815-6	TS-3ST-SED	TCLP	Sediment	3510C	138579
LB 180-138579/11-D	Method Blank	TCLP	Sediment	3510C	138579
LCS 180-138775/2-A	Lab Control Sample	Total/NA	Sediment	3510C	
LCSD 180-138775/3-A	Lab Control Sample Dup	Total/NA	Sediment	3510C	
MB 180-138775/1-A	Method Blank	Total/NA	Sediment	3510C	

Analysis Batch: 138813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	8270D	138775
180-42815-3	TS-2ST-SED	TCLP	Sediment	8270D	138775
180-42815-4	TS-2MT-SED	TCLP	Sediment	8270D	138775
180-42815-5	TS-2NT-SED	TCLP	Sediment	8270D	138775
180-42815-6	TS-3ST-SED	TCLP	Sediment	8270D	138775
LB 180-138579/11-D	Method Blank	TCLP	Sediment	8270D	138775
LCS 180-138775/2-A	Lab Control Sample	Total/NA	Sediment	8270D	138775
LCSD 180-138775/3-A	Lab Control Sample Dup	Total/NA	Sediment	8270D	138775
MB 180-138775/1-A	Method Blank	Total/NA	Sediment	8270D	138775

Prep Batch: 138970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	3541	
180-42815-2	TS-1-SED	Total/NA	Sediment	3541	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	3541	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	3541	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	3541	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	3541	
180-42815-7	SRM Sediment	Total/NA	Sediment	3541	
LCS 180-138970/2-A	Lab Control Sample	Total/NA	Sediment	3541	
MB 180-138970/1-A	Method Blank	Total/NA	Sediment	3541	

Analysis Batch: 139220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-138970/2-A	Lab Control Sample	Total/NA	Sediment	8270D LL	138970
MB 180-138970/1-A	Method Blank	Total/NA	Sediment	8270D LL	138970

Analysis Batch: 139351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	8270D LL	138970
180-42815-2	TS-1-SED	Total/NA	Sediment	8270D LL	138970

GC/MS Semi VOA (Continued)

Analysis Batch: 139351 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-3	TS-2ST-SED	Total/NA	Sediment	8270D LL	138970
180-42815-4	TS-2MT-SED	Total/NA	Sediment	8270D LL	138970
180-42815-5	TS-2NT-SED	Total/NA	Sediment	8270D LL	138970
180-42815-6	TS-3ST-SED	Total/NA	Sediment	8270D LL	138970
180-42815-7	SRM Sediment	Total/NA	Sediment	8270D LL	138970

GC VOA

Prep Batch: 176195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	5030C	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	5030C	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	5030C	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	5030C	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	5030C	
180-42815-6 MS	TS-3ST-SED	Total/NA	Sediment	5030C	
180-42815-6 MSD	TS-3ST-SED	Total/NA	Sediment	5030C	
LCS 240-176195/2-A	Lab Control Sample	Total/NA	Sediment	5030C	
MB 240-176195/1-A	Method Blank	Total/NA	Sediment	5030C	

Analysis Batch: 176205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	8015D	176195
180-42815-3	TS-2ST-SED	Total/NA	Sediment	8015D	176195
180-42815-4	TS-2MT-SED	Total/NA	Sediment	8015D	176195
180-42815-5	TS-2NT-SED	Total/NA	Sediment	8015D	176195
180-42815-6	TS-3ST-SED	Total/NA	Sediment	8015D	176195
180-42815-6 MS	TS-3ST-SED	Total/NA	Sediment	8015D	176195
180-42815-6 MSD	TS-3ST-SED	Total/NA	Sediment	8015D	176195
LCS 240-176195/2-A	Lab Control Sample	Total/NA	Sediment	8015D	176195
MB 240-176195/1-A	Method Blank	Total/NA	Sediment	8015D	176195

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Prep Batch: 138101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	3541	
180-42815-2	TS-1-SED	Total/NA	Sediment	3541	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	3541	
180-42815-3 MS	TS-2ST-SED	Total/NA	Sediment	3541	
180-42815-3 MSD	TS-2ST-SED	Total/NA	Sediment	3541	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	3541	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	3541	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	3541	
LCS 180-138101/2-C	Lab Control Sample	Total/NA	Sediment	3541	
MB 180-138101/1-C	Method Blank	Total/NA	Sediment	3541	

Prep Batch: 138256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	3541	

GC Semi VOA (Continued)

Prep Batch: 138256 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	3541	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	3541	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	3541	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	3541	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	3541	
LCS 180-138256/2-A	Lab Control Sample	Total/NA	Sediment	3541	
MB 180-138256/1-A	Method Blank	Total/NA	Sediment	3541	

Cleanup Batch: 138408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	3665A	138101
180-42815-2	TS-1-SED	Total/NA	Sediment	3665A	138101
180-42815-3	TS-2ST-SED	Total/NA	Sediment	3665A	138101
180-42815-3 MS	TS-2ST-SED	Total/NA	Sediment	3665A	138101
180-42815-3 MSD	TS-2ST-SED	Total/NA	Sediment	3665A	138101
180-42815-4	TS-2MT-SED	Total/NA	Sediment	3665A	138101
180-42815-5	TS-2NT-SED	Total/NA	Sediment	3665A	138101
180-42815-6	TS-3ST-SED	Total/NA	Sediment	3665A	138101
LCS 180-138101/2-C	Lab Control Sample	Total/NA	Sediment	3665A	138101
MB 180-138101/1-C	Method Blank	Total/NA	Sediment	3665A	138101

Cleanup Batch: 138409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	3660B	138408
180-42815-2	TS-1-SED	Total/NA	Sediment	3660B	138408
180-42815-3	TS-2ST-SED	Total/NA	Sediment	3660B	138408
180-42815-3 MS	TS-2ST-SED	Total/NA	Sediment	3660B	138408
180-42815-3 MSD	TS-2ST-SED	Total/NA	Sediment	3660B	138408
180-42815-4	TS-2MT-SED	Total/NA	Sediment	3660B	138408
180-42815-5	TS-2NT-SED	Total/NA	Sediment	3660B	138408
180-42815-6	TS-3ST-SED	Total/NA	Sediment	3660B	138408
LCS 180-138101/2-C	Lab Control Sample	Total/NA	Sediment	3660B	138408
MB 180-138101/1-C	Method Blank	Total/NA	Sediment	3660B	138408

Analysis Batch: 138424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	8082A	138409
180-42815-2	TS-1-SED	Total/NA	Sediment	8082A	138409
180-42815-3	TS-2ST-SED	Total/NA	Sediment	8082A	138409
180-42815-3 MS	TS-2ST-SED	Total/NA	Sediment	8082A	138409
180-42815-3 MSD	TS-2ST-SED	Total/NA	Sediment	8082A	138409
180-42815-4	TS-2MT-SED	Total/NA	Sediment	8082A	138409
180-42815-5	TS-2NT-SED	Total/NA	Sediment	8082A	138409
180-42815-6	TS-3ST-SED	Total/NA	Sediment	8082A	138409
LCS 180-138101/2-C	Lab Control Sample	Total/NA	Sediment	8082A	138409
MB 180-138101/1-C	Method Blank	Total/NA	Sediment	8082A	138409

Analysis Batch: 138548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	8141B	138256
180-42815-2	TS-1-SED	Total/NA	Sediment	8141B	138256

GC Semi VOA (Continued)

Analysis Batch: 138548 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-3	TS-2ST-SED	Total/NA	Sediment	8141B	138256
180-42815-4	TS-2MT-SED	Total/NA	Sediment	8141B	138256
180-42815-5	TS-2NT-SED	Total/NA	Sediment	8141B	138256
180-42815-6	TS-3ST-SED	Total/NA	Sediment	8141B	138256
LCS 180-138256/2-A	Lab Control Sample	Total/NA	Sediment	8141B	138256
MB 180-138256/1-A	Method Blank	Total/NA	Sediment	8141B	138256

Leach Batch: 138579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	1311	
180-42815-3	TS-2ST-SED	TCLP	Sediment	1311	
180-42815-4	TS-2MT-SED	TCLP	Sediment	1311	
180-42815-5	TS-2NT-SED	TCLP	Sediment	1311	
180-42815-6	TS-3ST-SED	TCLP	Sediment	1311	
LB 180-138579/11-C	Method Blank	TCLP	Sediment	1311	
LB 180-138579/11-E	Method Blank	TCLP	Sediment	1311	

Prep Batch: 138774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	3510C	138579
180-42815-3	TS-2ST-SED	TCLP	Sediment	3510C	138579
180-42815-4	TS-2MT-SED	TCLP	Sediment	3510C	138579
180-42815-5	TS-2NT-SED	TCLP	Sediment	3510C	138579
180-42815-6	TS-3ST-SED	TCLP	Sediment	3510C	138579
LB 180-138579/11-C	Method Blank	TCLP	Sediment	3510C	138579
LCS 180-138774/2-A	Lab Control Sample	Total/NA	Sediment	3510C	
LCSD 180-138774/3-A	Lab Control Sample Dup	Total/NA	Sediment	3510C	
MB 180-138774/1-A	Method Blank	Total/NA	Sediment	3510C	

Prep Batch: 138788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	8151A	138579
180-42815-3	TS-2ST-SED	TCLP	Sediment	8151A	138579
180-42815-4	TS-2MT-SED	TCLP	Sediment	8151A	138579
180-42815-5	TS-2NT-SED	TCLP	Sediment	8151A	138579
180-42815-6	TS-3ST-SED	TCLP	Sediment	8151A	138579
LB 180-138579/11-E	Method Blank	TCLP	Sediment	8151A	138579
LCS 180-138788/2-A	Lab Control Sample	Total/NA	Sediment	8151A	
LCSD 180-138788/3-A	Lab Control Sample Dup	Total/NA	Sediment	8151A	
MB 180-138788/1-A	Method Blank	Total/NA	Sediment	8151A	

Analysis Batch: 138829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	8081B	138774
180-42815-3	TS-2ST-SED	TCLP	Sediment	8081B	138774
180-42815-4	TS-2MT-SED	TCLP	Sediment	8081B	138774
180-42815-5	TS-2NT-SED	TCLP	Sediment	8081B	138774
180-42815-6	TS-3ST-SED	TCLP	Sediment	8081B	138774
LB 180-138579/11-C	Method Blank	TCLP	Sediment	8081B	138774
LCS 180-138774/2-A	Lab Control Sample	Total/NA	Sediment	8081B	138774
LCSD 180-138774/3-A	Lab Control Sample Dup	Total/NA	Sediment	8081B	138774

GC Semi VOA (Continued)

Analysis Batch: 138829 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-138774/1-A	Method Blank	Total/NA	Sediment	8081B	138774
PEM 180-138829/15	PEM		Sediment	8081B	
PEM 180-138829/39	PEM		Sediment	8081B	

Prep Batch: 138973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	3541	
180-42815-2	TS-1-SED	Total/NA	Sediment	3541	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	3541	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	3541	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	3541	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	3541	
180-42815-7 - DL	SRM Sediment	Total/NA	Sediment	3541	
180-42815-7	SRM Sediment	Total/NA	Sediment	3541	
LCS 180-138973/2-B	Lab Control Sample	Total/NA	Sediment	3541	
MB 180-138973/1-B	Method Blank	Total/NA	Sediment	3541	

Prep Batch: 138974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	3541	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	3541	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	3541	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	3541	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	3541	
LCS 180-138974/2-C	Lab Control Sample	Total/NA	Sediment	3541	
MB 180-138974/1-C	Method Blank	Total/NA	Sediment	3541	

Analysis Batch: 139039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	8082A	139049
180-42815-3	TS-2ST-SED	Total/NA	Sediment	8082A	139049
180-42815-4	TS-2MT-SED	Total/NA	Sediment	8082A	139049
180-42815-5	TS-2NT-SED	Total/NA	Sediment	8082A	139049
180-42815-6	TS-3ST-SED	Total/NA	Sediment	8082A	139049
LCS 180-138974/2-C	Lab Control Sample	Total/NA	Sediment	8082A	139049
MB 180-138974/1-C	Method Blank	Total/NA	Sediment	8082A	139049
RTC 180-139039/6	RTC		Sediment	8082A	

Cleanup Batch: 139045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	3640A	138973
180-42815-2	TS-1-SED	Total/NA	Sediment	3640A	138973
180-42815-3	TS-2ST-SED	Total/NA	Sediment	3640A	138973
180-42815-4	TS-2MT-SED	Total/NA	Sediment	3640A	138973
180-42815-5	TS-2NT-SED	Total/NA	Sediment	3640A	138973
180-42815-6	TS-3ST-SED	Total/NA	Sediment	3640A	138973
180-42815-7	SRM Sediment	Total/NA	Sediment	3640A	138973
180-42815-7 - DL	SRM Sediment	Total/NA	Sediment	3640A	138973
LCS 180-138973/2-B	Lab Control Sample	Total/NA	Sediment	3640A	138973
MB 180-138973/1-B	Method Blank	Total/NA	Sediment	3640A	138973

GC Semi VOA (Continued)

Cleanup Batch: 139048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	3665A	138974
180-42815-3	TS-2ST-SED	Total/NA	Sediment	3665A	138974
180-42815-4	TS-2MT-SED	Total/NA	Sediment	3665A	138974
180-42815-5	TS-2NT-SED	Total/NA	Sediment	3665A	138974
180-42815-6	TS-3ST-SED	Total/NA	Sediment	3665A	138974
LCS 180-138974/2-C	Lab Control Sample	Total/NA	Sediment	3665A	138974
MB 180-138974/1-C	Method Blank	Total/NA	Sediment	3665A	138974

Cleanup Batch: 139049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	3660B	139048
180-42815-3	TS-2ST-SED	Total/NA	Sediment	3660B	139048
180-42815-4	TS-2MT-SED	Total/NA	Sediment	3660B	139048
180-42815-5	TS-2NT-SED	Total/NA	Sediment	3660B	139048
180-42815-6	TS-3ST-SED	Total/NA	Sediment	3660B	139048
LCS 180-138974/2-C	Lab Control Sample	Total/NA	Sediment	3660B	139048
MB 180-138974/1-C	Method Blank	Total/NA	Sediment	3660B	139048

Prep Batch: 139100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-7	SRM Sediment	Total/NA	Sediment	3541	
180-42815-7 - DL	SRM Sediment	Total/NA	Sediment	3541	
LCS 180-139100/2-C	Lab Control Sample	Total/NA	Sediment	3541	
MB 180-139100/1-C	Method Blank	Total/NA	Sediment	3541	

Analysis Batch: 139371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	8151A	138788
180-42815-3	TS-2ST-SED	TCLP	Sediment	8151A	138788
180-42815-4	TS-2MT-SED	TCLP	Sediment	8151A	138788
180-42815-5	TS-2NT-SED	TCLP	Sediment	8151A	138788
180-42815-6	TS-3ST-SED	TCLP	Sediment	8151A	138788
LB 180-138579/11-E	Method Blank	TCLP	Sediment	8151A	138788
LCS 180-138788/2-A	Lab Control Sample	Total/NA	Sediment	8151A	138788
LCSD 180-138788/3-A	Lab Control Sample Dup	Total/NA	Sediment	8151A	138788
MB 180-138788/1-A	Method Blank	Total/NA	Sediment	8151A	138788

Analysis Batch: 139571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	8081B_LL	139045
180-42815-2	TS-1-SED	Total/NA	Sediment	8081B_LL	139045
180-42815-3	TS-2ST-SED	Total/NA	Sediment	8081B_LL	139045
180-42815-4	TS-2MT-SED	Total/NA	Sediment	8081B_LL	139045
180-42815-5	TS-2NT-SED	Total/NA	Sediment	8081B_LL	139045
180-42815-6	TS-3ST-SED	Total/NA	Sediment	8081B_LL	139045
180-42815-7	SRM Sediment	Total/NA	Sediment	8081B_LL	139045
LCS 180-138973/2-B	Lab Control Sample	Total/NA	Sediment	8081B_LL	139045
MB 180-138973/1-B	Method Blank	Total/NA	Sediment	8081B_LL	139045
PEM 180-139571/38	PEM		Sediment	8081B_LL	
PEM 180-139571/62	PEM		Sediment	8081B_LL	

GC Semi VOA (Continued)

Analysis Batch: 139657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-7 - DL	SRM Sediment	Total/NA	Sediment	8081B_LL	139045
PEM 180-139657/1	PEM		Sediment	8081B_LL	

Prep Batch: 139823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-3 - RE	TS-2ST-SED	Total/NA	Sediment	3541	
180-42815-3 - RA	TS-2ST-SED	Total/NA	Sediment	3541	
LCS 180-139823/2-B	Lab Control Sample	Total/NA	Sediment	3541	
MB 180-139823/1-B	Method Blank	Total/NA	Sediment	3541	

Cleanup Batch: 139866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-7 - DL	SRM Sediment	Total/NA	Sediment	3665A	139100
180-42815-7	SRM Sediment	Total/NA	Sediment	3665A	139100
LCS 180-139100/2-C	Lab Control Sample	Total/NA	Sediment	3665A	139100
MB 180-139100/1-C	Method Blank	Total/NA	Sediment	3665A	139100

Cleanup Batch: 139867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-7 - DL	SRM Sediment	Total/NA	Sediment	3660B	139866
180-42815-7	SRM Sediment	Total/NA	Sediment	3660B	139866
LCS 180-139100/2-C	Lab Control Sample	Total/NA	Sediment	3660B	139866
MB 180-139100/1-C	Method Blank	Total/NA	Sediment	3660B	139866

Cleanup Batch: 139877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-3 - RE	TS-2ST-SED	Total/NA	Sediment	3640A	139823
180-42815-3 - RA	TS-2ST-SED	Total/NA	Sediment	3640A	139823
LCS 180-139823/2-B	Lab Control Sample	Total/NA	Sediment	3640A	139823
MB 180-139823/1-B	Method Blank	Total/NA	Sediment	3640A	139823

Analysis Batch: 139880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-7	SRM Sediment	Total/NA	Sediment	8082A	139867
LCS 180-139100/2-C	Lab Control Sample	Total/NA	Sediment	8082A	139867
MB 180-139100/1-C	Method Blank	Total/NA	Sediment	8082A	139867

Analysis Batch: 140217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-7 - DL	SRM Sediment	Total/NA	Sediment	8082A	139867

Analysis Batch: 140438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-3 - RE	TS-2ST-SED	Total/NA	Sediment	8081B_LL	139877
LCS 180-139823/2-B	Lab Control Sample	Total/NA	Sediment	8081B_LL	139877
MB 180-139823/1-B	Method Blank	Total/NA	Sediment	8081B_LL	139877
PEM 180-140438/25	PEM		Sediment	8081B_LL	
PEM 180-140438/49	PEM		Sediment	8081B_LL	

GC Semi VOA (Continued)

Analysis Batch: 140590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-3 - RA	TS-2ST-SED	Total/NA	Sediment	8081B_LL	139877
PEM 180-140590/1	PEM		Sediment	8081B_LL	
PEM 180-140590/7	PEM		Sediment	8081B_LL	

Prep Batch: 176306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	3540C	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	3540C	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	3540C	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	3540C	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	3540C	
LCS 240-176306/24-A	Lab Control Sample	Total/NA	Sediment	3540C	
MB 240-176306/23-A	Method Blank	Total/NA	Sediment	3540C	

Analysis Batch: 176534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	8015D	176306
180-42815-3	TS-2ST-SED	Total/NA	Sediment	8015D	176306
180-42815-4	TS-2MT-SED	Total/NA	Sediment	8015D	176306
180-42815-5	TS-2NT-SED	Total/NA	Sediment	8015D	176306
180-42815-6	TS-3ST-SED	Total/NA	Sediment	8015D	176306
LCS 240-176306/24-A	Lab Control Sample	Total/NA	Sediment	8015D	176306
MB 240-176306/23-A	Method Blank	Total/NA	Sediment	8015D	176306

Metals

Leach Batch: 138579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	1311	
180-42815-3	TS-2ST-SED	TCLP	Sediment	1311	
180-42815-4	TS-2MT-SED	TCLP	Sediment	1311	
180-42815-5	TS-2NT-SED	TCLP	Sediment	1311	
180-42815-6	TS-3ST-SED	TCLP	Sediment	1311	
LB 180-138579/11-B	Method Blank	TCLP	Sediment	1311	
LB 180-138579/11-F	Method Blank	TCLP	Sediment	1311	

Prep Batch: 138680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	3010A	138579
180-42815-3	TS-2ST-SED	TCLP	Sediment	3010A	138579
180-42815-4	TS-2MT-SED	TCLP	Sediment	3010A	138579
180-42815-5	TS-2NT-SED	TCLP	Sediment	3010A	138579
180-42815-6	TS-3ST-SED	TCLP	Sediment	3010A	138579
LB 180-138579/11-B	Method Blank	TCLP	Sediment	3010A	138579
LCS 180-138680/2-A	Lab Control Sample	Total/NA	Sediment	3010A	
MB 180-138680/1-A	Method Blank	Total/NA	Sediment	3010A	

Analysis Batch: 138888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	6010C	138680

Metals (Continued)

Analysis Batch: 138888 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-3	TS-2ST-SED	TCLP	Sediment	6010C	138680
180-42815-4	TS-2MT-SED	TCLP	Sediment	6010C	138680
180-42815-5	TS-2NT-SED	TCLP	Sediment	6010C	138680
180-42815-6	TS-3ST-SED	TCLP	Sediment	6010C	138680
CRI 180-138888/28	DL		Sediment	6010C	
CRI 180-138888/7	DL		Sediment	6010C	
CRI 180-138888/72	DL		Sediment	6010C	
ICSA 180-138888/8	ICS		Sediment	6010C	
ICSAB 180-138888/9	ICS		Sediment	6010C	
LB 180-138579/11-B	Method Blank	TCLP	Sediment	6010C	138680
LCS 180-138680/2-A	Lab Control Sample	Total/NA	Sediment	6010C	138680
MB 180-138680/1-A	Method Blank	Total/NA	Sediment	6010C	138680

Prep Batch: 138931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	SEM/AVS	Sediment	AVSSEM	
180-42815-2	TS-1-SED	SEM/AVS	Sediment	AVSSEM	
180-42815-3	TS-2ST-SED	SEM/AVS	Sediment	AVSSEM	
180-42815-4	TS-2MT-SED	SEM/AVS	Sediment	AVSSEM	
180-42815-5	TS-2NT-SED	SEM/AVS	Sediment	AVSSEM	
180-42815-6	TS-3ST-SED	SEM/AVS	Sediment	AVSSEM	
LCS 180-138931/2-A	Lab Control Sample	SEM/AVS	Sediment	AVSSEM	
MB 180-138931/1-A	Method Blank	SEM/AVS	Sediment	AVSSEM	

Prep Batch: 138942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	7470A	138579
180-42815-3	TS-2ST-SED	TCLP	Sediment	7470A	138579
180-42815-4	TS-2MT-SED	TCLP	Sediment	7470A	138579
180-42815-5	TS-2NT-SED	TCLP	Sediment	7470A	138579
180-42815-6	TS-3ST-SED	TCLP	Sediment	7470A	138579
LB 180-138579/11-F	Method Blank	TCLP	Sediment	7470A	138579
LCS 180-138942/2-A	Lab Control Sample	Total/NA	Sediment	7470A	
LCSD 180-138942/3-A	Lab Control Sample Dup	Total/NA	Sediment	7470A	
MB 180-138942/1-A	Method Blank	Total/NA	Sediment	7470A	

Prep Batch: 138943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
CRA 180-138943/9-A	DL		Sediment	7470A	

Analysis Batch: 138965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	TCLP	Sediment	7470A	138942
180-42815-3	TS-2ST-SED	TCLP	Sediment	7470A	138942
180-42815-4	TS-2MT-SED	TCLP	Sediment	7470A	138942
180-42815-5	TS-2NT-SED	TCLP	Sediment	7470A	138942
180-42815-6	TS-3ST-SED	TCLP	Sediment	7470A	138942
CRA 180-138943/9-A	DL		Sediment	7470A	138943
LB 180-138579/11-F	Method Blank	TCLP	Sediment	7470A	138942
LCS 180-138942/2-A	Lab Control Sample	Total/NA	Sediment	7470A	138942
LCSD 180-138942/3-A	Lab Control Sample Dup	Total/NA	Sediment	7470A	138942

Metals (Continued)

Analysis Batch: 138965 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-138942/1-A	Method Blank	Total/NA	Sediment	7470A	138942

Prep Batch: 139089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	3050B	
180-42815-2	TS-1-SED	Total/NA	Sediment	3050B	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	3050B	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	3050B	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	3050B	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	3050B	
LCS 180-139089/2-A	Lab Control Sample	Total/NA	Sediment	3050B	
MB 180-139089/1-A	Method Blank	Total/NA	Sediment	3050B	

Analysis Batch: 139594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	SEM/AVS	Sediment	6010B	138931
180-42815-2	TS-1-SED	SEM/AVS	Sediment	6010B	138931
180-42815-3	TS-2ST-SED	SEM/AVS	Sediment	6010B	138931
180-42815-4	TS-2MT-SED	SEM/AVS	Sediment	6010B	138931
180-42815-5	TS-2NT-SED	SEM/AVS	Sediment	6010B	138931
180-42815-6	TS-3ST-SED	SEM/AVS	Sediment	6010B	138931
180-42815-6	TS-3ST-SED	SEM/AVS	Sediment	6010B	138931
CRI 180-139594/7	DL		Sediment	6010B	
ICSA 180-139594/8	ICS		Sediment	6010B	
ICSAB 180-139594/9	ICS		Sediment	6010B	
LCS 180-138931/2-A	Lab Control Sample	SEM/AVS	Sediment	6010B	138931
MB 180-138931/1-A	Method Blank	SEM/AVS	Sediment	6010B	138931

Analysis Batch: 139764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	SEM/AVS	Sediment	SEM	
180-42815-2	TS-1-SED	SEM/AVS	Sediment	SEM	
180-42815-3	TS-2ST-SED	SEM/AVS	Sediment	SEM	
180-42815-4	TS-2MT-SED	SEM/AVS	Sediment	SEM	
180-42815-5	TS-2NT-SED	SEM/AVS	Sediment	SEM	
180-42815-6	TS-3ST-SED	SEM/AVS	Sediment	SEM	

Prep Batch: 139859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	7471B	
180-42815-2	TS-1-SED	Total/NA	Sediment	7471B	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	7471B	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	7471B	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	7471B	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	7471B	
180-42815-7	SRM Sediment	Total/NA	Sediment	7471B	
LCS 180-139859/2-A	Lab Control Sample	Total/NA	Sediment	7471B	
MB 180-139859/1-A	Method Blank	Total/NA	Sediment	7471B	

Metals (Continued)

Analysis Batch: 139939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	6020A	139089
180-42815-2	TS-1-SED	Total/NA	Sediment	6020A	139089
180-42815-3	TS-2ST-SED	Total/NA	Sediment	6020A	139089
180-42815-4	TS-2MT-SED	Total/NA	Sediment	6020A	139089
180-42815-5	TS-2NT-SED	Total/NA	Sediment	6020A	139089
CRI 180-139939/113	DL		Sediment	6020A	
CRI 180-139939/7	DL		Sediment	6020A	
ICSA 180-139939/8	ICS		Sediment	6020A	
ICSAB 180-139939/9	ICS		Sediment	6020A	
LCS 180-139089/2-A	Lab Control Sample	Total/NA	Sediment	6020A	139089
MB 180-139089/1-A	Method Blank	Total/NA	Sediment	6020A	139089

Prep Batch: 139966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
CRA 180-139966/9-A	DL		Sediment	7470A	

Prep Batch: 140029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-7	SRM Sediment	Total/NA	Sediment	3050B	
LCS 180-140029/2-A	Lab Control Sample	Total/NA	Sediment	3050B	
MB 180-140029/1-A	Method Blank	Total/NA	Sediment	3050B	

Analysis Batch: 140049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	7471B	139859
180-42815-2	TS-1-SED	Total/NA	Sediment	7471B	139859
180-42815-3	TS-2ST-SED	Total/NA	Sediment	7471B	139859
180-42815-4	TS-2MT-SED	Total/NA	Sediment	7471B	139859
180-42815-5	TS-2NT-SED	Total/NA	Sediment	7471B	139859
180-42815-6	TS-3ST-SED	Total/NA	Sediment	7471B	139859
180-42815-7	SRM Sediment	Total/NA	Sediment	7471B	139859
CRA 180-139966/9-A	DL		Sediment	7471B	139966
LCS 180-139859/2-A	Lab Control Sample	Total/NA	Sediment	7471B	139859
MB 180-139859/1-A	Method Blank	Total/NA	Sediment	7471B	139859

Analysis Batch: 140069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-6	TS-3ST-SED	Total/NA	Sediment	6020A	139089
CRI 180-140069/68	DL		Sediment	6020A	
CRI 180-140069/7	DL		Sediment	6020A	
ICSA 180-140069/8	ICS		Sediment	6020A	
ICSAB 180-140069/9	ICS		Sediment	6020A	

Analysis Batch: 140127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-7	SRM Sediment	Total/NA	Sediment	6020A	140029
CRI 180-140127/114	DL		Sediment	6020A	
CRI 180-140127/7	DL		Sediment	6020A	
ICSA 180-140127/8	ICS		Sediment	6020A	
ICSAB 180-140127/9	ICS		Sediment	6020A	
LCS 180-140029/2-A	Lab Control Sample	Total/NA	Sediment	6020A	140029

Metals (Continued)

Analysis Batch: 140127 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-140029/1-A	Method Blank	Total/NA	Sediment	6020A	140029

General Chemistry

Analysis Batch: 138061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	2540G	
180-42815-2	TS-1-SED	Total/NA	Sediment	2540G	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	2540G	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	2540G	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	2540G	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	2540G	

Prep Batch: 138137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	9030B	
180-42815-2	TS-1-SED	Total/NA	Sediment	9030B	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	9030B	
180-42815-3 MS	TS-2ST-SED	Total/NA	Sediment	9030B	
180-42815-3 MSD	TS-2ST-SED	Total/NA	Sediment	9030B	
LCS 180-138137/2-A	Lab Control Sample	Total/NA	Sediment	9030B	
MB 180-138137/1-A	Method Blank	Total/NA	Sediment	9030B	

Analysis Batch: 138175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	9034	138137
180-42815-2	TS-1-SED	Total/NA	Sediment	9034	138137
180-42815-3	TS-2ST-SED	Total/NA	Sediment	9034	138137
180-42815-3 MS	TS-2ST-SED	Total/NA	Sediment	9034	138137
180-42815-3 MSD	TS-2ST-SED	Total/NA	Sediment	9034	138137
LCS 180-138137/2-A	Lab Control Sample	Total/NA	Sediment	9034	138137
MB 180-138137/1-A	Method Blank	Total/NA	Sediment	9034	138137

Prep Batch: 138240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-4	TS-2MT-SED	Total/NA	Sediment	9030B	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	9030B	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	9030B	
LCS 180-138240/2-A	Lab Control Sample	Total/NA	Sediment	9030B	
MB 180-138240/1-A	Method Blank	Total/NA	Sediment	9030B	

Analysis Batch: 138379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-4	TS-2MT-SED	Total/NA	Sediment	9034	138240
180-42815-5	TS-2NT-SED	Total/NA	Sediment	9034	138240
180-42815-6	TS-3ST-SED	Total/NA	Sediment	9034	138240
LCS 180-138240/2-A	Lab Control Sample	Total/NA	Sediment	9034	138240
MB 180-138240/1-A	Method Blank	Total/NA	Sediment	9034	138240

General Chemistry (Continued)

Analysis Batch: 138407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	9095B	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	9095B	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	9095B	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	9095B	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	9095B	
180-42815-6 DU	TS-3ST-SED	Total/NA	Sediment	9095B	

Prep Batch: 138541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	9010C	
180-42815-2	TS-1-SED	Total/NA	Sediment	9010C	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	9010C	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	9010C	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	9010C	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	9010C	
HLCS 180-138541/2-A	Lab Control Sample	Total/NA	Sediment	9010C	
LCS 180-138541/3-A	Lab Control Sample	Total/NA	Sediment	9010C	
LLCS 180-138541/1-A	Lab Control Sample	Total/NA	Sediment	9010C	
MB 180-138541/4-A	Method Blank	Total/NA	Sediment	9010C	

Analysis Batch: 138612

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	9014	138541
180-42815-2	TS-1-SED	Total/NA	Sediment	9014	138541
180-42815-3	TS-2ST-SED	Total/NA	Sediment	9014	138541
180-42815-4	TS-2MT-SED	Total/NA	Sediment	9014	138541
180-42815-5	TS-2NT-SED	Total/NA	Sediment	9014	138541
180-42815-6	TS-3ST-SED	Total/NA	Sediment	9014	138541
HLCS 180-138541/2-A	Lab Control Sample	Total/NA	Sediment	9014	138541
LCS 180-138541/3-A	Lab Control Sample	Total/NA	Sediment	9014	138541
LLCS 180-138541/1-A	Lab Control Sample	Total/NA	Sediment	9014	138541
MB 180-138541/4-A	Method Blank	Total/NA	Sediment	9014	138541

Prep Batch: 138932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	SEM/AVS	Sediment	AVSSEM	
180-42815-2	TS-1-SED	SEM/AVS	Sediment	AVSSEM	
180-42815-3	TS-2ST-SED	SEM/AVS	Sediment	AVSSEM	
180-42815-4	TS-2MT-SED	SEM/AVS	Sediment	AVSSEM	
180-42815-5	TS-2NT-SED	SEM/AVS	Sediment	AVSSEM	
180-42815-6	TS-3ST-SED	SEM/AVS	Sediment	AVSSEM	
LCS 180-138932/2-A	Lab Control Sample	SEM/AVS	Sediment	AVSSEM	
MB 180-138932/1-A	Method Blank	SEM/AVS	Sediment	AVSSEM	

Analysis Batch: 139134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	SEM/AVS	Sediment	9034	138932
180-42815-2	TS-1-SED	SEM/AVS	Sediment	9034	138932
180-42815-3	TS-2ST-SED	SEM/AVS	Sediment	9034	138932
180-42815-4	TS-2MT-SED	SEM/AVS	Sediment	9034	138932
180-42815-5	TS-2NT-SED	SEM/AVS	Sediment	9034	138932

General Chemistry (Continued)

Analysis Batch: 139134 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-6	TS-3ST-SED	SEM/AVS	Sediment	9034	138932
LCS 180-138932/2-A	Lab Control Sample	SEM/AVS	Sediment	9034	138932
MB 180-138932/1-A	Method Blank	SEM/AVS	Sediment	9034	138932

Analysis Batch: 139153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	Lloyd Kahn	
180-42815-2	TS-1-SED	Total/NA	Sediment	Lloyd Kahn	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	Lloyd Kahn	
LCS 180-139153/4	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 180-139153/3	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Analysis Batch: 139359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-4	TS-2MT-SED	Total/NA	Sediment	Lloyd Kahn	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	Lloyd Kahn	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	Lloyd Kahn	
LCS 180-139359/4	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 180-139359/3	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Analysis Batch: 139540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-6	TS-3ST-SED	Total/NA	Sediment	Lloyd Kahn	
LCS 180-139540/4	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 180-139540/3	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Analysis Batch: 139637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	9045D	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	9045D	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	9045D	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	9045D	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	9045D	
LCS 180-139637/1	Lab Control Sample	Total/NA	Sediment	9045D	

Leach Batch: 139721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Soluble	Sediment	DI Leach	
180-42815-2	TS-1-SED	Soluble	Sediment	DI Leach	
180-42815-3	TS-2ST-SED	Soluble	Sediment	DI Leach	
180-42815-4	TS-2MT-SED	Soluble	Sediment	DI Leach	
180-42815-5	TS-2NT-SED	Soluble	Sediment	DI Leach	
180-42815-6	TS-3ST-SED	Soluble	Sediment	DI Leach	
LB 180-139721/2-A	Method Blank	Soluble	Sediment	DI Leach	
LCS 180-139721/1-A	Lab Control Sample	Soluble	Sediment	DI Leach	

Analysis Batch: 139943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Soluble	Sediment	353.2	139721
180-42815-2	TS-1-SED	Soluble	Sediment	353.2	139721
180-42815-3	TS-2ST-SED	Soluble	Sediment	353.2	139721

General Chemistry (Continued)

Analysis Batch: 139943 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-4	TS-2MT-SED	Soluble	Sediment	353.2	139721
180-42815-5	TS-2NT-SED	Soluble	Sediment	353.2	139721
180-42815-6	TS-3ST-SED	Soluble	Sediment	353.2	139721
LB 180-139721/2-A	Method Blank	Soluble	Sediment	353.2	139721
LCS 180-139721/1-A	Lab Control Sample	Soluble	Sediment	353.2	139721

Prep Batch: 140056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	Distill/Ammonia	
180-42815-2	TS-1-SED	Total/NA	Sediment	Distill/Ammonia	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	Distill/Ammonia	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	Distill/Ammonia	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	Distill/Ammonia	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	Distill/Ammonia	
LCS 180-140056/2-A	Lab Control Sample	Total/NA	Sediment	Distill/Ammonia	
MB 180-140056/1-A	Method Blank	Total/NA	Sediment	Distill/Ammonia	

Analysis Batch: 140173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	350.1	140056
180-42815-2	TS-1-SED	Total/NA	Sediment	350.1	140056
180-42815-3	TS-2ST-SED	Total/NA	Sediment	350.1	140056
180-42815-4	TS-2MT-SED	Total/NA	Sediment	350.1	140056
180-42815-5	TS-2NT-SED	Total/NA	Sediment	350.1	140056
180-42815-6	TS-3ST-SED	Total/NA	Sediment	350.1	140056
LCS 180-140056/2-A	Lab Control Sample	Total/NA	Sediment	350.1	140056
MB 180-140056/1-A	Method Blank	Total/NA	Sediment	350.1	140056

Analysis Batch: 140183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	7.1.2	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	7.1.2	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	7.1.2	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	7.1.2	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	7.1.2	

Prep Batch: 176096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	365.2/365.3/365	
180-42815-2	TS-1-SED	Total/NA	Sediment	365.2/365.3/365	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	365.2/365.3/365	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	365.2/365.3/365	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	365.2/365.3/365	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	365.2/365.3/365	
LCS 240-176096/4-A	Lab Control Sample	Total/NA	Sediment	365.2/365.3/365	
MB 240-176096/3-A	Method Blank	Total/NA	Sediment	365.2/365.3/365	

Analysis Batch: 176238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	SM4500 P E-1999	176096

General Chemistry (Continued)

Analysis Batch: 176238 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	SM4500 P E-1999	176096
180-42815-3	TS-2ST-SED	Total/NA	Sediment	SM4500 P E-1999	176096
180-42815-4	TS-2MT-SED	Total/NA	Sediment	SM4500 P E-1999	176096
180-42815-5	TS-2NT-SED	Total/NA	Sediment	SM4500 P E-1999	176096
180-42815-6	TS-3ST-SED	Total/NA	Sediment	SM4500 P E-1999	176096
LCS 240-176096/4-A	Lab Control Sample	Total/NA	Sediment	SM4500 P E-1999	176096
MB 240-176096/3-A	Method Blank	Total/NA	Sediment	SM4500 P E-1999	176096

Prep Batch: 176659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	9023	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	9023	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	9023	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	9023	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	9023	
LCS 240-176659/4-A	Lab Control Sample	Total/NA	Sediment	9023	
MB 240-176659/3-A	Method Blank	Total/NA	Sediment	9023	

Analysis Batch: 176749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-2	TS-1-SED	Total/NA	Sediment	9023	176659
180-42815-3	TS-2ST-SED	Total/NA	Sediment	9023	176659
180-42815-4	TS-2MT-SED	Total/NA	Sediment	9023	176659
180-42815-5	TS-2NT-SED	Total/NA	Sediment	9023	176659
180-42815-6	TS-3ST-SED	Total/NA	Sediment	9023	176659
LCS 240-176659/4-A	Lab Control Sample	Total/NA	Sediment	9023	176659
MB 240-176659/3-A	Method Blank	Total/NA	Sediment	9023	176659

Prep Batch: 176755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	SM4500Norg_C	
180-42815-2	TS-1-SED	Total/NA	Sediment	SM4500Norg_C	
180-42815-3	TS-2ST-SED	Total/NA	Sediment	SM4500Norg_C	
180-42815-4	TS-2MT-SED	Total/NA	Sediment	SM4500Norg_C	
180-42815-5	TS-2NT-SED	Total/NA	Sediment	SM4500Norg_C	
180-42815-6	TS-3ST-SED	Total/NA	Sediment	SM4500Norg_C	
LCS 240-176755/2-A	Lab Control Sample	Total/NA	Sediment	SM4500Norg_C	
MB 240-176755/1-A	Method Blank	Total/NA	Sediment	SM4500Norg_C	

Analysis Batch: 176849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-1	WBREF-B-SED	Total/NA	Sediment	SM4500_NH3_E	176755
180-42815-2	TS-1-SED	Total/NA	Sediment	SM4500_NH3_E	176755
180-42815-3	TS-2ST-SED	Total/NA	Sediment	SM4500_NH3_E	176755
180-42815-4	TS-2MT-SED	Total/NA	Sediment	SM4500_NH3_E	176755

General Chemistry (Continued)

Analysis Batch: 176849 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-42815-5	TS-2NT-SED	Total/NA	Sediment	SM4500_NH3_E	176755
180-42815-6	TS-3ST-SED	Total/NA	Sediment	SM4500_NH3_E	176755
LCS 240-176755/2-A	Lab Control Sample	Total/NA	Sediment	SM4500_NH3_E	176755
MB 240-176755/1-A	Method Blank	Total/NA	Sediment	SM4500_NH3_E	176755

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15-105-0227 **Page:** 1 of 4

Account Number
08077

Send To: Test America Labs
Ms. Carrie Gamber
301 Alpha Drive
Pittsburgh , PA 15238

Project : CBBT Thimble Shoal Parallel Tunnel
Project #18014305

Purchase Order :
Report Date : 05/07/2015
Date Received : 04/15/2015

REPORT OF ANALYSIS

Date Sampled : 04/06/2015

Lab Number: 97165
Sample Id : TS-1-SED (180-42815-2)

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Neutralization Potential , Tcce/kT	84.5	2.5	EPA-600/2-78-054/3.2.3	05/07/2015 10:20	AYG
Neutralizing Value (%CCE) , %	5.5	0.1	AOAC 1.1.04	04/22/2015 10:14	AYG
pH (Sat Paste) , s.u.	7.69		SAT PASTE	04/27/2015 15:00	AEH
Potential Acidity , Tcce/kT	3.83	0.050	EPA-600/2-78-054/3.2.11.5	05/07/2015 12:08	AYG
Pyritic Sulfur , %	<0.100	0.100	EPA-600/2-78-054/3.2.6	05/07/2015 15:08	AYG
Salinity (EC) , dS/m	35.3	0.100	SAT PASTE	04/27/2015 15:00	AEH
Total Sulfur , mg/Kg	2140	5.00	6010B	04/17/2015 22:16	BKN

Method Reference:
Field and Laboratory Methods Applicable to Overburdens and Minesoils
Methods of Soil Analysis, Part 3 - Chemical Methods. 1996.
Official Methods of Analysis of AOAC International, 17th Edition, 1998
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
Comments:

Jimmy R. Ferguson

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Report Number
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Account Number
08077

Send To: Test America Labs
Ms. Carrie Gamber
301 Alpha Drive
Pittsburgh , PA 15238

Project : CBBT Thimble Shoal Parallel Tunnel
Project #18014305

Purchase Order :
Report Date : 05/07/2015
Date Received : 04/15/2015

REPORT OF ANALYSIS

Date Sampled : 04/07/2015

Lab Number: 97166
Sample Id : TS-2MT-SED (180-42815-4)

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Neutralization Potential , Tcce/kT	73.1	2.5	EPA-600/2-78-054/3.2.3	05/07/2015 10:20	AYG
Neutralizing Value (%CCE) , %	5.8	0.1	AOAC 1.1.04	04/22/2015 10:14	AYG
pH (Sat Paste) , s.u.	7.58		SAT PASTE	04/27/2015 15:00	AEH
Potential Acidity , Tcce/kT	0.240	0.050	EPA-600/2-78-054/3.2.11.5	05/07/2015 12:08	AYG
Pyritic Sulfur , %	<0.100	0.100	EPA-600/2-78-054/3.2.6	05/07/2015 15:08	AYG
Salinity (EC) , dS/m	26.1	0.100	SAT PASTE	04/27/2015 15:00	AEH
Total Sulfur , mg/Kg	291	5.00	6010B	04/17/2015 22:20	BKN

Method Reference:
Field and Laboratory Methods Applicable to Overburdens and Minesoils
Methods of Soil Analysis, Part 3 - Chemical Methods. 1996.
Official Methods of Analysis of AOAC International, 17th Edition, 1998
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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Account Number
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Project : CBBT Thimble Shoal Parallel Tunnel
Project #18014305

Purchase Order :
Report Date : 05/07/2015
Date Received : 04/15/2015

REPORT OF ANALYSIS

Date Sampled : 04/07/2015

Lab Number: 97167
Sample Id : TS-2NT-SED (180-42815-5)

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Neutralization Potential , Tcce/kT	56.9	2.5	EPA-600/2-78-054/3.2.3	05/07/2015 10:20	AYG
Neutralizing Value (%CCE) , %	<0.1	0.1	AOAC 1.1.04	04/22/2015 10:14	AYG
pH (Sat Paste) , s.u.	7.40		SAT PASTE	04/27/2015 15:00	AEH
Potential Acidity , Tcce/kT	1.67	0.050	EPA-600/2-78-054/3.2.11.5	05/07/2015 12:08	AYG
Pyritic Sulfur , %	<0.100	0.100	EPA-600/2-78-054/3.2.6	05/07/2015 15:08	AYG
Salinity (EC) , dS/m	23.7	0.100	SAT PASTE	04/27/2015 15:00	AEH
Total Sulfur , mg/Kg	1250	5.00	6010B	04/17/2015 22:25	BKN

Method Reference:
Field and Laboratory Methods Applicable to Overburdens and Minesoils
Methods of Soil Analysis, Part 3 - Chemical Methods. 1996.
Official Methods of Analysis of AOAC International, 17th Edition, 1998
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
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Account Number
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Project : CBBT Thimble Shoal Parallel Tunnel
Project #18014305

Purchase Order :
Report Date : 05/07/2015
Date Received : 04/15/2015

REPORT OF ANALYSIS

Date Sampled : 04/07/2015

Lab Number: 97168
Sample Id : TS-3ST-SED (180-42815-6)

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Neutralization Potential , Tcce/kT	177	2.6	EPA-600/2-78-054/3.2.3	05/07/2015 10:20	AYG
Neutralizing Value (%CCE) , %	<0.1	0.1	AOAC 1.1.04	04/22/2015 10:14	AYG
pH (Sat Paste) , s.u.	7.46		SAT PASTE	04/27/2015 15:00	AEH
Potential Acidity , Tcce/kT	6.60	0.050	EPA-600/2-78-054/3.2.11.5	05/07/2015 12:08	AYG
Pyritic Sulfur , %	<0.100	0.100	EPA-600/2-78-054/3.2.6	05/07/2015 15:08	AYG
Salinity (EC) , dS/m	22.6	0.100	SAT PASTE	04/27/2015 15:00	AEH
Total Sulfur , mg/Kg	3630	5.00	6010B	04/17/2015 22:30	BKN

Method Reference:
Field and Laboratory Methods Applicable to Overburdens and Minesoils
Methods of Soil Analysis, Part 3 - Chemical Methods. 1996.
Official Methods of Analysis of AOAC International, 17th Edition, 1998
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
Comments:

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Report Number
15-106-0203 **Page:** 1 of 1

Account Number
08077

Send To: Test America Labs
Ms. Carrie Gamber
301 Alpha Drive
Pittsburgh , PA 15238

Project : CBBT Thimble Shoal Parallel Tunnel
Project # 18014305

Purchase Order :
Report Date : 05/07/2015
Date Received : 04/16/2015

REPORT OF ANALYSIS

Date Sampled : 04/06/2015

Lab Number: 97499
Sample Id : TS-2ST-SED (180-42815-3)

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Neutralization Potential , Tcce/kT	38.7	2.5	EPA-600/2-78-054/3.2.3	05/07/2015 10:20	AYG
Neutralizing Value (%CCE) , %	<0.1	0.1	AOAC 1.1.04	04/27/2015 13:48	AYG
pH (Sat Paste) , s.u.	7.49		SAT PASTE	04/27/2015 15:00	AEH
Potential Acidity , Tcce/kT	2.32	0.050	EPA-600/2-78-054/3.2.11.5	05/07/2015 12:08	AYG
Pyritic Sulfur , %	<0.100	0.100	EPA-600/2-78-054/3.2.6	05/07/2015 15:08	AYG
Salinity (EC) , dS/m	29.1	0.100	SAT PASTE	04/27/2015 15:00	AEH
Total Sulfur , mg/Kg	178	5.00	6010B	04/17/2015 23:08	BKN

Method Reference:
Field and Laboratory Methods Applicable to Overburdens and Minesoils
Methods of Soil Analysis, Part 3 - Chemical Methods. 1996.
Official Methods of Analysis of AOAC International, 17th Edition, 1998
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
Comments:

Jimmy R. Ferguson

H5D140412 Analytical Report 1

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Raw Sample Data 31
Standards Data 285
Initial Calibration 140516iepa.pdf 286
Continuing Calibration 150421s2.pdf 543
Continuing Calibration 150421s3.pdf 623
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Raw QC Data 784
Miscellaneous Data 856

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TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-42815-1

CBBT Thimble Shoal

Lot #: H5D140412

Carrie Gamber

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.

Bruce Wagner

Bruce Wagner
Project Manager

April 27, 2015

ANALYTICAL METHODS SUMMARY

H5D140412

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B
Percent Moisture	MCAWW 160.3 MOD

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SAMPLE SUMMARY

H5D140412

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M6K3V	001	WBREF-B-SED	04/06/15	11:00
M6K3W	002	TS-1-SED	04/06/15	14:00
M6K3X	003	TS-2ST-SED	04/06/15	16:00
M6K30	004	TS-2MT-SED	04/07/15	10:45
M6K31	005	TS-2NT-SED	04/07/15	14:00
M6K32	006	TS-3ST-SED	04/07/15	16:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H5D140412

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

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The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

For solid and sediments samples, when percent moisture is included in the report header field, the sample results are reported on a dry weight basis. When percent moisture is not contained in the header field, sample results are reported on an as received or wet weight basis.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

PROJECT NARRATIVE
H5D140412

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

PROJECT NARRATIVE
H5D140412

Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration

PROJECT NARRATIVE
H5D140412

W = amount of sample extracted (grams or liters)
S = percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: WBREF-B-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D140412 - 001	**Work Order #....:**	M6K3V1AA	**Matrix.....:**	SE
Date Sampled....:	04/06/15	**Date Received....:**	04/14/15	**Units....:**	pg/g
Prep Date....:	04/15/15			**Dilution Factor:**	1
Prep Batch # ....:	5105013			**Percent Moisture:**	30
Initial Wgt/Vol :	14.6 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/21/15	1	ND	0.97	0.081	1.0	0.081
1,2,3,7,8-PeCDD	**4/21/15**	**1**	**1.1 B J**	**4.9**	**0.035**	**0.5**	**0.55**
1,2,3,4,7,8-HxCDD	**4/21/15**	**1**	**1.9 J**	**4.9**	**0.074**	**0.1**	**0.19**
1,2,3,6,7,8-HxCDD	**4/21/15**	**1**	**2.4 Q J**	**4.9**	**0.074**	**0.1**	**0.24**
1,2,3,7,8,9-HxCDD	**4/21/15**	**1**	**6.0 C**	**4.9**	**0.070**	**0.1**	**0.60**
1,2,3,4,6,7,8-HpCDD	**4/21/15**	**1**	**54 B**	**4.9**	**0.078**	**0.01**	**0.54**
OCDD	**4/21/15**	**1**	**600 B**	**9.7**	**0.11**	**0.001**	**0.60**
2,3,7,8-TCDF	4/21/15	1	ND	0.97	0.0070	0.1	0.00070
1,2,3,7,8-PeCDF	4/21/15	1	ND	4.9	0.0066	0.05	0.00033
2,3,4,7,8-PeCDF	4/21/15	1	ND	4.9	0.0064	0.5	0.0032
1,2,3,4,7,8-HxCDF	4/21/15	1	ND	4.9	0.014	0.1	0.0014
1,2,3,6,7,8-HxCDF	**4/21/15**	**1**	**0.048 Q J**	**4.9**	**0.013**	**0.1**	**0.0048**
2,3,4,6,7,8-HxCDF	4/21/15	1	ND	4.9	0.015	0.1	0.0015
1,2,3,7,8,9-HxCDF	4/21/15	1	ND	4.9	0.016	0.1	0.0016
1,2,3,4,6,7,8-HpCDF	**4/21/15**	**1**	**0.44 Q B J**	**4.9**	**0.041**	**0.01**	**0.0044**
1,2,3,4,7,8,9-HpCDF	4/21/15	1	ND	4.9	0.056	0.01	0.00056
OCDF	**4/21/15**	**1**	**0.52 B Q J**	**9.7**	**0.067**	**0.001**	**0.00052**
Total TEQ Concentration							**2.8**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	93	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	73	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	70	(23 - 140)
13C-OCDD	79	(17 - 157)
13C-2,3,7,8-TCDF	58	(24 - 169)
13C-1,2,3,7,8-PeCDF	87	(24 - 185)
13C-2,3,4,7,8-PeCDF	84	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	62	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	58	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	57	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	60	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	58	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	60	(26 - 138)
13C-OCDF	63	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: WBREF-B-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-1-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D140412 - 002	**Work Order #....:**	M6K3W1AA	**Matrix.....:**	SE
Date Sampled....:	04/06/15	**Date Received....:**	04/14/15	**Units....:**	pg/g
Prep Date....:	04/15/15			**Dilution Factor:**	1
Prep Batch # ....:	5105013			**Percent Moisture:**	26
Initial Wgt/Vol :	14 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/21/15	1	ND	0.97	0.096	1.0	0.096
1,2,3,7,8-PeCDD	**4/21/15**	**1**	**0.91 Q B J**	**4.8**	**0.039**	**0.5**	**0.46**
1,2,3,4,7,8-HxCDD	**4/21/15**	**1**	**1.1 Q J**	**4.8**	**0.052**	**0.1**	**0.11**
1,2,3,6,7,8-HxCDD	**4/21/15**	**1**	**2.2 J**	**4.8**	**0.053**	**0.1**	**0.22**
1,2,3,7,8,9-HxCDD	**4/21/15**	**1**	**4.1 C J**	**4.8**	**0.049**	**0.1**	**0.41**
1,2,3,4,6,7,8-HpCDD	**4/21/15**	**1**	**36 B**	**4.8**	**0.051**	**0.01**	**0.36**
OCDD	**4/21/15**	**1**	**450 B**	**9.7**	**0.089**	**0.001**	**0.45**
2,3,7,8-TCDF	**4/21/15**	**1**	**0.45 Q J**	**0.97**	**0.025**	**0.1**	**0.045**
1,2,3,7,8-PeCDF	**4/21/15**	**1**	**0.48 Q B J**	**4.8**	**0.026**	**0.05**	**0.024**
2,3,4,7,8-PeCDF	**4/21/15**	**1**	**0.75 Q B J**	**4.8**	**0.026**	**0.5**	**0.38**
1,2,3,4,7,8-HxCDF	**4/21/15**	**1**	**0.44 Q J**	**4.8**	**0.023**	**0.1**	**0.044**
1,2,3,6,7,8-HxCDF	**4/21/15**	**1**	**0.49 Q J**	**4.8**	**0.021**	**0.1**	**0.049**
2,3,4,6,7,8-HxCDF	**4/21/15**	**1**	**0.75 J**	**4.8**	**0.025**	**0.1**	**0.075**
1,2,3,7,8,9-HxCDF	4/21/15	1	ND	4.8	0.031	0.1	0.0031
1,2,3,4,6,7,8-HpCDF	**4/21/15**	**1**	**3.2 B J**	**4.8**	**0.026**	**0.01**	**0.032**
1,2,3,4,7,8,9-HpCDF	**4/21/15**	**1**	**0.35 Q B J**	**4.8**	**0.033**	**0.01**	**0.0035**
OCDF	**4/21/15**	**1**	**2.3 B J**	**9.7**	**0.026**	**0.001**	**0.0023**
Total TEQ Concentration							**2.8**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	81	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	78	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	73	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	92	(23 - 140)
13C-OCDD	69	(17 - 157)
13C-2,3,7,8-TCDF	57	(24 - 169)
13C-1,2,3,7,8-PeCDF	76	(24 - 185)
13C-2,3,4,7,8-PeCDF	73	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	65	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	73	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	76	(26 - 138)
13C-OCDF	52	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-1-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	74	(35 - 197)

NOTES:

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Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-2ST-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D140412 - 003	**Work Order #....:**	M6K3X1AA	**Matrix.....:**	SE
Date Sampled....:	04/06/15	**Date Received....:**	04/14/15	**Units....:**	pg/g
Prep Date....:	04/15/15			**Dilution Factor:**	1
Prep Batch # ....:	5105013			**Percent Moisture:**	15
Initial Wgt/Vol :	12.4 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/22/15	1	ND	0.95	0.067	1.0	0.067
1,2,3,7,8-PeCDD	**4/22/15**	**1**	**0.26 Q B J**	**4.7**	**0.026**	**0.5**	**0.13**
1,2,3,4,7,8-HxCDD	**4/22/15**	**1**	**0.086 Q J**	**4.7**	**0.020**	**0.1**	**0.0086**
1,2,3,6,7,8-HxCDD	**4/22/15**	**1**	**0.46 Q J**	**4.7**	**0.021**	**0.1**	**0.046**
1,2,3,7,8,9-HxCDD	**4/22/15**	**1**	**1.1 Q J**	**4.7**	**0.019**	**0.1**	**0.11**
1,2,3,4,6,7,8-HpCDD	**4/22/15**	**1**	**10 B**	**4.7**	**0.024**	**0.01**	**0.10**
OCDD	**4/22/15**	**1**	**180 B**	**9.5**	**0.057**	**0.001**	**0.18**
2,3,7,8-TCDF	4/22/15	1	ND	0.95	0.011	0.1	0.0011
1,2,3,7,8-PeCDF	4/22/15	1	ND	4.7	0.012	0.05	0.00060
2,3,4,7,8-PeCDF	4/22/15	1	ND	4.7	0.012	0.5	0.0060
1,2,3,4,7,8-HxCDF	**4/22/15**	**1**	**0.072 J**	**4.7**	**0.0075**	**0.1**	**0.0072**
1,2,3,6,7,8-HxCDF	**4/22/15**	**1**	**0.085 Q J**	**4.7**	**0.0071**	**0.1**	**0.0085**
2,3,4,6,7,8-HxCDF	4/22/15	1	ND	4.7	0.0074	0.1	0.00074
1,2,3,7,8,9-HxCDF	4/22/15	1	ND	4.7	0.0089	0.1	0.00089
1,2,3,4,6,7,8-HpCDF	**4/22/15**	**1**	**0.064 Q B J**	**4.7**	**0.0080**	**0.01**	**0.00064**
1,2,3,4,7,8,9-HpCDF	**4/22/15**	**1**	**0.084 Q B J**	**4.7**	**0.011**	**0.01**	**0.00084**
OCDF	**4/22/15**	**1**	**0.29 B J**	**9.5**	**0.0061**	**0.001**	**0.00029**
Total TEQ Concentration							**0.67**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	64	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	70	(23 - 140)
13C-OCDD	60	(17 - 157)
13C-2,3,7,8-TCDF	57	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	59	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	64	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	62	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	65	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	64	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	63	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	63	(26 - 138)
13C-OCDF	52	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-2ST-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	72	(35 - 197)

NOTES:

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When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-2MT-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D140412 - 004	**Work Order #....:**	M6K301AA	**Matrix.....:**	SE
Date Sampled....:	04/07/15	**Date Received....:**	04/14/15	**Units....:**	pg/g
Prep Date....:	04/15/15			**Dilution Factor:**	1
Prep Batch # ....:	5105013			**Percent Moisture:**	14
Initial Wgt/Vol :	11.9 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/22/15	1	ND	0.98	0.060	1.0	0.060
1,2,3,7,8-PeCDD	**4/22/15**	**1**	**0.23 Q B J**	**4.9**	**0.023**	**0.5**	**0.12**
1,2,3,4,7,8-HxCDD	4/22/15	1	ND	4.9	0.017	0.1	0.0017
1,2,3,6,7,8-HxCDD	4/22/15	1	ND	4.9	0.017	0.1	0.0017
1,2,3,7,8,9-HxCDD	**4/22/15**	**1**	**0.39 J**	**4.9**	**0.016**	**0.1**	**0.039**
1,2,3,4,6,7,8-HpCDD	**4/22/15**	**1**	**2.5 B J**	**4.9**	**0.018**	**0.01**	**0.025**
OCDD	**4/22/15**	**1**	**49 B**	**9.8**	**0.026**	**0.001**	**0.049**
2,3,7,8-TCDF	4/22/15	1	ND	0.98	0.0095	0.1	0.00095
1,2,3,7,8-PeCDF	**4/22/15**	**1**	**0.045 Q B J**	**4.9**	**0.014**	**0.05**	**0.0022**
2,3,4,7,8-PeCDF	4/22/15	1	ND	4.9	0.013	0.5	0.0065
1,2,3,4,7,8-HxCDF	4/22/15	1	ND	4.9	0.014	0.1	0.0014
1,2,3,6,7,8-HxCDF	4/22/15	1	ND	4.9	0.014	0.1	0.0014
2,3,4,6,7,8-HxCDF	**4/22/15**	**1**	**0.041 Q J**	**4.9**	**0.014**	**0.1**	**0.0041**
1,2,3,7,8,9-HxCDF	4/22/15	1	ND	4.9	0.017	0.1	0.0017
1,2,3,4,6,7,8-HpCDF	**4/22/15**	**1**	**0.22 B J**	**4.9**	**0.043**	**0.01**	**0.0022**
1,2,3,4,7,8,9-HpCDF	**4/22/15**	**1**	**0.17 Q B J**	**4.9**	**0.055**	**0.01**	**0.0017**
OCDF	**4/22/15**	**1**	**4.8 B J**	**9.8**	**0.029**	**0.001**	**0.0048**
Total TEQ Concentration							**0.32**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	71	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	73	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	80	(23 - 140)
13C-OCDD	75	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	66	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	70	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	69	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	69	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	71	(26 - 138)
13C-OCDF	64	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-2MT-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	(35 - 197)

NOTES:

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Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-2NT-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D140412 - 005	**Work Order #....:**	M6K311AA	**Matrix.....:**	SE
Date Sampled....:	04/07/15	**Date Received....:**	04/14/15	**Units....:**	pg/g
Prep Date....:	04/15/15			**Dilution Factor:**	1
Prep Batch # ....:	5105013			**Percent Moisture:**	13
Initial Wgt/Vol :	11.6 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**4/22/15**	**1**	**0.21 J**	**0.99**	**0.059**	**1.0**	**0.21**
1,2,3,7,8-PeCDD	4/22/15	1	ND	4.9	0.029	0.5	0.014
1,2,3,4,7,8-HxCDD	4/22/15	1	ND	4.9	0.023	0.1	0.0023
1,2,3,6,7,8-HxCDD	**4/22/15**	**1**	**0.14 J**	**4.9**	**0.024**	**0.1**	**0.014**
1,2,3,7,8,9-HxCDD	**4/22/15**	**1**	**0.18 Q J**	**4.9**	**0.022**	**0.1**	**0.018**
1,2,3,4,6,7,8-HpCDD	**4/22/15**	**1**	**3.3 B J**	**4.9**	**0.021**	**0.01**	**0.033**
OCDD	**4/22/15**	**1**	**120 B**	**9.9**	**0.043**	**0.001**	**0.12**
2,3,7,8-TCDF	4/22/15	1	ND	0.99	0.013	0.1	0.0013
1,2,3,7,8-PeCDF	4/22/15	1	ND	4.9	0.013	0.05	0.00065
2,3,4,7,8-PeCDF	4/22/15	1	ND	4.9	0.013	0.5	0.0065
1,2,3,4,7,8-HxCDF	**4/22/15**	**1**	**0.036 Q J**	**4.9**	**0.013**	**0.1**	**0.0036**
1,2,3,6,7,8-HxCDF	4/22/15	1	ND	4.9	0.012	0.1	0.0012
2,3,4,6,7,8-HxCDF	4/22/15	1	ND	4.9	0.014	0.1	0.0014
1,2,3,7,8,9-HxCDF	4/22/15	1	ND	4.9	0.015	0.1	0.0015
1,2,3,4,6,7,8-HpCDF	4/22/15	1	ND	4.9	0.036	0.01	0.00036
1,2,3,4,7,8,9-HpCDF	4/22/15	1	ND	4.9	0.045	0.01	0.00045
OCDF	**4/22/15**	**1**	**1.1 Q B J**	**9.9**	**0.014**	**0.001**	**0.0011**
Total TEQ Concentration							**0.43**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	71	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	85	(23 - 140)
13C-OCDD	77	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	69	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	61	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	65	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	70	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	74	(26 - 138)
13C-OCDF	67	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-2NT-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-3ST-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D140412 - 006	**Work Order #....:**	M6K321AA	**Matrix.....:**	SE
Date Sampled....:	04/07/15	**Date Received....:**	04/14/15	**Units....:**	pg/g
Prep Date....:	04/15/15			**Dilution Factor:**	1
Prep Batch # ....:	5105013			**Percent Moisture:**	24
Initial Wgt/Vol :	13.7 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/22/15	1	ND	0.96	0.069	1.0	0.069
1,2,3,7,8-PeCDD	**4/22/15**	**1**	**0.27 B J**	**4.8**	**0.026**	**0.5**	**0.14**
1,2,3,4,7,8-HxCDD	**4/22/15**	**1**	**0.080 Q J**	**4.8**	**0.016**	**0.1**	**0.0080**
1,2,3,6,7,8-HxCDD	**4/22/15**	**1**	**0.21 Q J**	**4.8**	**0.017**	**0.1**	**0.021**
1,2,3,7,8,9-HxCDD	**4/22/15**	**1**	**0.87 C J**	**4.8**	**0.016**	**0.1**	**0.087**
1,2,3,4,6,7,8-HpCDD	**4/22/15**	**1**	**6.3 B**	**4.8**	**0.023**	**0.01**	**0.063**
OCDD	**4/22/15**	**1**	**79 B**	**9.6**	**0.014**	**0.001**	**0.079**
2,3,7,8-TCDF	4/22/15	1	ND	0.96	0.0062	0.1	0.00062
1,2,3,7,8-PeCDF	4/22/15	1	ND	4.8	0.0088	0.05	0.00044
2,3,4,7,8-PeCDF	4/22/15	1	ND	4.8	0.0078	0.5	0.0039
1,2,3,4,7,8-HxCDF	**4/22/15**	**1**	**0.043 J**	**4.8**	**0.0083**	**0.1**	**0.0043**
1,2,3,6,7,8-HxCDF	4/22/15	1	ND	4.8	0.0082	0.1	0.00082
2,3,4,6,7,8-HxCDF	**4/22/15**	**1**	**0.031 J**	**4.8**	**0.0079**	**0.1**	**0.0031**
1,2,3,7,8,9-HxCDF	4/22/15	1	ND	4.8	0.0093	0.1	0.00093
1,2,3,4,6,7,8-HpCDF	**4/22/15**	**1**	**0.040 Q B J**	**4.8**	**0.017**	**0.01**	**0.00040**
1,2,3,4,7,8,9-HpCDF	4/22/15	1	ND	4.8	0.022	0.01	0.00022
OCDF	**4/22/15**	**1**	**0.72 Q B J**	**9.6**	**0.0059**	**0.001**	**0.00072**
Total TEQ Concentration							**0.48**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	65	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	64	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	63	(17 - 157)
13C-2,3,7,8-TCDF	63	(24 - 169)
13C-1,2,3,7,8-PeCDF	68	(24 - 185)
13C-2,3,4,7,8-PeCDF	72	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	58	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	66	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	66	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	65	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	65	(26 - 138)
13C-OCDF	57	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-3ST-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	79	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D150000 - 013B	**Work Order #....:**	M6LFH1AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	04/15/15	**Analysis Date....:**	04/21/15	**Percent Moisture:**	0.0
Prep Batch # ....:	5105013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.059	pg/g
1,2,3,7,8-PeCDD	**0.099**	**Q J**	**5.0**	**0.018**	**pg/g**
1,2,3,4,7,8-HxCDD	ND		5.0	0.0097	pg/g
1,2,3,6,7,8-HxCDD	ND		5.0	0.011	pg/g
1,2,3,7,8,9-HxCDD	ND		5.0	0.0096	pg/g
1,2,3,4,6,7,8-HpCDD	**0.14**	**Q J**	**5.0**	**0.011**	**pg/g**
OCDD	**0.91**	**J**	**10**	**0.0063**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.0061	pg/g
1,2,3,7,8-PeCDF	**0.062**	**J**	**5.0**	**0.0082**	**pg/g**
2,3,4,7,8-PeCDF	**0.022**	**Q J**	**5.0**	**0.0080**	**pg/g**
1,2,3,4,7,8-HxCDF	ND		5.0	0.0093	pg/g
1,2,3,6,7,8-HxCDF	ND		5.0	0.0083	pg/g
2,3,4,6,7,8-HxCDF	ND		5.0	0.0093	pg/g
1,2,3,7,8,9-HxCDF	ND		5.0	0.011	pg/g
1,2,3,4,6,7,8-HpCDF	**0.11**	**Q J**	**5.0**	**0.0085**	**pg/g**
1,2,3,4,7,8,9-HpCDF	**0.11**	**Q J**	**5.0**	**0.011**	**pg/g**
OCDF	**0.48**	**Q J**	10	**0.0084**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	25 - 164
13C-1,2,3,7,8-PeCDD	94	25 - 181
13C-1,2,3,4,7,8-HxCDD	82	32 - 141
13C-1,2,3,6,7,8-HxCDD	71	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	86	23 - 140
13C-OCDD	83	17 - 157
13C-2,3,7,8-TCDF	57	24 - 169
13C-1,2,3,7,8-PeCDF	82	24 - 185
13C-2,3,4,7,8-PeCDF	81	21 - 178
13C-1,2,3,4,7,8-HxCDF	64	26 - 152
13C-1,2,3,6,7,8-HxCDF	61	26 - 123
13C-2,3,4,6,7,8-HxCDF	62	28 - 136
13C-1,2,3,7,8,9-HxCDF	61	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	69	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	72	26 - 138
13C-OCDF	68	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D150000 - 013B	**Work Order #....:**	M6LFH1AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	04/15/15	**Analysis Date....:**	04/21/15	**Percent Moisture:**	0.0
Prep Batch # ....:	5105013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D140412	**Work Order # ...:**	M6LFH1AC-LCS	**Matrix .....:**	SOLID
LCS Lot-Sample# :	H5D150000 - 013				
Prep Date .....:	04/15/15	**Analysis Date ..:**	04/21/15		
Prep Batch # ...:	5105013				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**18.9**	**pg/g**	**94**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**92.3**	**pg/g**	**92**	**B**	**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**89.4**	**pg/g**	**89**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**92.2**	**pg/g**	**92**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**92.7**	**pg/g**	**93**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**87.3**	**pg/g**	**87**	**B**	**(70 - 140)**
OCDD	**200**	**171**	**pg/g**	**86**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**20.0**	**pg/g**	**100**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**88.2**	**pg/g**	**88**	**B**	**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**93.7**	**pg/g**	**94**	**B**	**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**93.9**	**pg/g**	**94**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**95.0**	**pg/g**	**95**		**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**93.4**	**pg/g**	**93**		**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**93.9**	**pg/g**	**94**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**90.6**	**pg/g**	**91**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**98.9**	**pg/g**	**99**	**B**	**(78 - 138)**
OCDF	**200**	**184**	**pg/g**	**92**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	69	(20 - 175)
13C-1,2,3,7,8-PeCDD	106	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	84	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	75	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	89	(26 - 166)
13C-OCDD	72	(13 - 199)
13C-2,3,7,8-TCDF	58	(22 - 152)
13C-1,2,3,7,8-PeCDF	91	(21 - 192)
13C-2,3,4,7,8-PeCDF	85	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	65	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	60	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	63	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	58	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	73	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	62	(20 - 186)
13C-OCDF	53	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	81	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195170.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-42828-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 4/20/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: Cristal	Project #: 18012228			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613B, Dioxins/Furans + TEQs (EA TEQs))/ 1613B, Dioxins/Furans + TEQs (EA TEQs)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LF-AREA 4 (180-42828-33)	4/7/15	14:10 Eastern		Solid			X	1	

CUSTODY SEALS INTACT
RECEIVED AT AT 0.2/CT 0.2°
DKD 4-10-15
1 COOLER FEDX
5682 3725 4487

Page 6212 of 7066

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4/9/15 1700	TAP		4-10-15 10:35	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

HSD140412

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195503.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-42815-1
Address: 5815 Middlebrook Pike,	Due Date Requested: 4/30/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
WBREF-B-SED (180-42815-1)	4/6/15	11:00 Eastern		Sediment			X	1	
TS-1-SED (180-42815-2)	4/6/15	14:00 Eastern		Sediment			X	1	
TS-2ST-SED (180-42815-3)	4/6/15	16:00 Eastern		Sediment			X	1	
TS-2MT-SED (180-42815-4)	4/7/15	10:45 Eastern		Sediment			X	1	
TS-2NT-SED (180-42815-5)	4/7/15	14:00 Eastern		Sediment			X	1	
TS-3ST-SED (180-42815-6)	4/7/15	16:00 Eastern		Sediment			X	1	
CUSTODY SEALS INTACT									
RECEIVED AT RT 0.3, 2.5/CT 0.3, 2.5°C									
DKD 4-14-15									
2 COOLER FEDEX #									
568237254731 M									

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4/13/15			4-14-15 09:30	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSD40412

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC57 Correction factor: 0.0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?			✓	☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:	✓		✓	☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		✓		☐ **19a** Other

Comments/Actions Taken

Labeling Verified by: _____ **Date:** _____

pH test strip lot number: _____

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: _____

Sample Receiving Associate: _____ Date: 4-14-15

QA026R29.doc, 041115

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Upland Placement

Billing (Project #, phase): 15204.01, 0008

Page 1 of 1

Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	PCB Aroclors SW846 8082	Calcium Carbonate Equivalance AOAC 955.01	Pyritic Sulfur calculation	PPA - Potential Acidity	Saturated Paste pH & EC (Conductivity)	Neutralization Potential	Paint Filter Test SW846 9095A	Extractable organic Halides (EOX) SW846 9023	BTEX SW846 8260B	TCLP Analysis SW846 1311	ICR (Ignitability, Corrosivity) SW846 1311	TPH -- DRO/GRO SW846 8015	Remarks
4/6/15	1400		X	TS-1-SED	7	X	X	X	X	X	X	X	X	X	X	X	X	SEE PROJECT SPECIFIC ANALYTE LIST
4/6/15	1600		X	TS-2ST-SED	7	X	X	X	X	X	X	X	X	X	X	X	X	
4/7/15	1045		X	TS-2MT-SED	6	X	X	X	X	X	X	X	X	X	X	X	X	
4/7/15	1400		X	TS-2NT-SED	6	X	X	X	X	X	X	X	X	X	X	X	X	
4/7/15	1600		X	TS-3ST-SED	6	X	X	X	X	X	X	X	X	X	X	X	X	

180-42815 Chain of Custody

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
	4/7/15 1730		
Relinquished by: (Signature)	**Date/Time**	**Received by Laboratory: (Signature)**	**Date/Time**
	4/7/15 1730	Debbie Watson	4-8-15 9:10

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

UPLAND SEDIMENT
Parallel Thimble Shoal Tunnel

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410-584-7000**		**301 Alpha Drive**
225 Schilling Circle	Field Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: 860-287-0745		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement			**fax: 412.963.2468**
Billing (Project #, phase): 15204.01, 0009			**ATTN: Carrie Gamber**
Page 1 of 1	**Sediment Samples**		

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Semivolatiles and PAHs SW846 8270C	Metals SW846 6020	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon Lloyd Kahn	AVS/SEM EPA Draft 1991	Remarks
4/6/15	1100		X	WBREF-B-SED	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SEE PROJECT SPECIFIC ANALYTE LIST
4/6/15	1400		X	TS-1-SED	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/6/15	1600		X	TS-2ST-SED	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/7/15	1045		X	TS-3NT-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/7/15	1400		X	TS-2NT-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/7/15	1600		X	TS-3ST-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	4/7/15 1600			OCEAN SEDIMENT Parallel Thimble Shoal Tunnel
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	4/7/15 1730	Debbie Watson	4-8-15 9:10	

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-42815-1

Login Number: 42815
List Number: 1
Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195608.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: A&L Analytical Laboratories				Job #: 180-42815-1
Address: 2790 Whitten Road,	Due Date Requested: 4/30/2015			
City: Memphis	TAT Requested (days):			
State, Zip: TN, 38133				
Phone: 901-213-2400(Tel)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Potential Acidity)/ Potential Acidity	SUB (Neutralization Potential)/ Neutralization Potential	SUB (Calcium Carbonate Equivalance)/ Calcium Carbonate Equivalance	SUB (Pyritic Sulfur (Fizz Rating))/ Pyritic Sulfur (Fizz Rating)	SUB (Saturated Paste pH and Conductivity)/ Saturated Paste pH and Conductivity	SUB (Acid Base Accounting)/ Acid Base Accounting	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
TS-1-SED (180-42815-2)	4/6/15	14:00 Eastern		Sediment			X	X	X	X	X	X	1	
TS-2ST-SED (180-42815-3) Rcvd. Broken	4/6/15	16:00 Eastern		Sediment			X	X	X	X	X	X	1	
TS-2MT-SED (180-42815-4)	4/7/15	10:45 Eastern		Sediment			X	X	X	X	X	X	1	
TS-2NT-SED (180-42815-5)	4/7/15	14:00 Eastern		Sediment			X	X	X	X	X	X	1	
TS-3ST-SED (180-42815-6)	4/7/15	16:00 Eastern		Sediment			X	X	X	X	X	X	1	

15-105-0227
08077
04-15-2015
09:08:19
Test America Labs
CBBT Thimble Shoal Parallel Tunnel

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 4/4/15	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 4/5/15-0810	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 0.9°C TS

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)
Client Contact: Shipping/Receiving
Company: A&L Analytical Laboratories
Address: 2790 Whitten Road,
City: Memphis
State, Zip: TN, 38133
Phone: 901-213-2400(Tel)
Email:
Project Name: CBBT Thimble Shoal Parallel Tunnel
Site:

Sampler:
Phone:
Lab PM: Gamber, Carrie L
E-Mail: carrie.gamber@testamericainc.com
Carrier Tracking No(s):

COC No: 180-195760.1
Page: Page 1 of 1
Job #: 180-42815-1

Due Date Requested: 4/30/2015
TAT Requested (days):
PO #:
WO #:
Project #: 18014305
SSOW#:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Potential Acidity)/ Potential Acidity	SUB (Neutralization Potential)/ Neutralization Potential	SUB (Calcium Carbonate Equivalance)/ Calcium Carbonate Equivalance	SUB (Pyritic Sulfur (Fizz Rating))/ Pyritic Sulfur (Fizz Rating)	SUB (Saturated Paste pH and Conductivity)/ Saturated Paste pH and Conductivity	SUB (Acid Base Accounting)/ Acid Base Accounting	Total Number of containers	Special Instructions/Note:
Preservation Code:														
TS-2ST-SED (180-42815-3)	4/6/15	16:00 Eastern		Sediment			X	X	X	X	X	X	1	

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Test America Labs
CBBT Thimble Shoal Parallel Tunnel
15-106-0203
08077
04-16-2015
09:23:01

Cooler temp:
0.5°C
T4 RD

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		1700 4/15/15	TAP			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	4/16/15 0835	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

3.2/C3.7

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195169.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-42815-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 4/30/2015			Preservation Codes:
City: North Canton	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify)
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_P_E/365_Prep Total Phosphorus as P	SM4500Norg_C/SM4500Norg_C_P Nitrogen-Total Kjeldahl	9023/9023_Prep Organic Halides, Extractable (EOX)	8015D_DRO/3540C (MOD) DRO/ORO	8015D_GRO/5030C_Solid_NAC GRO	Total Number of containers	Special Instructions/Note: W155
			Preservation Code:										
WBREF-B-SED (180-42815-1)	4/6/15	11:00 Eastern		Sediment			X	X				1	
TS-1-SED (180-42815-2)	4/6/15	14:00 Eastern		Sediment			X	X	X	X	X	3	
TS-2ST-SED (180-42815-3)	4/6/15	16:00 Eastern		Sediment			X	X	X	X	X	3	
TS-2MT-SED (180-42815-4)	4/7/15	10:45 Eastern		Sediment			X	X	X	X	X	3	
TS-2NT-SED (180-42815-5)	4/7/15	14:00 Eastern		Sediment			X	X	X	X	X	3	
TS-3ST-SED (180-42815-6)	4/7/15	16:00 Eastern		Sediment			X	X	X	X	X	3	

Page 7065 of 7066

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/9/15 1Pm			4/10/15 1015	TAL
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative Login # : 42815
Canton Facility

Client MPTT Site Name

Cooler Received on 4/10/15 Opened on 4/10/15

Cooler unpacked by: Heather Powell

FedEx: 1st Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # Foam Box (Client Cooler) Box Other

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

~~IR GUN# A (CF +4.0 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. 3.2 °C Corrected Cooler Temp. 3.7 °C ☐ See Multiple Cooler Form

~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes)	No
-Were custody seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were custody seals on the bottle(s)?	Yes	(No)
3. Shippers' packing slip attached to the cooler(s)?	(Yes)	No
4. Did custody papers accompany the sample(s)?	(Yes)	No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6. Was/were the sampler(s) clearly identified on the COC?	Yes	(No)
7. Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8. Could all bottle labels be reconciled with the COC?	(Yes)	No
9. Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
10. Sufficient quantity received to perform indicated analyses?	(Yes)	No
11. Were sample(s) at the correct pH upon receipt?	Yes No	(NA) pH Strip Lot# HC425511
12. Were VOAs on the COC?	Yes	(No)
13. Were air bubbles >6 mm in any VOA vials?	Yes No	(NA)
14. Was a trip blank present in the cooler(s)? Trip Blank Lot #	Yes	(No)

Contacted PM Date by via Verbal Voice Mail Other

Concerning

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

15. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-42924-1

SDG Number: 15204.01,0009

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/10/2015 4:09 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/10/2015
Revision: 2

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
B	Compound was found in the blank and sample.

GC Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
B	Compound was found in the blank and sample.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
B	Compound was found in the blank and sample.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
V	Serial Dilution exceeds the control limits

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-42924-1 REVISED 1

NOTE: This report has been revised to include Manganese per EA Engineering's request.

NOTE: This report has been revised to correct the reporting units for nitrate/nitrite as a di leach to mg/kg. The results have also been updated to reflect this correction.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/10/2015; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.3º C, 4.6º C and 5.1º C.

SEMIVOALTILES
Diethyl phthalate was detected in method blank MB 180-139097/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Benzidine failed the recovery criteria low for the MS/MSD of sample TS-2NB-SED (180-42924-1) in batch 180-139497.

PESTICIDES
Sample TS-2SB-SED (180-42924-3) required dilution prior to analysis due to the sample matrix. The reporting limits have been adjusted accordingly.

PCB CONGENERS
PCB-206 failed the recovery criteria low for the MSD of sample TS-2NB-SED (180-42924-1) in batch 180-139880. DCB Decachlorobiphenyl, PCB-195, PCB-206 and PCB-49 exceeded the RPD limit.

ORGANOPHOSPHORUS PESTICIDES
Disulfoton, Parathion, Sulfotepp and Thionazin failed the recovery criteria high for the MSD of sample TS-2NB-SED (180-42924-1) in batch 180-138548. Several analytes exceeded the RPD limit.

AVS/SEM
Samples TS-2NB-SED (180-42924-1) and TS-3NT-SED (180-42924-4) required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Zinc SEM was detected in method blank MB 180-138931/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Copper SEM failed the recovery criteria low for the MS of sample TS-2NB-SED (180-42924-1) in batch 180-139594. Copper SEM and Zinc SEM failed the recovery criteria low for the MSD of sample TS-2NB-SED (180-42924-1) in batch 180-139594.

Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following samples: TS-2NB-SED (180-42924-1), TS-2NB-SED (180-42924-1[MS]), TS-2NB-SED (180-42924-1[MSD]), TS-3NT-SED (180-42924-4) and (180-42924-B-1-J SD ^). All analytes referencing the indium internal standard required dilution due to the indium counts being low and outside the 70% -130% control limits.

METALS
Antimony, Copper, Nickel and Zinc failed the recovery criteria low for the MS of sample TS-2NB-SED (180-42924-1) in batch 180-140127. Several analytes failed the recovery criteria high. For the MSD of sample TS-2NB-SED (180-42924-1) in batch 180-140127, Antimony

and Calcium failed the recovery criteria low. Aluminum and Iron failed the recovery criteria high. Aluminum, Arsenic and Calcium exceeded the RPD limit. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

The serial dilution performed for the following sample associated with batch 140029 was outside control limits for copper and potassium: TS-2NB-SED (180-42924-1)

GENERAL CHEMSITRY

Several samples required dilution prior to analysis for total phosphorus. The reporting limits have been adjusted accordingly.

Cyanide, Total failed the recovery criteria low for the MS/MSD of sample TS-2NB-SED (180-42924-1) in batch 180-138612.

Sulfide failed the recovery criteria low for the MS/MSD of sample TS-2NB-SED (180-42924-1) in batch 180-138379.

Total Phosphorus as P failed the recovery criteria high for the MS of sample TS-2NB-SED (180-42924-1) in batch 240-177999.

Total Organic Carbon - Duplicates exceeded the RPD limit for the MSD of sample TS-2NB-SED (180-42924-1) in batch 180-139540.

Due to a injection error, the MSD has been reported as a single burn analysis: TS-2NB-SED (180-42924-1[MSD]).

The reporting limit for Lloyd Kahn TOC analysis is a nominal value and does not reflect adjustments in sample mass processed on an individual basis.

SUBCONTRACT WORK

Method 1613 B Dioxins/Furans + TEQs (EA criteria): This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42924-1
SDG: 15204.01,0009

Client Sample ID: TS-2NB-SED

Lab Sample ID: 180-42924-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	24	J	43	3.5	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	3.2	J	21	3.0	ug/Kg	1	☼	8270D LL	Total/NA
Diethyl phthalate	3.2	J B	21	2.4	ug/Kg	1	☼	8270D LL	Total/NA
Methylphenol, 3 & 4	2.2	J	21	2.1	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	5.5		4.3	0.51	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	5.3		4.3	0.39	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	3.2	J	4.3	0.46	ug/Kg	1	☼	8270D LL	Total/NA
Naphthalene	17		4.3	0.37	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthylene	0.53	J	4.3	0.50	ug/Kg	1	☼	8270D LL	Total/NA
delta-BHC	0.011	J p	0.054	0.0083	ug/Kg	1	☼	8081B_LL	Total/NA
Dieldrin	0.014	J p B	0.054	0.0090	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin aldehyde	0.011	J p	0.054	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
Mirex	0.012	J p	0.054	0.0050	ug/Kg	1	☼	8081B_LL	Total/NA
2,4'-DDE	0.014	J p	0.054	0.0050	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-52	0.13	J p	0.65	0.12	ug/Kg	1	☼	8082A	Total/NA
Cadmium SEM	0.061	J	0.16	0.0053	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	0.55	J F1	0.81	0.072	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	1.8		0.65	0.13	mg/Kg	2	☼	6010B	SEM/AVS
Nickel SEM	4.9		2.6	0.074	mg/Kg	2	☼	6010B	SEM/AVS
Zinc SEM	17	B F1	3.2	0.24	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	5200	F2	1.9	0.18	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.075	J F1	0.13	0.0017	mg/Kg	1	☼	6020A	Total/NA
Arsenic	7.9	F1 F2	0.064	0.012	mg/Kg	1	☼	6020A	Total/NA
Barium	12		0.64	0.0068	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.45		0.064	0.0048	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.076		0.064	0.0045	mg/Kg	1	☼	6020A	Total/NA
Chromium	14		0.13	0.0039	mg/Kg	1	☼	6020A	Total/NA
Calcium	63000	F2	32	0.84	mg/Kg	1	☼	6020A	Total/NA
Cobalt	3.4		0.032	0.00095	mg/Kg	1	☼	6020A	Total/NA
Copper	3.1	F1	0.13	0.021	mg/Kg	1	☼	6020A	Total/NA
Iron	13000		3.2	0.23	mg/Kg	1	☼	6020A	Total/NA
Lead	5.8		0.064	0.0024	mg/Kg	1	☼	6020A	Total/NA
Nickel	7.4	F1	0.064	0.0072	mg/Kg	1	☼	6020A	Total/NA
Potassium	1600		32	0.86	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.21	J	0.32	0.032	mg/Kg	1	☼	6020A	Total/NA
Magnesium	3500		32	0.12	mg/Kg	1	☼	6020A	Total/NA
Silver	0.024	J	0.064	0.0025	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.065		0.064	0.0013	mg/Kg	1	☼	6020A	Total/NA
Sodium	2500		32	0.87	mg/Kg	1	☼	6020A	Total/NA
Zinc	22	F1	0.32	0.041	mg/Kg	1	☼	6020A	Total/NA
Vanadium	13		0.064	0.0050	mg/Kg	1	☼	6020A	Total/NA
Manganese	120	F1 F2	0.32	0.0066	mg/Kg	1	☼	6020A	Total/NA
SEM/AVS Ratio	NC		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ammonia, distilled	11		6.2	4.0	mg/Kg	1	☼	350.1	Total/NA
Sulfide	19	J F1	39	7.7	mg/Kg	1	☼	9034	Total/NA
Total Organic Carbon - Duplicates	2400	F2	1300	120	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	240	F1	130	12	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	510		200	68	mg/Kg	1	☼	SM4500_NH3_E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-2NB-SED (Continued) — Lab Sample ID: 180-42924-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00054	J	0.0014	0.000047	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.0086	J F1	0.013	0.0011	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.0089		0.0031	0.00062	umol/g	2	☼	6010B	SEM/AVS
Nickel SEM	0.084		0.044	0.0013	umol/g	2	☼	6010B	SEM/AVS
Zinc SEM	0.27	B F1	0.049	0.0037	umol/g	1	☼	6010B	SEM/AVS

Client Sample ID: TS-4NT-SED — Lab Sample ID: 180-42924-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	64		45	3.7	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	6.9	J	22	3.1	ug/Kg	1	☼	8270D LL	Total/NA
Diethyl phthalate	7.5	J B	22	2.5	ug/Kg	1	☼	8270D LL	Total/NA
Methylphenol, 3 & 4	2.8	J	22	2.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	8.3		4.5	0.41	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	4.5		4.5	0.48	ug/Kg	1	☼	8270D LL	Total/NA
Naphthalene	27		4.5	0.39	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthylene	0.58	J	4.5	0.52	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthene	0.59	J	4.5	0.43	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	0.89	J	4.5	0.72	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	0.78	J	4.5	0.48	ug/Kg	1	☼	8270D LL	Total/NA
4,4'-DDT	0.014	J p	0.056	0.0085	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan II	0.020	J p	0.056	0.0099	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan sulfate	0.010	J	0.056	0.0059	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.025	J	0.056	0.011	ug/Kg	1	☼	8081B_LL	Total/NA
Methoxychlor	0.038	J p	0.11	0.012	ug/Kg	1	☼	8081B_LL	Total/NA
Mirex	0.0088	J p	0.056	0.0052	ug/Kg	1	☼	8081B_LL	Total/NA
2,4'-DDE	0.0073	J p	0.056	0.0052	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-52	0.19	J p	0.67	0.13	ug/Kg	1	☼	8082A	Total/NA
PCB-101	0.15	J	0.67	0.079	ug/Kg	1	☼	8082A	Total/NA
PCB-156	0.046	J p	0.67	0.045	ug/Kg	1	☼	8082A	Total/NA
Cadmium SEM	0.089	J	0.17	0.0056	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	1.5		0.85	0.077	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	4.5		0.34	0.068	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	5.2		1.4	0.039	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	20	B	3.4	0.25	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	6900		2.0	0.19	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.10	J	0.13	0.0018	mg/Kg	1	☼	6020A	Total/NA
Arsenic	7.7		0.067	0.012	mg/Kg	1	☼	6020A	Total/NA
Barium	16		0.67	0.0072	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.54		0.067	0.0051	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.089		0.067	0.0047	mg/Kg	1	☼	6020A	Total/NA
Chromium	15		0.13	0.0041	mg/Kg	1	☼	6020A	Total/NA
Calcium	19000		34	0.89	mg/Kg	1	☼	6020A	Total/NA
Cobalt	4.9		0.034	0.0010	mg/Kg	1	☼	6020A	Total/NA
Copper	5.2		0.13	0.022	mg/Kg	1	☼	6020A	Total/NA
Iron	14000		3.4	0.24	mg/Kg	1	☼	6020A	Total/NA
Lead	6.5		0.067	0.0026	mg/Kg	1	☼	6020A	Total/NA
Nickel	8.7		0.067	0.0076	mg/Kg	1	☼	6020A	Total/NA
Potassium	1500		34	0.92	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.25	J	0.34	0.034	mg/Kg	1	☼	6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-4NT-SED (Continued) — Lab Sample ID: 180-42924-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	2500		34	0.13	mg/Kg	1	☼	6020A	Total/NA
Silver	0.020	J	0.067	0.0026	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.095		0.067	0.0013	mg/Kg	1	☼	6020A	Total/NA
Sodium	3300		34	0.92	mg/Kg	1	☼	6020A	Total/NA
Zinc	26		0.34	0.044	mg/Kg	1	☼	6020A	Total/NA
Vanadium	17		0.067	0.0053	mg/Kg	1	☼	6020A	Total/NA
Manganese	110		0.34	0.0069	mg/Kg	1	☼	6020A	Total/NA
SEM/AVS Ratio	1.8		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ammonia, distilled	12		6.9	4.4	mg/Kg	1	☼	350.1	Total/NA
Sulfide	29	J	41	8.2	mg/Kg	1	☼	9034	Total/NA
Total Organic Carbon - Duplicates	5400		1400	120	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	180		130	12	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	380		190	64	mg/Kg	1	☼	SM4500_NH3_E	Total/NA
Acid Volatile Sulfides (AVS)	8.0	J	21	4.1	mg/Kg	1	☼	9034	SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00079	J	0.0015	0.000050	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.024		0.013	0.0012	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.022		0.0016	0.00033	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.088		0.023	0.00067	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.31	B	0.052	0.0039	umol/g	1	☼	6010B	SEM/AVS
Acid Volatile Sulfides (AVS)	0.25	J	0.64	0.13	umol/g	1	☼	9034	SEM/AVS

Client Sample ID: TS-2SB-SED — Lab Sample ID: 180-42924-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	61		42	3.4	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	13	J	21	2.9	ug/Kg	1	☼	8270D LL	Total/NA
Diethyl phthalate	4.9	J B	21	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Methylphenol, 3 & 4	2.4	J	21	2.1	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	12		4.2	0.38	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	7.0		4.2	0.45	ug/Kg	1	☼	8270D LL	Total/NA
Naphthalene	39		4.2	0.36	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthylene	1.2	J	4.2	0.48	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthene	0.79	J	4.2	0.40	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	0.60	J	4.2	0.56	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	0.88	J	4.2	0.67	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	0.77	J	4.2	0.45	ug/Kg	1	☼	8270D LL	Total/NA
alpha-BHC	0.13	J	0.26	0.043	ug/Kg	5	☼	8081B_LL	Total/NA
Endosulfan sulfate	0.048	J	0.26	0.027	ug/Kg	5	☼	8081B_LL	Total/NA
Methoxychlor	0.20	J	0.52	0.055	ug/Kg	5	☼	8081B_LL	Total/NA
Mirex	0.051	J p	0.26	0.024	ug/Kg	5	☼	8081B_LL	Total/NA
2,4'-DDD	0.020	J p	0.26	0.016	ug/Kg	5	☼	8081B_LL	Total/NA
2,4'-DDE	0.038	J p	0.26	0.024	ug/Kg	5	☼	8081B_LL	Total/NA
2,4'-DDT	0.028	J p	0.26	0.023	ug/Kg	5	☼	8081B_LL	Total/NA
Cadmium SEM	0.088	J	0.16	0.0052	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	2.1		0.79	0.071	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	2.9		0.32	0.063	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	4.6		1.3	0.036	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	19	B	3.2	0.23	mg/Kg	1	☼	6010B	SEM/AVS

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-2SB-SED (Continued) — Lab Sample ID: 180-42924-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	3700		1.9	0.18	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.049	J	0.13	0.0016	mg/Kg	1	☼	6020A	Total/NA
Arsenic	5.2		0.063	0.011	mg/Kg	1	☼	6020A	Total/NA
Barium	8.5		0.63	0.0067	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.33		0.063	0.0047	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.059	J	0.063	0.0044	mg/Kg	1	☼	6020A	Total/NA
Chromium	11		0.13	0.0038	mg/Kg	1	☼	6020A	Total/NA
Calcium	38000		31	0.83	mg/Kg	1	☼	6020A	Total/NA
Cobalt	2.7		0.031	0.00094	mg/Kg	1	☼	6020A	Total/NA
Copper	2.3		0.13	0.021	mg/Kg	1	☼	6020A	Total/NA
Iron	9700		3.1	0.22	mg/Kg	1	☼	6020A	Total/NA
Lead	4.1		0.063	0.0024	mg/Kg	1	☼	6020A	Total/NA
Nickel	5.2		0.063	0.0071	mg/Kg	1	☼	6020A	Total/NA
Potassium	1300		31	0.85	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.14	J	0.31	0.032	mg/Kg	1	☼	6020A	Total/NA
Magnesium	2100		31	0.12	mg/Kg	1	☼	6020A	Total/NA
Silver	0.016	J	0.063	0.0024	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.054	J	0.063	0.0013	mg/Kg	1	☼	6020A	Total/NA
Sodium	2000		31	0.86	mg/Kg	1	☼	6020A	Total/NA
Zinc	17		0.31	0.041	mg/Kg	1	☼	6020A	Total/NA
Vanadium	10		0.063	0.0050	mg/Kg	1	☼	6020A	Total/NA
Manganese	80		0.31	0.0065	mg/Kg	1	☼	6020A	Total/NA
Mercury	0.0070	J	0.020	0.0068	mg/Kg	1	☼	7471B	Total/NA
SEM/AVS Ratio	1.9		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Sulfide	16	J	38	7.6	mg/Kg	1	☼	9034	Total/NA
Total Organic Carbon - Duplicates	4000		1300	110	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	210		130	12	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	240		180	62	mg/Kg	1	☼	SM4500_NH3_E	Total/NA
Nitrate Nitrite as N	1.7		1.3	0.27	mg/Kg	1	☼	353.2	Soluble
Acid Volatile Sulfides (AVS)	6.9	J	19	3.8	mg/Kg	1	☼	9034	SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00078	J	0.0014	0.000046	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.033		0.012	0.0011	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.014		0.0015	0.00030	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.078		0.022	0.00062	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.29	B	0.048	0.0036	umol/g	1	☼	6010B	SEM/AVS
Acid Volatile Sulfides (AVS)	0.22	J	0.59	0.12	umol/g	1	☼	9034	SEM/AVS

Client Sample ID: TS-3NT-SED — Lab Sample ID: 180-42924-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	65		42	3.4	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	7.9	J	21	2.8	ug/Kg	1	☼	8270D LL	Total/NA
Di-n-butyl phthalate	2.8	J	21	2.6	ug/Kg	1	☼	8270D LL	Total/NA
Diethyl phthalate	2.8	J B	21	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Methylphenol, 3 & 4	3.1	J	21	2.0	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	8.4		4.2	0.49	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	11		4.2	0.37	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	6.4		4.2	0.44	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-3NT-SED (Continued)

Lab Sample ID: 180-42924-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	34		4.2	0.36	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthylene	1.3	J	4.2	0.48	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthene	0.65	J	4.2	0.40	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	0.59	J	4.2	0.55	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	0.86	J	4.2	0.66	ug/Kg	1	☼	8270D LL	Total/NA
DCPA	0.042	J p	0.052	0.0079	ug/Kg	1	☼	8081B_LL	Total/NA
Dieldrin	0.026	J p B	0.052	0.0087	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.010	J p B	0.052	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
2,4'-DDE	0.0052	J p	0.052	0.0048	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-101	0.093	J p	0.63	0.074	ug/Kg	1	☼	8082A	Total/NA
Cadmium SEM	0.068	J	0.16	0.0051	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	2.0		0.78	0.070	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	3.3		0.63	0.12	mg/Kg	2	☼	6010B	SEM/AVS
Nickel SEM	4.8		2.5	0.072	mg/Kg	2	☼	6010B	SEM/AVS
Zinc SEM	18	B	3.1	0.23	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	5600		1.9	0.18	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.10	J	0.13	0.0016	mg/Kg	1	☼	6020A	Total/NA
Arsenic	13		0.063	0.011	mg/Kg	1	☼	6020A	Total/NA
Barium	25		0.63	0.0067	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.44		0.063	0.0047	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.11		0.063	0.0044	mg/Kg	1	☼	6020A	Total/NA
Chromium	14		0.13	0.0038	mg/Kg	1	☼	6020A	Total/NA
Calcium	66000		31	0.83	mg/Kg	1	☼	6020A	Total/NA
Cobalt	4.8		0.031	0.00094	mg/Kg	1	☼	6020A	Total/NA
Copper	5.0		0.13	0.021	mg/Kg	1	☼	6020A	Total/NA
Iron	14000		3.1	0.22	mg/Kg	1	☼	6020A	Total/NA
Lead	6.3		0.063	0.0024	mg/Kg	1	☼	6020A	Total/NA
Nickel	7.6		0.063	0.0071	mg/Kg	1	☼	6020A	Total/NA
Potassium	1500		31	0.85	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.20	J	0.31	0.032	mg/Kg	1	☼	6020A	Total/NA
Magnesium	2700		31	0.12	mg/Kg	1	☼	6020A	Total/NA
Silver	0.020	J	0.063	0.0025	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.10		0.063	0.0013	mg/Kg	1	☼	6020A	Total/NA
Sodium	2800		31	0.86	mg/Kg	1	☼	6020A	Total/NA
Zinc	21		0.31	0.041	mg/Kg	1	☼	6020A	Total/NA
Vanadium	17		0.063	0.0050	mg/Kg	1	☼	6020A	Total/NA
Manganese	150		0.31	0.0065	mg/Kg	1	☼	6020A	Total/NA
Mercury	0.012	J	0.020	0.0068	mg/Kg	1	☼	7471B	Total/NA
SEM/AVS Ratio	NC		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Sulfide	22	J	38	7.5	mg/Kg	1	☼	9034	Total/NA
Total Organic Carbon - Duplicates	2500		1300	110	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	250		120	11	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	200		180	61	mg/Kg	1	☼	SM4500_NH3_E	Total/NA
Nitrate Nitrite as N	0.40	J	1.3	0.27	mg/Kg	1	☼	353.2	Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00061	J	0.0014	0.000046	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.032		0.012	0.0011	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.016		0.0030	0.00060	umol/g	2	☼	6010B	SEM/AVS
Nickel SEM	0.082		0.043	0.0012	umol/g	2	☼	6010B	SEM/AVS

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-3NT-SED (Continued)

Lab Sample ID: 180-42924-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Zinc SEM	0.28	B	0.048	0.0035	umol/g	1	☼	6010B	SEM/AVS

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-2NB-SED
Date Collected: 04/09/15 11:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-1
Matrix: Sediment
Percent Solids: 77.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND	F1	430	91	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
1,2-Dichlorobenzene	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
1,3-Dichlorobenzene	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
1,4-Dichlorobenzene	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Benzoic acid	ND		110	9.0	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Bis(2-chloroethyl)ether	ND		4.3	0.58	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Bis(2-chloroethoxy)methane	ND		21	1.4	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Bis(2-ethylhexyl) phthalate	**24**	**J**	43	3.5	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
4-Bromophenyl phenyl ether	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Butyl benzyl phthalate	**3.2**	**J**	21	3.0	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
4-Chloro-3-methylphenol	ND		21	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
2-Chloronaphthalene	ND		4.3	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
2-Chlorophenol	ND		21	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
4-Chlorophenyl phenyl ether	ND		21	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Di-n-butyl phthalate	ND		21	2.7	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
3,3'-Dichlorobenzidine	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
2,4-Dichlorophenol	ND		4.3	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Diethyl phthalate	**3.2**	**J B**	21	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
4,6-Dinitro-2-methylphenol	ND		110	8.7	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
2,4-Dimethylphenol	ND		21	3.4	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Dimethyl phthalate	ND		21	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
2,4-Dinitrophenol	ND		110	26	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
2,4-Dinitrotoluene	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
2,6-Dinitrotoluene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		21	2.8	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Di-n-octyl phthalate	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Hexachlorobenzene	ND		4.3	0.46	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Hexachlorobutadiene	ND		4.3	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Hexachloroethane	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Hexachlorocyclopentadiene	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Isophorone	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
2-Methylphenol	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Methylphenol, 3 & 4	**2.2**	**J**	21	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Nitrobenzene	ND		43	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
2-Nitrophenol	ND		21	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
4-Nitrophenol	ND		110	7.9	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
N-Nitrosodiphenylamine	ND		21	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
N-Nitrosodimethylamine	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
N-Nitrosodi-n-propylamine	ND		4.3	0.51	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
2,2'-oxybis[1-chloropropane]	ND		4.3	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Pentachlorophenol	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Phenol	**5.5**		4.3	0.51	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
1,2,4-Trichlorobenzene	ND		21	1.2	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
2,4,6-Trichlorophenol	ND		21	3.2	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
2-Methylnaphthalene	**5.3**		4.3	0.39	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
1-Methylnaphthalene	**3.2**	**J**	4.3	0.46	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Naphthalene	**17**		4.3	0.37	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Acenaphthylene	**0.53**	**J**	4.3	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-2NB-SED
Date Collected: 04/09/15 11:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-1
Matrix: Sediment
Percent Solids: 77.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		4.3	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Fluorene	ND		4.3	0.57	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Phenanthrene	ND		4.3	0.69	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Anthracene	ND		4.3	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Fluoranthene	ND		4.3	0.46	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Pyrene	ND		4.3	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Benzo[a]anthracene	ND		4.3	0.54	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Chrysene	ND		4.3	0.52	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Benzo[b]fluoranthene	ND		4.3	0.68	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Benzo[k]fluoranthene	ND		4.3	0.88	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Benzo[a]pyrene	ND		4.3	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Indeno[1,2,3-cd]pyrene	ND		4.3	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Dibenz(a,h)anthracene	ND		4.3	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Benzo[g,h,i]perylene	ND		4.3	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Benzyl alcohol	ND		21	2.6	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1
Dibenzofuran	ND		21	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 08:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*38 - 103*	*04/21/15 03:10*	*04/24/15 08:11*	*1*
2-Fluorophenol (Surr)	*59*		*34 - 103*	*04/21/15 03:10*	*04/24/15 08:11*	*1*
2,4,6-Tribromophenol (Surr)	*45*		*20 - 113*	*04/21/15 03:10*	*04/24/15 08:11*	*1*
Nitrobenzene-d5 (Surr)	*69*		*41 - 108*	*04/21/15 03:10*	*04/24/15 08:11*	*1*
Phenol-d5 (Surr)	*73*		*35 - 103*	*04/21/15 03:10*	*04/24/15 08:11*	*1*
Terphenyl-d14 (Surr)	*54*		*28 - 109*	*04/21/15 03:10*	*04/24/15 08:11*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-4NT-SED
Date Collected: 04/09/15 14:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-2
Matrix: Sediment
Percent Solids: 73.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		450	95	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
1,2-Dichlorobenzene	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
1,3-Dichlorobenzene	ND		22	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
1,4-Dichlorobenzene	ND		22	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Benzoic acid	ND		120	9.4	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Bis(2-chloroethyl)ether	ND		4.5	0.61	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Bis(2-chloroethoxy)methane	ND		22	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Bis(2-ethylhexyl) phthalate	**64**		45	3.7	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
4-Bromophenyl phenyl ether	ND		22	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Butyl benzyl phthalate	**6.9**	**J**	22	3.1	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
4-Chloro-3-methylphenol	ND		22	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
2-Chloronaphthalene	ND		4.5	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
2-Chlorophenol	ND		22	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
4-Chlorophenyl phenyl ether	ND		22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Di-n-butyl phthalate	ND		22	2.8	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
3,3'-Dichlorobenzidine	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
2,4-Dichlorophenol	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Diethyl phthalate	**7.5**	**J B**	22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
4,6-Dinitro-2-methylphenol	ND		120	9.1	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
2,4-Dimethylphenol	ND		22	3.5	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Dimethyl phthalate	ND		22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
2,4-Dinitrophenol	ND		120	27	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
2,4-Dinitrotoluene	ND		22	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
2,6-Dinitrotoluene	ND		22	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		22	2.9	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Di-n-octyl phthalate	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Hexachlorobenzene	ND		4.5	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Hexachlorobutadiene	ND		4.5	0.51	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Hexachloroethane	ND		22	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Hexachlorocyclopentadiene	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Isophorone	ND		22	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
2-Methylphenol	ND		22	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Methylphenol, 3 & 4	**2.8**	**J**	22	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Nitrobenzene	ND		45	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
2-Nitrophenol	ND		22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
4-Nitrophenol	ND		120	8.3	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
N-Nitrosodiphenylamine	ND		22	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
N-Nitrosodimethylamine	ND		22	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
N-Nitrosodi-n-propylamine	ND		4.5	0.53	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
2,2'-oxybis[1-chloropropane]	ND		4.5	0.49	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Pentachlorophenol	ND		22	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Phenol	ND		4.5	0.53	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
1,2,4-Trichlorobenzene	ND		22	1.3	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
2,4,6-Trichlorophenol	ND		22	3.4	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
2-Methylnaphthalene	**8.3**		4.5	0.41	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
1-Methylnaphthalene	**4.5**		4.5	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Naphthalene	**27**		4.5	0.39	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Acenaphthylene	**0.58**	**J**	4.5	0.52	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Acenaphthene	**0.59**	**J**	4.5	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-4NT-SED
Date Collected: 04/09/15 14:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-2
Matrix: Sediment
Percent Solids: 73.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		4.5	0.60	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Phenanthrene	**0.89**	**J**	4.5	0.72	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Anthracene	ND		4.5	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Fluoranthene	**0.78**	**J**	4.5	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Pyrene	ND		4.5	0.46	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Benzo[a]anthracene	ND		4.5	0.57	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Chrysene	ND		4.5	0.54	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Benzo[b]fluoranthene	ND		4.5	0.71	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Benzo[k]fluoranthene	ND		4.5	0.92	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Benzo[a]pyrene	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Indeno[1,2,3-cd]pyrene	ND		4.5	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Dibenz(a,h)anthracene	ND		4.5	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Benzo[g,h,i]perylene	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Benzyl alcohol	ND		22	2.7	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1
Dibenzofuran	ND		22	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 08:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*38 - 103*	*04/21/15 03:10*	*04/24/15 08:40*	*1*
2-Fluorophenol (Surr)	*72*		*34 - 103*	*04/21/15 03:10*	*04/24/15 08:40*	*1*
2,4,6-Tribromophenol (Surr)	*59*		*20 - 113*	*04/21/15 03:10*	*04/24/15 08:40*	*1*
Nitrobenzene-d5 (Surr)	*86*		*41 - 108*	*04/21/15 03:10*	*04/24/15 08:40*	*1*
Phenol-d5 (Surr)	*84*		*35 - 103*	*04/21/15 03:10*	*04/24/15 08:40*	*1*
Terphenyl-d14 (Surr)	*63*		*28 - 109*	*04/21/15 03:10*	*04/24/15 08:40*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-2SB-SED
Date Collected: 04/08/15 11:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-3
Matrix: Sediment
Percent Solids: 79.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		420	88	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
1,2-Dichlorobenzene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
1,3-Dichlorobenzene	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
1,4-Dichlorobenzene	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Benzoic acid	ND		110	8.7	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Bis(2-chloroethyl)ether	ND		4.2	0.57	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Bis(2-chloroethoxy)methane	ND		21	1.4	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Bis(2-ethylhexyl) phthalate	**61**		42	3.4	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
4-Bromophenyl phenyl ether	ND		21	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Butyl benzyl phthalate	**13**	**J**	21	2.9	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
4-Chloro-3-methylphenol	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
2-Chloronaphthalene	ND		4.2	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
2-Chlorophenol	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
4-Chlorophenyl phenyl ether	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Di-n-butyl phthalate	ND		21	2.6	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
3,3'-Dichlorobenzidine	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
2,4-Dichlorophenol	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Diethyl phthalate	**4.9**	**J B**	21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
4,6-Dinitro-2-methylphenol	ND		110	8.5	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
2,4-Dimethylphenol	ND		21	3.3	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Dimethyl phthalate	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
2,4-Dinitrophenol	ND		110	25	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
2,4-Dinitrotoluene	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
2,6-Dinitrotoluene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		21	2.7	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Di-n-octyl phthalate	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Hexachlorobenzene	ND		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Hexachlorobutadiene	ND		4.2	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Hexachloroethane	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Hexachlorocyclopentadiene	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Isophorone	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
2-Methylphenol	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Methylphenol, 3 & 4	**2.4**	**J**	21	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Nitrobenzene	ND		42	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
2-Nitrophenol	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
4-Nitrophenol	ND		110	7.7	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
N-Nitrosodiphenylamine	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
N-Nitrosodimethylamine	ND		21	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
N-Nitrosodi-n-propylamine	ND		4.2	0.49	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
2,2'-oxybis[1-chloropropane]	ND		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Pentachlorophenol	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Phenol	ND		4.2	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
1,2,4-Trichlorobenzene	ND		21	1.2	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
2,4,6-Trichlorophenol	ND		21	3.2	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
2-Methylnaphthalene	**12**		4.2	0.38	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
1-Methylnaphthalene	**7.0**		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Naphthalene	**39**		4.2	0.36	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Acenaphthylene	**1.2**	**J**	4.2	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Acenaphthene	**0.79**	**J**	4.2	0.40	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-2SB-SED
Date Collected: 04/08/15 11:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-3
Matrix: Sediment
Percent Solids: 79.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**0.60**	**J**	4.2	0.56	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Phenanthrene	**0.88**	**J**	4.2	0.67	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Anthracene	ND		4.2	0.41	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Fluoranthene	**0.77**	**J**	4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Pyrene	ND		4.2	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Benzo[a]anthracene	ND		4.2	0.53	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Chrysene	ND		4.2	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Benzo[b]fluoranthene	ND		4.2	0.66	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Benzo[k]fluoranthene	ND		4.2	0.85	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Benzo[a]pyrene	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Indeno[1,2,3-cd]pyrene	ND		4.2	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Dibenz(a,h)anthracene	ND		4.2	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Benzo[g,h,i]perylene	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Benzyl alcohol	ND		21	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1
Dibenzofuran	ND		21	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 09:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*61*		*38 - 103*	*04/21/15 03:10*	*04/24/15 09:09*	*1*
2-Fluorophenol (Surr)	*71*		*34 - 103*	*04/21/15 03:10*	*04/24/15 09:09*	*1*
2,4,6-Tribromophenol (Surr)	*53*		*20 - 113*	*04/21/15 03:10*	*04/24/15 09:09*	*1*
Nitrobenzene-d5 (Surr)	*84*		*41 - 108*	*04/21/15 03:10*	*04/24/15 09:09*	*1*
Phenol-d5 (Surr)	*84*		*35 - 103*	*04/21/15 03:10*	*04/24/15 09:09*	*1*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*04/21/15 03:10*	*04/24/15 09:09*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-3NT-SED
Date Collected: 04/08/15 15:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-4
Matrix: Sediment
Percent Solids: 79.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		420	87	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
1,2-Dichlorobenzene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
1,3-Dichlorobenzene	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
1,4-Dichlorobenzene	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Benzoic acid	ND		110	8.6	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Bis(2-chloroethyl)ether	ND		4.2	0.56	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Bis(2-chloroethoxy)methane	ND		21	1.4	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Bis(2-ethylhexyl) phthalate	**65**		42	3.4	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
4-Bromophenyl phenyl ether	ND		21	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Butyl benzyl phthalate	**7.9**	**J**	21	2.8	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
4-Chloro-3-methylphenol	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
2-Chloronaphthalene	ND		4.2	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
2-Chlorophenol	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
4-Chlorophenyl phenyl ether	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Di-n-butyl phthalate	**2.8**	**J**	21	2.6	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
3,3'-Dichlorobenzidine	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
2,4-Dichlorophenol	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Diethyl phthalate	**2.8**	**J B**	21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
4,6-Dinitro-2-methylphenol	ND		110	8.4	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
2,4-Dimethylphenol	ND		21	3.3	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Dimethyl phthalate	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
2,4-Dinitrophenol	ND		110	25	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
2,4-Dinitrotoluene	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
2,6-Dinitrotoluene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		21	2.7	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Di-n-octyl phthalate	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Hexachlorobenzene	ND		4.2	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Hexachlorobutadiene	ND		4.2	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Hexachloroethane	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Hexachlorocyclopentadiene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Isophorone	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
2-Methylphenol	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Methylphenol, 3 & 4	**3.1**	**J**	21	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Nitrobenzene	ND		42	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
2-Nitrophenol	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
4-Nitrophenol	ND		110	7.6	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
N-Nitrosodiphenylamine	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
N-Nitrosodimethylamine	ND		21	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
N-Nitrosodi-n-propylamine	ND		4.2	0.49	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
2,2'-oxybis[1-chloropropane]	ND		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Pentachlorophenol	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Phenol	**8.4**		4.2	0.49	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
1,2,4-Trichlorobenzene	ND		21	1.2	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
2,4,6-Trichlorophenol	ND		21	3.1	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
2-Methylnaphthalene	**11**		4.2	0.37	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
1-Methylnaphthalene	**6.4**		4.2	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Naphthalene	**34**		4.2	0.36	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Acenaphthylene	**1.3**	**J**	4.2	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Acenaphthene	**0.65**	**J**	4.2	0.40	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-3NT-SED
Date Collected: 04/08/15 15:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-4
Matrix: Sediment
Percent Solids: 79.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**0.59**	**J**	4.2	0.55	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Phenanthrene	**0.86**	**J**	4.2	0.66	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Anthracene	ND		4.2	0.41	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Fluoranthene	ND		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Pyrene	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Benzo[a]anthracene	ND		4.2	0.52	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Chrysene	ND		4.2	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Benzo[b]fluoranthene	ND		4.2	0.66	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Benzo[k]fluoranthene	ND		4.2	0.84	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Benzo[a]pyrene	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Indeno[1,2,3-cd]pyrene	ND		4.2	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Dibenz(a,h)anthracene	ND		4.2	0.46	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Benzo[g,h,i]perylene	ND		4.2	0.41	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Benzyl alcohol	ND		21	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1
Dibenzofuran	ND		21	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 09:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*38 - 103*	*04/21/15 03:10*	*04/24/15 09:38*	*1*
2-Fluorophenol (Surr)	*80*		*34 - 103*	*04/21/15 03:10*	*04/24/15 09:38*	*1*
2,4,6-Tribromophenol (Surr)	*53*		*20 - 113*	*04/21/15 03:10*	*04/24/15 09:38*	*1*
Nitrobenzene-d5 (Surr)	*90*		*41 - 108*	*04/21/15 03:10*	*04/24/15 09:38*	*1*
Phenol-d5 (Surr)	*94*		*35 - 103*	*04/21/15 03:10*	*04/24/15 09:38*	*1*
Terphenyl-d14 (Surr)	*65*		*28 - 109*	*04/21/15 03:10*	*04/24/15 09:38*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-2NB-SED
Date Collected: 04/09/15 11:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-1
Matrix: Sediment
Percent Solids: 77.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.054	0.0096	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
alpha-BHC	ND		0.054	0.0088	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
beta-BHC	ND		0.054	0.014	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
delta-BHC	**0.011**	**J p**	0.054	0.0083	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
gamma-BHC (Lindane)	ND		0.054	0.0094	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
Chlordane (technical)	ND		0.54	0.024	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
Chlorobenside	ND		0.054	0.028	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
DCPA	ND		0.054	0.0082	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
4,4'-DDD	ND		0.054	0.0070	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
4,4'-DDE	ND		0.054	0.0081	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
4,4'-DDT	ND		0.054	0.0081	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
Dieldrin	**0.014**	**J p B**	0.054	0.0090	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
Endosulfan I	ND		0.054	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
Endosulfan II	ND		0.054	0.0095	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
Endosulfan sulfate	ND		0.054	0.0056	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
Endrin	ND		0.054	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
Endrin aldehyde	**0.011**	**J p**	0.054	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
Heptachlor	ND		0.054	0.012	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
Heptachlor epoxide	ND		0.054	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
Methoxychlor	ND		0.11	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
Mirex	**0.012**	**J p**	0.054	0.0050	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
Toxaphene	ND		2.1	0.36	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
2,4'-DDD	ND		0.054	0.0032	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
2,4'-DDE	**0.014**	**J p**	0.054	0.0050	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1
2,4'-DDT	ND		0.054	0.0046	ug/Kg	☼	04/21/15 10:31	04/30/15 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*53*		*10 - 140*	*04/21/15 10:31*	*04/30/15 18:10*	*1*
Tetrachloro-m-xylene	*60*		*10 - 140*	*04/21/15 10:31*	*04/30/15 18:10*	*1*
DCB Decachlorobiphenyl (Surr)	*68*		*10 - 140*	*04/21/15 10:31*	*04/30/15 18:10*	*1*
DCB Decachlorobiphenyl (Surr)	*68*		*10 - 140*	*04/21/15 10:31*	*04/30/15 18:10*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-4NT-SED
Date Collected: 04/09/15 14:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-2
Matrix: Sediment
Percent Solids: 73.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.056	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
alpha-BHC	ND		0.056	0.0092	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
beta-BHC	ND		0.056	0.015	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
delta-BHC	ND		0.056	0.0087	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
gamma-BHC (Lindane)	ND		0.056	0.0099	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
Chlordane (technical)	ND		0.56	0.025	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
Chlorobenside	ND		0.056	0.029	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
DCPA	ND		0.056	0.0086	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
4,4'-DDD	ND		0.056	0.0074	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
4,4'-DDE	ND		0.056	0.0085	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
4,4'-DDT	**0.014**	**J p**	0.056	0.0085	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
Dieldrin	ND		0.056	0.0094	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
Endosulfan I	ND		0.056	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
Endosulfan II	**0.020**	**J p**	0.056	0.0099	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
Endosulfan sulfate	**0.010**	**J**	0.056	0.0059	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
Endrin	**0.025**	**J**	0.056	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
Endrin aldehyde	ND		0.056	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
Heptachlor	ND		0.056	0.013	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
Heptachlor epoxide	ND		0.056	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
Methoxychlor	**0.038**	**J p**	0.11	0.012	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
Mirex	**0.0088**	**J p**	0.056	0.0052	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
Toxaphene	ND		2.3	0.38	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
2,4'-DDD	ND		0.056	0.0034	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
2,4'-DDE	**0.0073**	**J p**	0.056	0.0052	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1
2,4'-DDT	ND		0.056	0.0049	ug/Kg	☼	04/21/15 10:31	04/30/15 18:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*47*		*10 - 140*	*04/21/15 10:31*	*04/30/15 18:56*	*1*
Tetrachloro-m-xylene	*53*		*10 - 140*	*04/21/15 10:31*	*04/30/15 18:56*	*1*
DCB Decachlorobiphenyl (Surr)	*62*		*10 - 140*	*04/21/15 10:31*	*04/30/15 18:56*	*1*
DCB Decachlorobiphenyl (Surr)	*59*		*10 - 140*	*04/21/15 10:31*	*04/30/15 18:56*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-2SB-SED
Date Collected: 04/08/15 11:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-3
Matrix: Sediment
Percent Solids: 79.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.26	0.047	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
alpha-BHC	**0.13**	**J**	0.26	0.043	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
beta-BHC	ND		0.26	0.068	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
delta-BHC	ND		0.26	0.040	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
gamma-BHC (Lindane)	ND		0.26	0.046	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
Chlordane (technical)	ND		2.6	0.12	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
Chlorobenside	ND		0.26	0.14	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
DCPA	ND		0.26	0.040	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
4,4'-DDD	ND		0.26	0.034	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
4,4'-DDE	ND		0.26	0.040	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
4,4'-DDT	ND		0.26	0.039	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
Dieldrin	ND		0.26	0.044	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
Endosulfan I	ND		0.26	0.049	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
Endosulfan II	ND		0.26	0.046	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
Endosulfan sulfate	**0.048**	**J**	0.26	0.027	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
Endrin	ND		0.26	0.051	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
Endrin aldehyde	ND		0.26	0.051	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
Heptachlor	ND		0.26	0.058	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
Heptachlor epoxide	ND		0.26	0.051	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
Methoxychlor	**0.20**	**J**	0.52	0.055	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
Mirex	**0.051**	**J p**	0.26	0.024	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
Toxaphene	ND		10	1.8	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
2,4'-DDD	**0.020**	**J p**	0.26	0.016	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
2,4'-DDE	**0.038**	**J p**	0.26	0.024	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5
2,4'-DDT	**0.028**	**J p**	0.26	0.023	ug/Kg	☼	04/21/15 10:31	04/30/15 19:11	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*44*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:11*	*5*
Tetrachloro-m-xylene	*50*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:11*	*5*
DCB Decachlorobiphenyl (Surr)	*70*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:11*	*5*
DCB Decachlorobiphenyl (Surr)	*70*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:11*	*5*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-3NT-SED
Date Collected: 04/08/15 15:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-4
Matrix: Sediment
Percent Solids: 79.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.052	0.0093	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
alpha-BHC	ND		0.052	0.0085	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
beta-BHC	ND		0.052	0.013	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
delta-BHC	ND		0.052	0.0080	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
gamma-BHC (Lindane)	ND		0.052	0.0091	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
Chlordane (technical)	ND		0.52	0.023	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
Chlorobenside	ND		0.052	0.027	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
DCPA	**0.042**	**J p**	0.052	0.0079	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
4,4'-DDD	ND		0.052	0.0068	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
4,4'-DDE	ND		0.052	0.0078	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
4,4'-DDT	ND		0.052	0.0078	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
Dieldrin	**0.026**	**J p B**	0.052	0.0087	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
Endosulfan I	ND		0.052	0.0098	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
Endosulfan II	ND		0.052	0.0092	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
Endosulfan sulfate	ND		0.052	0.0054	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
Endrin	**0.010**	**J p B**	0.052	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
Endrin aldehyde	ND		0.052	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
Heptachlor	ND		0.052	0.012	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
Heptachlor epoxide	ND		0.052	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
Methoxychlor	ND		0.10	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
Mirex	ND		0.052	0.0048	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
Toxaphene	ND		2.1	0.35	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
2,4'-DDD	ND		0.052	0.0031	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
2,4'-DDE	**0.0052**	**J p**	0.052	0.0048	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1
2,4'-DDT	ND		0.052	0.0045	ug/Kg	☼	04/21/15 10:31	04/30/15 19:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*37*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:27*	*1*
Tetrachloro-m-xylene	*42*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:27*	*1*
DCB Decachlorobiphenyl (Surr)	*69*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:27*	*1*
DCB Decachlorobiphenyl (Surr)	*72*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:27*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-2NB-SED
Date Collected: 04/09/15 11:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-1
Matrix: Sediment
Percent Solids: 77.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.65	0.21	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-18	ND		0.65	0.18	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-28	ND		0.65	0.093	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-44	ND		0.65	0.073	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-49	ND	F2	0.65	0.13	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-52	**0.13**	**J p**	0.65	0.12	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-66	ND		0.65	0.059	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-77	ND		0.65	0.070	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-87	ND		0.65	0.066	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-101	ND		0.65	0.076	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-105	ND		0.65	0.053	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-118	ND		0.65	0.058	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-126	ND		0.65	0.22	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-128	ND		0.65	0.069	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-138	ND		0.65	0.054	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-153	ND		0.65	0.056	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-156	ND		0.65	0.043	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-169	ND		0.65	0.042	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-170	ND		0.65	0.049	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-180	ND		0.65	0.056	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-183	ND		0.65	0.14	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-184	ND		0.65	0.058	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-187	ND		0.65	0.080	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-195	ND	F2	0.65	0.13	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
PCB-206	ND	F1 F2	0.65	0.045	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1
DCB Decachlorobiphenyl	ND	F2	0.65	0.045	ug/Kg	☼	04/21/15 04:50	04/28/15 14:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*66*		*35 - 140*	*04/21/15 04:50*	*04/28/15 14:24*	*1*
Tetrachloro-m-xylene (Surr)	*64*		*35 - 140*	*04/21/15 04:50*	*04/28/15 14:24*	*1*
PCB-205 (Surr)	*60*		*35 - 140*	*04/21/15 04:50*	*04/28/15 14:24*	*1*
PCB-205 (Surr)	*61*		*35 - 140*	*04/21/15 04:50*	*04/28/15 14:24*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-4NT-SED
Date Collected: 04/09/15 14:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-2
Matrix: Sediment
Percent Solids: 73.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.67	0.22	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-18	ND		0.67	0.19	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-28	ND		0.67	0.096	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-44	ND		0.67	0.076	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-49	ND		0.67	0.14	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-52	**0.19**	**J p**	0.67	0.13	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-66	ND		0.67	0.061	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-77	ND		0.67	0.072	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-87	ND		0.67	0.068	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-101	**0.15**	**J**	0.67	0.079	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-105	ND		0.67	0.055	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-118	ND		0.67	0.061	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-126	ND		0.67	0.23	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-128	ND		0.67	0.072	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-138	ND		0.67	0.056	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-153	ND		0.67	0.058	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-156	**0.046**	**J p**	0.67	0.045	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-169	ND		0.67	0.043	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-170	ND		0.67	0.051	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-180	ND		0.67	0.058	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-183	ND		0.67	0.14	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-184	ND		0.67	0.061	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-187	ND		0.67	0.083	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-195	ND		0.67	0.13	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
PCB-206	ND		0.67	0.047	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1
DCB Decachlorobiphenyl	ND		0.67	0.047	ug/Kg	☼	04/21/15 04:50	04/28/15 16:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*80*		*35 - 140*	*04/21/15 04:50*	*04/28/15 16:06*	*1*
Tetrachloro-m-xylene (Surr)	*80*		*35 - 140*	*04/21/15 04:50*	*04/28/15 16:06*	*1*
PCB-205 (Surr)	*64*		*35 - 140*	*04/21/15 04:50*	*04/28/15 16:06*	*1*
PCB-205 (Surr)	*69*		*35 - 140*	*04/21/15 04:50*	*04/28/15 16:06*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-2SB-SED
Date Collected: 04/08/15 11:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-3
Matrix: Sediment
Percent Solids: 79.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.63	0.21	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-18	ND		0.63	0.18	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-28	ND		0.63	0.090	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-44	ND		0.63	0.071	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-49	ND		0.63	0.13	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-52	ND		0.63	0.12	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-66	ND		0.63	0.057	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-77	ND		0.63	0.068	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-87	ND		0.63	0.064	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-101	ND		0.63	0.074	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-105	ND		0.63	0.052	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-118	ND		0.63	0.057	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-126	ND		0.63	0.21	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-128	ND		0.63	0.067	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-138	ND		0.63	0.053	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-153	ND		0.63	0.054	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-156	ND		0.63	0.042	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-169	ND		0.63	0.040	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-170	ND		0.63	0.048	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-180	ND		0.63	0.054	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-183	ND		0.63	0.14	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-184	ND		0.63	0.057	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-187	ND		0.63	0.078	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-195	ND		0.63	0.12	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
PCB-206	ND		0.63	0.044	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1
DCB Decachlorobiphenyl	ND		0.63	0.044	ug/Kg	☼	04/21/15 04:50	04/28/15 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*75*		*35 - 140*	*04/21/15 04:50*	*04/28/15 16:54*	*1*
Tetrachloro-m-xylene (Surr)	*75*		*35 - 140*	*04/21/15 04:50*	*04/28/15 16:54*	*1*
PCB-205 (Surr)	*56*		*35 - 140*	*04/21/15 04:50*	*04/28/15 16:54*	*1*
PCB-205 (Surr)	*58*		*35 - 140*	*04/21/15 04:50*	*04/28/15 16:54*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-3NT-SED
Date Collected: 04/08/15 15:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-4
Matrix: Sediment
Percent Solids: 79.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.63	0.21	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-18	ND		0.63	0.18	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-28	ND		0.63	0.090	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-44	ND		0.63	0.071	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-49	ND		0.63	0.13	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-52	ND		0.63	0.12	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-66	ND		0.63	0.057	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-77	ND		0.63	0.067	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-87	ND		0.63	0.064	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-101	**0.093**	**J p**	0.63	0.074	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-105	ND		0.63	0.051	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-118	ND		0.63	0.057	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-126	ND		0.63	0.21	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-128	ND		0.63	0.067	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-138	ND		0.63	0.053	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-153	ND		0.63	0.054	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-156	ND		0.63	0.042	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-169	ND		0.63	0.040	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-170	ND		0.63	0.048	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-180	ND		0.63	0.054	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-183	ND		0.63	0.14	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-184	ND		0.63	0.056	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-187	ND		0.63	0.078	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-195	ND		0.63	0.12	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
PCB-206	ND		0.63	0.044	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1
DCB Decachlorobiphenyl	ND		0.63	0.044	ug/Kg	☼	04/21/15 04:50	04/28/15 17:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*70*		*35 - 140*	*04/21/15 04:50*	*04/28/15 17:27*	*1*
Tetrachloro-m-xylene (Surr)	*67*		*35 - 140*	*04/21/15 04:50*	*04/28/15 17:27*	*1*
PCB-205 (Surr)	*59*		*35 - 140*	*04/21/15 04:50*	*04/28/15 17:27*	*1*
PCB-205 (Surr)	*66*		*35 - 140*	*04/21/15 04:50*	*04/28/15 17:27*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-2NB-SED
Date Collected: 04/09/15 11:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-1
Matrix: Sediment
Percent Solids: 77.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND	F2	21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Demeton, Total	ND		42	3.8	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Malathion	ND	F2	21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Methyl parathion	ND	F2	21	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Parathion	ND	F2 F1	21	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Bolstar	ND	F2	21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Chlorpyrifos	ND	F2	21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Coumaphos	ND	F2	21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Diazinon	ND	F2	21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Dichlorvos	ND		21	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Dimethoate	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Disulfoton	ND	F2 F1	21	2.3	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
EPN	ND	F2	21	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Mocap	ND	F2	21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Famphur	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Fensulfothion	ND		21	1.6	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Fenthion	ND	F2	21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Mevinphos	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Phorate	ND	F2	21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Ronnel	ND	F2	21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Stirophos	ND	F2	21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Sulfotepp	ND	F2 F1	21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Thionazin	ND	F2 F1	21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Tokuthion	ND	F2	21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
Trichloronate	ND	F2	21	2.5	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1
O,O,O-Triethyl phosphorothioate	ND	F2	21	4.1	ug/Kg	☼	04/13/15 03:33	04/15/15 13:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*70*		*47 - 130*	*04/13/15 03:33*	*04/15/15 13:15*	*1*
Tributyl phosphate	*68*		*47 - 130*	*04/13/15 03:33*	*04/15/15 13:15*	*1*
Triphenylphosphate	*73*		*55 - 125*	*04/13/15 03:33*	*04/15/15 13:15*	*1*
Triphenylphosphate	*76*		*55 - 125*	*04/13/15 03:33*	*04/15/15 13:15*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-4NT-SED
Date Collected: 04/09/15 14:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-2
Matrix: Sediment
Percent Solids: 73.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		22	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Demeton, Total	ND		44	4.0	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Malathion	ND		22	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Methyl parathion	ND		22	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Parathion	ND		22	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Bolstar	ND		22	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Chlorpyrifos	ND		22	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Coumaphos	ND		22	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Diazinon	ND		22	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Dichlorvos	ND		22	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Dimethoate	ND		22	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Disulfoton	ND		22	2.4	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
EPN	ND		22	1.9	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Mocap	ND		22	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Famphur	ND		22	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Fensulfothion	ND		22	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Fenthion	ND		22	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Mevinphos	ND		22	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Phorate	ND		22	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Ronnel	ND		22	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Stirophos	ND		22	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Sulfotepp	ND		22	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Thionazin	ND		22	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Tokuthion	ND		22	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
Trichloronate	ND		22	2.6	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1
O,O,O-Triethyl phosphorothioate	ND		22	4.3	ug/Kg	☼	04/13/15 03:33	04/15/15 14:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*76*		*47 - 130*	*04/13/15 03:33*	*04/15/15 14:56*	*1*
Tributyl phosphate	*73*		*47 - 130*	*04/13/15 03:33*	*04/15/15 14:56*	*1*
Triphenylphosphate	*79*		*55 - 125*	*04/13/15 03:33*	*04/15/15 14:56*	*1*
Triphenylphosphate	*82*		*55 - 125*	*04/13/15 03:33*	*04/15/15 14:56*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-2SB-SED
Date Collected: 04/08/15 11:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-3
Matrix: Sediment
Percent Solids: 79.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Demeton, Total	ND		41	3.8	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Malathion	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Methyl parathion	ND		21	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Parathion	ND		21	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Bolstar	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Chlorpyrifos	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Coumaphos	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Diazinon	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Dichlorvos	ND		21	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Dimethoate	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Disulfoton	ND		21	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
EPN	ND		21	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Mocap	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Famphur	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Fensulfothion	ND		21	1.6	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Fenthion	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Mevinphos	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Phorate	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Ronnel	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Stirophos	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Sulfotepp	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Thionazin	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Tokuthion	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
Trichloronate	ND		21	2.4	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1
O,O,O-Triethyl phosphorothioate	ND		21	4.0	ug/Kg	☼	04/13/15 03:33	04/15/15 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*83*		*47 - 130*	*04/13/15 03:33*	*04/15/15 15:30*	*1*
Tributyl phosphate	*81*		*47 - 130*	*04/13/15 03:33*	*04/15/15 15:30*	*1*
Triphenylphosphate	*84*		*55 - 125*	*04/13/15 03:33*	*04/15/15 15:30*	*1*
Triphenylphosphate	*86*		*55 - 125*	*04/13/15 03:33*	*04/15/15 15:30*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-3NT-SED
Date Collected: 04/08/15 15:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-4
Matrix: Sediment
Percent Solids: 79.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Demeton, Total	ND		42	3.8	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Malathion	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Methyl parathion	ND		21	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Parathion	ND		21	1.7	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Bolstar	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Chlorpyrifos	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Coumaphos	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Diazinon	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Dichlorvos	ND		21	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Dimethoate	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Disulfoton	ND		21	2.2	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
EPN	ND		21	1.8	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Mocap	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Famphur	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Fensulfothion	ND		21	1.6	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Fenthion	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Mevinphos	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Phorate	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Ronnel	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Stirophos	ND		21	2.1	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Sulfotepp	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Thionazin	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Tokuthion	ND		21	2.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
Trichloronate	ND		21	2.4	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1
O,O,O-Triethyl phosphorothioate	ND		21	4.0	ug/Kg	☼	04/13/15 03:33	04/15/15 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*85*		*47 - 130*	*04/13/15 03:33*	*04/15/15 16:04*	*1*
Tributyl phosphate	*81*		*47 - 130*	*04/13/15 03:33*	*04/15/15 16:04*	*1*
Triphenylphosphate	*88*		*55 - 125*	*04/13/15 03:33*	*04/15/15 16:04*	*1*
Triphenylphosphate	*88*		*55 - 125*	*04/13/15 03:33*	*04/15/15 16:04*	*1*

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-2NB-SED
Date Collected: 04/09/15 11:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-1
Matrix: Sediment
Percent Solids: 77.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.061	J	0.16	0.0053	mg/Kg	☼	04/18/15 10:40	04/24/15 12:01	1
Copper SEM	0.55	J F1	0.81	0.072	mg/Kg	☼	04/18/15 10:40	04/24/15 12:01	1
Lead SEM	1.8		0.65	0.13	mg/Kg	☼	04/18/15 10:40	04/24/15 12:38	2
Nickel SEM	4.9		2.6	0.074	mg/Kg	☼	04/18/15 10:40	04/24/15 12:38	2
Zinc SEM	17	B F1	3.2	0.24	mg/Kg	☼	04/18/15 10:40	04/24/15 12:01	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00054	J	0.0014	0.000047	umol/g	☼	04/18/15 10:40	04/24/15 12:01	1
Copper SEM	0.0086	J F1	0.013	0.0011	umol/g	☼	04/18/15 10:40	04/24/15 12:01	1
Lead SEM	0.0089		0.0031	0.00062	umol/g	☼	04/18/15 10:40	04/24/15 12:38	2
Nickel SEM	0.084		0.044	0.0013	umol/g	☼	04/18/15 10:40	04/24/15 12:38	2
Zinc SEM	0.27	B F1	0.049	0.0037	umol/g	☼	04/18/15 10:40	04/24/15 12:01	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-4NT-SED
Date Collected: 04/09/15 14:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-2
Matrix: Sediment
Percent Solids: 73.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.089	J	0.17	0.0056	mg/Kg	☼	04/18/15 10:40	04/24/15 12:23	1
Copper SEM	1.5		0.85	0.077	mg/Kg	☼	04/18/15 10:40	04/24/15 12:23	1
Lead SEM	4.5		0.34	0.068	mg/Kg	☼	04/18/15 10:40	04/24/15 12:23	1
Nickel SEM	5.2		1.4	0.039	mg/Kg	☼	04/18/15 10:40	04/24/15 12:23	1
Zinc SEM	20	B	3.4	0.25	mg/Kg	☼	04/18/15 10:40	04/24/15 12:23	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00079	J	0.0015	0.000050	umol/g	☼	04/18/15 10:40	04/24/15 12:23	1
Copper SEM	0.024		0.013	0.0012	umol/g	☼	04/18/15 10:40	04/24/15 12:23	1
Lead SEM	0.022		0.0016	0.00033	umol/g	☼	04/18/15 10:40	04/24/15 12:23	1
Nickel SEM	0.088		0.023	0.00067	umol/g	☼	04/18/15 10:40	04/24/15 12:23	1
Zinc SEM	0.31	B	0.052	0.0039	umol/g	☼	04/18/15 10:40	04/24/15 12:23	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-2SB-SED
Date Collected: 04/08/15 11:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-3
Matrix: Sediment
Percent Solids: 79.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.088	J	0.16	0.0052	mg/Kg	☼	04/18/15 10:40	04/24/15 12:27	1
Copper SEM	2.1		0.79	0.071	mg/Kg	☼	04/18/15 10:40	04/24/15 12:27	1
Lead SEM	2.9		0.32	0.063	mg/Kg	☼	04/18/15 10:40	04/24/15 12:27	1
Nickel SEM	4.6		1.3	0.036	mg/Kg	☼	04/18/15 10:40	04/24/15 12:27	1
Zinc SEM	19	B	3.2	0.23	mg/Kg	☼	04/18/15 10:40	04/24/15 12:27	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00078	J	0.0014	0.000046	umol/g	☼	04/18/15 10:40	04/24/15 12:27	1
Copper SEM	0.033		0.012	0.0011	umol/g	☼	04/18/15 10:40	04/24/15 12:27	1
Lead SEM	0.014		0.0015	0.00030	umol/g	☼	04/18/15 10:40	04/24/15 12:27	1
Nickel SEM	0.078		0.022	0.00062	umol/g	☼	04/18/15 10:40	04/24/15 12:27	1
Zinc SEM	0.29	B	0.048	0.0036	umol/g	☼	04/18/15 10:40	04/24/15 12:27	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-3NT-SED
Date Collected: 04/08/15 15:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-4
Matrix: Sediment
Percent Solids: 79.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.068	J	0.16	0.0051	mg/Kg	☼	04/18/15 10:40	04/24/15 12:30	1
Copper SEM	2.0		0.78	0.070	mg/Kg	☼	04/18/15 10:40	04/24/15 12:30	1
Lead SEM	3.3		0.63	0.12	mg/Kg	☼	04/18/15 10:40	04/24/15 13:11	2
Nickel SEM	4.8		2.5	0.072	mg/Kg	☼	04/18/15 10:40	04/24/15 13:11	2
Zinc SEM	18	B	3.1	0.23	mg/Kg	☼	04/18/15 10:40	04/24/15 12:30	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00061	J	0.0014	0.000046	umol/g	☼	04/18/15 10:40	04/24/15 12:30	1
Copper SEM	0.032		0.012	0.0011	umol/g	☼	04/18/15 10:40	04/24/15 12:30	1
Lead SEM	0.016		0.0030	0.00060	umol/g	☼	04/18/15 10:40	04/24/15 13:11	2
Nickel SEM	0.082		0.043	0.0012	umol/g	☼	04/18/15 10:40	04/24/15 13:11	2
Zinc SEM	0.28	B	0.048	0.0035	umol/g	☼	04/18/15 10:40	04/24/15 12:30	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-2NB-SED
Date Collected: 04/09/15 11:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-1
Matrix: Sediment
Percent Solids: 77.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	5200	F2	1.9	0.18	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Antimony	0.075	J F1	0.13	0.0017	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Arsenic	7.9	F1 F2	0.064	0.012	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Barium	12		0.64	0.0068	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Beryllium	0.45		0.064	0.0048	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Cadmium	0.076		0.064	0.0045	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Chromium	14		0.13	0.0039	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Calcium	63000	F2	32	0.84	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Cobalt	3.4		0.032	0.00095	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Copper	3.1	F1	0.13	0.021	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Iron	13000		3.2	0.23	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Lead	5.8		0.064	0.0024	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Nickel	7.4	F1	0.064	0.0072	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Potassium	1600		32	0.86	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Selenium	0.21	J	0.32	0.032	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Magnesium	3500		32	0.12	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Silver	0.024	J	0.064	0.0025	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Thallium	0.065		0.064	0.0013	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Sodium	2500		32	0.87	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Zinc	22	F1	0.32	0.041	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Vanadium	13		0.064	0.0050	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1
Manganese	120	F1 F2	0.32	0.0066	mg/Kg	☼	04/29/15 11:56	04/29/15 22:34	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-4NT-SED
Date Collected: 04/09/15 14:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-2
Matrix: Sediment
Percent Solids: 73.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	6900		2.0	0.19	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Antimony	0.10	J	0.13	0.0018	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Arsenic	7.7		0.067	0.012	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Barium	16		0.67	0.0072	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Beryllium	0.54		0.067	0.0051	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Cadmium	0.089		0.067	0.0047	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Chromium	15		0.13	0.0041	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Calcium	19000		34	0.89	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Cobalt	4.9		0.034	0.0010	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Copper	5.2		0.13	0.022	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Iron	14000		3.4	0.24	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Lead	6.5		0.067	0.0026	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Nickel	8.7		0.067	0.0076	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Potassium	1500		34	0.92	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Selenium	0.25	J	0.34	0.034	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Magnesium	2500		34	0.13	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Silver	0.020	J	0.067	0.0026	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Thallium	0.095		0.067	0.0013	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Sodium	3300		34	0.92	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Zinc	26		0.34	0.044	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Vanadium	17		0.067	0.0053	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1
Manganese	110		0.34	0.0069	mg/Kg	☼	04/29/15 11:56	04/29/15 23:00	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-2SB-SED
Date Collected: 04/08/15 11:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-3
Matrix: Sediment
Percent Solids: 79.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	3700		1.9	0.18	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Antimony	0.049	J	0.13	0.0016	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Arsenic	5.2		0.063	0.011	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Barium	8.5		0.63	0.0067	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Beryllium	0.33		0.063	0.0047	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Cadmium	0.059	J	0.063	0.0044	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Chromium	11		0.13	0.0038	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Calcium	38000		31	0.83	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Cobalt	2.7		0.031	0.00094	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Copper	2.3		0.13	0.021	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Iron	9700		3.1	0.22	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Lead	4.1		0.063	0.0024	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Nickel	5.2		0.063	0.0071	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Potassium	1300		31	0.85	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Selenium	0.14	J	0.31	0.032	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Magnesium	2100		31	0.12	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Silver	0.016	J	0.063	0.0024	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Thallium	0.054	J	0.063	0.0013	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Sodium	2000		31	0.86	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Zinc	17		0.31	0.041	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Vanadium	10		0.063	0.0050	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1
Manganese	80		0.31	0.0065	mg/Kg	☼	04/29/15 11:56	04/29/15 23:05	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-3NT-SED
Date Collected: 04/08/15 15:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-4
Matrix: Sediment
Percent Solids: 79.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	5600		1.9	0.18	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Antimony	0.10	J	0.13	0.0016	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Arsenic	13		0.063	0.011	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Barium	25		0.63	0.0067	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Beryllium	0.44		0.063	0.0047	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Cadmium	0.11		0.063	0.0044	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Chromium	14		0.13	0.0038	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Calcium	66000		31	0.83	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Cobalt	4.8		0.031	0.00094	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Copper	5.0		0.13	0.021	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Iron	14000		3.1	0.22	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Lead	6.3		0.063	0.0024	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Nickel	7.6		0.063	0.0071	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Potassium	1500		31	0.85	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Selenium	0.20	J	0.31	0.032	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Magnesium	2700		31	0.12	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Silver	0.020	J	0.063	0.0025	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Thallium	0.10		0.063	0.0013	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Sodium	2800		31	0.86	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Zinc	21		0.31	0.041	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Vanadium	17		0.063	0.0050	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1
Manganese	150		0.31	0.0065	mg/Kg	☼	04/29/15 11:56	04/29/15 23:28	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-2NB-SED
Date Collected: 04/09/15 11:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-1
Matrix: Sediment
Percent Solids: 77.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0071	mg/Kg	☼	04/28/15 09:05	04/29/15 12:03	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-4NT-SED
Date Collected: 04/09/15 14:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-2
Matrix: Sediment
Percent Solids: 73.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.022	0.0074	mg/Kg	☼	04/28/15 09:05	04/29/15 12:08	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-2SB-SED
Date Collected: 04/08/15 11:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-3
Matrix: Sediment
Percent Solids: 79.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0070	J	0.020	0.0068	mg/Kg	☼	04/28/15 09:05	04/29/15 12:10	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-3NT-SED
Date Collected: 04/08/15 15:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-4
Matrix: Sediment
Percent Solids: 79.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.012	J	0.020	0.0068	mg/Kg	☼	04/28/15 09:05	04/29/15 12:12	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-2NB-SED
Date Collected: 04/09/15 11:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	0.0010	NONE			04/27/15 12:01	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-4NT-SED
Date Collected: 04/09/15 14:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	1.8		0.0010	0.0010	NONE			04/27/15 12:01	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-2SB-SED
Date Collected: 04/08/15 11:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	1.9		0.0010	0.0010	NONE			04/27/15 12:01	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-3NT-SED
Date Collected: 04/08/15 15:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	0.0010	NONE			04/27/15 12:01	1

General Chemistry

Client Sample ID: TS-2NB-SED
Date Collected: 04/09/15 11:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**23**		0.10	0.10	%			04/10/15 14:42	1
Ammonia, distilled	**11**		6.2	4.0	mg/Kg	☼	04/29/15 13:17	04/30/15 12:15	1
Cyanide, Total	ND	F1	0.32	0.10	mg/Kg	☼	04/15/15 12:00	04/15/15 13:34	1
Sulfide	**19**	**J F1**	39	7.7	mg/Kg	☼	04/12/15 09:15	04/12/15 11:42	1
Total Organic Carbon - Duplicates	**2400**	**F2**	1300	120	mg/Kg	☼		04/23/15 12:33	1
Total Phosphorus as P	**240**	**F1**	130	12	mg/Kg	☼	04/26/15 04:03	04/26/15 09:18	10
Nitrogen, Kjeldahl	**510**		200	68	mg/Kg	☼	04/30/15 11:00	05/01/15 11:50	1

General Chemistry

Client Sample ID: TS-4NT-SED
Date Collected: 04/09/15 14:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**27**		0.10	0.10	%			04/10/15 14:42	1
Ammonia, distilled	**12**		6.9	4.4	mg/Kg	☼	04/29/15 13:17	04/30/15 11:34	1
Cyanide, Total	ND		0.34	0.11	mg/Kg	☼	04/15/15 12:00	04/15/15 13:41	1
Sulfide	**29**	**J**	41	8.2	mg/Kg	☼	04/12/15 09:15	04/12/15 11:47	1
Total Organic Carbon - Duplicates	**5400**		1400	120	mg/Kg	☼		04/23/15 13:47	1
Total Phosphorus as P	**180**		130	12	mg/Kg	☼	04/26/15 04:00	04/26/15 09:18	10
Nitrogen, Kjeldahl	**380**		190	64	mg/Kg	☼	04/30/15 11:00	05/01/15 11:56	1

General Chemistry

Client Sample ID: TS-2SB-SED
Date Collected: 04/08/15 11:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**21**		0.10	0.10	%			04/10/15 14:42	1
Ammonia, distilled	ND		6.4	4.2	mg/Kg	☼	04/29/15 13:17	04/30/15 11:36	1
Cyanide, Total	ND		0.31	0.10	mg/Kg	☼	04/15/15 12:00	04/15/15 13:43	1
Sulfide	**16**	**J**	38	7.6	mg/Kg	☼	04/12/15 09:15	04/12/15 11:48	1
Total Organic Carbon - Duplicates	**4000**		1300	110	mg/Kg	☼		04/21/15 08:27	1
Total Phosphorus as P	**210**		130	12	mg/Kg	☼	04/26/15 04:01	04/26/15 09:18	10
Nitrogen, Kjeldahl	**240**		180	62	mg/Kg	☼	04/16/15 13:40	04/17/15 11:50	1

General Chemistry

Client Sample ID: TS-3NT-SED
Date Collected: 04/08/15 15:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**21**		0.10	0.10	%			04/10/15 14:42	1
Ammonia, distilled	ND		6.0	3.9	mg/Kg	☼	04/29/15 13:17	04/30/15 11:37	1
Cyanide, Total	ND		0.31	0.10	mg/Kg	☼	04/15/15 12:00	04/15/15 13:45	1
Sulfide	**22**	**J**	38	7.5	mg/Kg	☼	04/12/15 09:15	04/12/15 11:50	1
Total Organic Carbon - Duplicates	**2500**		1300	110	mg/Kg	☼		04/21/15 08:42	1
Total Phosphorus as P	**250**		120	11	mg/Kg	☼	04/26/15 04:06	04/26/15 09:21	10
Nitrogen, Kjeldahl	**200**		180	61	mg/Kg	☼	04/16/15 13:40	04/17/15 11:51	1

General Chemistry - Soluble

Client Sample ID: TS-2NB-SED
Date Collected: 04/09/15 11:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-1
Matrix: Sediment
Percent Solids: 77.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.3	0.28	mg/Kg	☼		04/28/15 15:26	1

General Chemistry - Soluble

Client Sample ID: TS-4NT-SED
Date Collected: 04/09/15 14:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-2
Matrix: Sediment
Percent Solids: 73.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.4	0.29	mg/Kg	☼		04/28/15 15:31	1

General Chemistry - Soluble

Client Sample ID: TS-2SB-SED
Date Collected: 04/08/15 11:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-3
Matrix: Sediment
Percent Solids: 79.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.7		1.3	0.27	mg/Kg	☼		04/28/15 15:32	1

General Chemistry - Soluble

Client Sample ID: TS-3NT-SED
Date Collected: 04/08/15 15:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-4
Matrix: Sediment
Percent Solids: 79.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.40	J	1.3	0.27	mg/Kg	☼		04/28/15 15:34	1

General Chemistry - SEM/AVS

Client Sample ID: TS-2NB-SED
Date Collected: 04/09/15 11:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-1
Matrix: Sediment
Percent Solids: 77.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	3.9	mg/Kg	☼	04/18/15 10:40	04/18/15 12:15	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.60	0.12	umol/g	☼	04/18/15 10:40	04/18/15 12:15	1

General Chemistry - SEM/AVS

Client Sample ID: TS-4NT-SED
Date Collected: 04/09/15 14:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-2
Matrix: Sediment
Percent Solids: 73.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	8.0	J	21	4.1	mg/Kg	☼	04/18/15 10:40	04/18/15 12:22	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	0.25	J	0.64	0.13	umol/g	☼	04/18/15 10:40	04/18/15 12:22	1

General Chemistry - SEM/AVS

Client Sample ID: TS-2SB-SED
Date Collected: 04/08/15 11:45
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-3
Matrix: Sediment
Percent Solids: 79.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	6.9	J	19	3.8	mg/Kg	☼	04/18/15 10:40	04/18/15 12:24	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	0.22	J	0.59	0.12	umol/g	☼	04/18/15 10:40	04/18/15 12:24	1

General Chemistry - SEM/AVS

Client Sample ID: TS-3NT-SED
Date Collected: 04/08/15 15:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42924-4
Matrix: Sediment
Percent Solids: 79.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	3.8	mg/Kg	☼	04/18/15 10:40	04/18/15 12:25	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.59	0.12	umol/g	☼	04/18/15 10:40	04/18/15 12:25	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
1,2,4-Trichlorobenzene	17	0.92	ug/Kg	8270D LL
1,2-Dichlorobenzene	17	1.7	ug/Kg	8270D LL
1,2-Diphenylhydrazine(as Azobenzene)	17	2.1	ug/Kg	8270D LL
1,3-Dichlorobenzene	17	1.3	ug/Kg	8270D LL
1,4-Dichlorobenzene	17	1.2	ug/Kg	8270D LL
1-Methylnaphthalene	3.4	0.36	ug/Kg	8270D LL
2,2'-oxybis[1-chloropropane]	3.4	0.36	ug/Kg	8270D LL
2,4,6-Trichlorophenol	17	2.5	ug/Kg	8270D LL
2,4-Dichlorophenol	3.4	0.33	ug/Kg	8270D LL
2,4-Dimethylphenol	17	2.6	ug/Kg	8270D LL
2,4-Dinitrophenol	85	20	ug/Kg	8270D LL
2,4-Dinitrotoluene	17	1.3	ug/Kg	8270D LL
2,6-Dinitrotoluene	17	1.7	ug/Kg	8270D LL
2-Chloronaphthalene	3.4	0.35	ug/Kg	8270D LL
2-Chlorophenol	17	1.4	ug/Kg	8270D LL
2-Methylnaphthalene	3.4	0.30	ug/Kg	8270D LL
2-Methylphenol	17	1.2	ug/Kg	8270D LL
2-Nitrophenol	17	1.8	ug/Kg	8270D LL
3,3'-Dichlorobenzidine	17	1.8	ug/Kg	8270D LL
4,6-Dinitro-2-methylphenol	85	6.7	ug/Kg	8270D LL
4-Bromophenyl phenyl ether	17	1.5	ug/Kg	8270D LL
4-Chloro-3-methylphenol	17	1.5	ug/Kg	8270D LL
4-Chlorophenyl phenyl ether	17	1.9	ug/Kg	8270D LL
4-Nitrophenol	85	6.1	ug/Kg	8270D LL
Acenaphthene	3.4	0.32	ug/Kg	8270D LL
Acenaphthylene	3.4	0.38	ug/Kg	8270D LL
Anthracene	3.4	0.33	ug/Kg	8270D LL
Benzidine	340	70	ug/Kg	8270D LL
Benzo[a]anthracene	3.4	0.42	ug/Kg	8270D LL
Benzo[a]pyrene	3.4	0.33	ug/Kg	8270D LL
Benzo[b]fluoranthene	3.4	0.52	ug/Kg	8270D LL
Benzo[g,h,i]perylene	3.4	0.33	ug/Kg	8270D LL
Benzo[k]fluoranthene	3.4	0.67	ug/Kg	8270D LL
Benzoic acid	85	6.9	ug/Kg	8270D LL
Benzyl alcohol	17	2.0	ug/Kg	8270D LL
Bis(2-chloroethoxy)methane	17	1.1	ug/Kg	8270D LL
Bis(2-chloroethyl)ether	3.4	0.45	ug/Kg	8270D LL
Bis(2-ethylhexyl) phthalate	33	2.7	ug/Kg	8270D LL
Butyl benzyl phthalate	17	2.3	ug/Kg	8270D LL
Chrysene	3.4	0.40	ug/Kg	8270D LL
Dibenz(a,h)anthracene	3.4	0.37	ug/Kg	8270D LL
Dibenzofuran	17	1.6	ug/Kg	8270D LL
Diethyl phthalate	17	1.8	ug/Kg	8270D LL
Dimethyl phthalate	17	1.8	ug/Kg	8270D LL
Di-n-butyl phthalate	17	2.1	ug/Kg	8270D LL
Di-n-octyl phthalate	17	1.8	ug/Kg	8270D LL
Fluoranthene	3.4	0.36	ug/Kg	8270D LL
Fluorene	3.4	0.44	ug/Kg	8270D LL
Hexachlorobenzene	3.4	0.36	ug/Kg	8270D LL
Hexachlorobutadiene	3.4	0.37	ug/Kg	8270D LL
Hexachlorocyclopentadiene	17	1.8	ug/Kg	8270D LL
Hexachloroethane	17	1.2	ug/Kg	8270D LL

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	RL	MDL	Units	Method
Indeno[1,2,3-cd]pyrene	3.4	0.34	ug/Kg	8270D LL
Isophorone	17	1.3	ug/Kg	8270D LL
Methylphenol, 3 & 4	17	1.6	ug/Kg	8270D LL
Naphthalene	3.4	0.29	ug/Kg	8270D LL
Nitrobenzene	33	1.4	ug/Kg	8270D LL
N-Nitrosodimethylamine	17	1.4	ug/Kg	8270D LL
N-Nitrosodi-n-propylamine	3.4	0.39	ug/Kg	8270D LL
N-Nitrosodiphenylamine	17	1.5	ug/Kg	8270D LL
Pentachlorophenol	17	1.5	ug/Kg	8270D LL
Phenanthrene	3.4	0.53	ug/Kg	8270D LL
Phenol	3.4	0.39	ug/Kg	8270D LL
Pyrene	3.4	0.34	ug/Kg	8270D LL

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.042	0.0025	ug/Kg	8081B_LL
2,4'-DDE	0.042	0.0039	ug/Kg	8081B_LL
2,4'-DDT	0.042	0.0036	ug/Kg	8081B_LL
4,4'-DDD	0.042	0.0055	ug/Kg	8081B_LL
4,4'-DDE	0.042	0.0063	ug/Kg	8081B_LL
4,4'-DDT	0.042	0.0063	ug/Kg	8081B_LL
Aldrin	0.042	0.0075	ug/Kg	8081B_LL
alpha-BHC	0.042	0.0068	ug/Kg	8081B_LL
beta-BHC	0.042	0.011	ug/Kg	8081B_LL
Chlordane (technical)	0.42	0.018	ug/Kg	8081B_LL
Chlorobenside	0.042	0.022	ug/Kg	8081B_LL
DCPA	0.042	0.0064	ug/Kg	8081B_LL
delta-BHC	0.042	0.0064	ug/Kg	8081B_LL
Dieldrin	0.042	0.0070	ug/Kg	8081B_LL
Endosulfan I	0.042	0.0079	ug/Kg	8081B_LL
Endosulfan II	0.042	0.0074	ug/Kg	8081B_LL
Endosulfan sulfate	0.042	0.0044	ug/Kg	8081B_LL
Endrin	0.042	0.0081	ug/Kg	8081B_LL
Endrin aldehyde	0.042	0.0081	ug/Kg	8081B_LL
gamma-BHC (Lindane)	0.042	0.0073	ug/Kg	8081B_LL
Heptachlor	0.042	0.0093	ug/Kg	8081B_LL
Heptachlor epoxide	0.042	0.0081	ug/Kg	8081B_LL
Methoxychlor	0.083	0.0087	ug/Kg	8081B_LL
Mirex	0.042	0.0039	ug/Kg	8081B_LL
Toxaphene	1.7	0.28	ug/Kg	8081B_LL

Method: 8082A - PCB Congeners (GC)

Analyte	RL	MDL	Units	Method
DCB Decachlorobiphenyl	1.0	0.070	ug/Kg	8082A
PCB-101	1.0	0.12	ug/Kg	8082A
PCB-105	1.0	0.082	ug/Kg	8082A
PCB-118	1.0	0.090	ug/Kg	8082A
PCB-126	1.0	0.33	ug/Kg	8082A
PCB-128	1.0	0.11	ug/Kg	8082A
PCB-138	1.0	0.084	ug/Kg	8082A

Method: 8082A - PCB Congeners (GC) (Continued)

Analyte	RL	MDL	Units	Method
PCB-153	1.0	0.086	ug/Kg	8082A
PCB-156	1.0	0.067	ug/Kg	8082A
PCB-169	1.0	0.064	ug/Kg	8082A
PCB-170	1.0	0.076	ug/Kg	8082A
PCB-18	1.0	0.28	ug/Kg	8082A
PCB-180	1.0	0.086	ug/Kg	8082A
PCB-183	1.0	0.22	ug/Kg	8082A
PCB-184	1.0	0.090	ug/Kg	8082A
PCB-187	1.0	0.12	ug/Kg	8082A
PCB-195	1.0	0.20	ug/Kg	8082A
PCB-206	1.0	0.070	ug/Kg	8082A
PCB-28	1.0	0.14	ug/Kg	8082A
PCB-44	1.0	0.11	ug/Kg	8082A
PCB-49	1.0	0.21	ug/Kg	8082A
PCB-52	1.0	0.19	ug/Kg	8082A
PCB-66	1.0	0.090	ug/Kg	8082A
PCB-77	1.0	0.11	ug/Kg	8082A
PCB-8	1.0	0.33	ug/Kg	8082A
PCB-87	1.0	0.10	ug/Kg	8082A

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
Azinphos-methyl	17	1.6	ug/Kg	8141B
Bolstar	17	1.6	ug/Kg	8141B
Chlorpyrifos	17	1.6	ug/Kg	8141B
Coumaphos	17	1.6	ug/Kg	8141B
Demeton, Total	33	3.0	ug/Kg	8141B
Diazinon	17	1.6	ug/Kg	8141B
Dichlorvos	17	1.5	ug/Kg	8141B
Dimethoate	17	1.6	ug/Kg	8141B
Disulfoton	17	1.8	ug/Kg	8141B
EPN	17	1.4	ug/Kg	8141B
Famphur	17	1.6	ug/Kg	8141B
Fensulfothion	17	1.3	ug/Kg	8141B
Fenthion	17	1.6	ug/Kg	8141B
Malathion	17	1.6	ug/Kg	8141B
Methyl parathion	17	1.5	ug/Kg	8141B
Mevinphos	17	1.6	ug/Kg	8141B
Mocap	17	1.6	ug/Kg	8141B
O,O,O-Triethyl phosphorothioate	17	3.2	ug/Kg	8141B
Parathion	17	1.3	ug/Kg	8141B
Phorate	17	1.7	ug/Kg	8141B
Ronnel	17	1.6	ug/Kg	8141B
Stirophos	17	1.7	ug/Kg	8141B
Sulfotepp	17	1.6	ug/Kg	8141B
Thionazin	17	1.6	ug/Kg	8141B
Tokuthion	17	1.6	ug/Kg	8141B
Trichloronate	17	1.9	ug/Kg	8141B

Method: 6010B - Metals (ICP) - SEM/AVS

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42924-1
SDG: 15204.01,0009

Method: 6010B - Metals (ICP) - SEM/AVS

Analyte	RL	MDL	Units	Method
Cadmium SEM	0.13	0.0041	mg/Kg	6010B
Cadmium SEM	0.0011	0.000036	umol/g	6010B
Copper SEM	0.63	0.056	mg/Kg	6010B
Copper SEM	0.0098	0.00088	umol/g	6010B
Lead SEM	0.25	0.050	mg/Kg	6010B
Lead SEM	0.0012	0.00024	umol/g	6010B
Nickel SEM	1.0	0.029	mg/Kg	6010B
Nickel SEM	0.017	0.00049	umol/g	6010B
Zinc SEM	2.5	0.18	mg/Kg	6010B
Zinc SEM	0.038	0.0028	umol/g	6010B

Method: 6020A - Metals (ICP/MS)

Analyte	RL	MDL	Units	Method
Aluminum	1.5	0.14	mg/Kg	6020A
Antimony	0.10	0.0013	mg/Kg	6020A
Arsenic	0.050	0.0091	mg/Kg	6020A
Barium	0.50	0.0054	mg/Kg	6020A
Beryllium	0.050	0.0038	mg/Kg	6020A
Cadmium	0.050	0.0035	mg/Kg	6020A
Calcium	25	0.66	mg/Kg	6020A
Chromium	0.10	0.0031	mg/Kg	6020A
Cobalt	0.025	0.00075	mg/Kg	6020A
Copper	0.10	0.017	mg/Kg	6020A
Iron	2.5	0.18	mg/Kg	6020A
Lead	0.050	0.0019	mg/Kg	6020A
Magnesium	25	0.094	mg/Kg	6020A
Manganese	0.25	0.0052	mg/Kg	6020A
Nickel	0.050	0.0057	mg/Kg	6020A
Potassium	25	0.68	mg/Kg	6020A
Selenium	0.25	0.025	mg/Kg	6020A
Silver	0.050	0.0020	mg/Kg	6020A
Sodium	25	0.68	mg/Kg	6020A
Thallium	0.050	0.0010	mg/Kg	6020A
Vanadium	0.050	0.0040	mg/Kg	6020A
Zinc	0.25	0.032	mg/Kg	6020A

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	RL	MDL	Units	Method
Mercury	0.017	0.0057	mg/Kg	7471B

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	RL	MDL	Units	Method
SEM/AVS Ratio	0.0010	0.0010	NONE	SEM

General Chemistry

Analyte	RL	MDL	Units	Method
Percent Moisture	0.10	0.10	%	2540G
Ammonia, distilled	5.0	3.2	mg/Kg	350.1

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42924-1
SDG: 15204.01,0009

General Chemistry (Continued)

Analyte	RL	MDL	Units	Method
Cyanide, Total	0.25	0.082	mg/Kg	9014
Sulfide	30	6.0	mg/Kg	9034
Total Organic Carbon - Duplicates	1000	89	mg/Kg	Lloyd Kahn
Total Phosphorus as P	10	0.91	mg/Kg	SM4500 P E-1999
Nitrogen, Kjeldahl	150	51	mg/Kg	SM4500_NH3_E

General Chemistry - Soluble

Analyte	RL	MDL	Units	Method
Nitrate Nitrite as N	0.10	0.022	mg/Kg	353.2

General Chemistry - SEM/AVS

Analyte	RL	MDL	Units	Method
Acid Volatile Sulfides (AVS)	30	6.0	mg/Kg	9034
Acid Volatile Sulfides (AVS)	0.94	0.19	umol/g	9034

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42924-1
SDG: 15204.01,0009

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(38-103)	(34-103)	(20-113)	(41-108)	(35-103)	(28-109)
180-42924-1	TS-2NB-SED	52	59	45	69	73	54
180-42924-1MS	TS-2NB-SED	66	70	68	84	82	67
180-42924-1MSD	TS-2NB-SED	64	69	68	82	80	66
180-42924-2	TS-4NT-SED	65	72	59	86	84	63
180-42924-3	TS-2SB-SED	61	71	53	84	84	56
180-42924-4	TS-3NT-SED	67	80	53	90	94	65
LCS 180-139097/2-A	Lab Control Sample	60	64	61	77	75	64
MB 180-139097/1-A	Method Blank	51	60	45	69	70	56

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(10-140)	(10-140)	(10-140)	(10-140)
180-42924-1	TS-2NB-SED	53	60	68	68
180-42924-1MS	TS-2NB-SED	59	62	68	70
180-42924-1MSD	TS-2NB-SED	56	58	63	65
180-42924-2	TS-4NT-SED	47	53	62	59
180-42924-3	TS-2SB-SED	44	50	70	70
180-42924-4	TS-3NT-SED	37	42	69	72
LCS 180-139146/2-B	Lab Control Sample	73	70	75	75
MB 180-139146/1-B	Method Blank	73	74	82	79

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
180-42924-1	TS-2NB-SED	66	64	60	61
180-42924-1MS	TS-2NB-SED	81	79	79	84
180-42924-1MSD	TS-2NB-SED	61	64	49	52
180-42924-2	TS-4NT-SED	80	80	64	69
180-42924-3	TS-2SB-SED	75	75	56	58
180-42924-4	TS-3NT-SED	70	67	59	66
LCS 180-139100/2-C	Lab Control Sample	78	78	85	89
MB 180-139100/1-C	Method Blank	79	75	85	89

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(47-130)	(47-130)	(55-125)	(55-125)
180-42924-1	TS-2NB-SED	70	68	73	76
180-42924-1MS	TS-2NB-SED	97	97	95	96
180-42924-1MSD	TS-2NB-SED	86	89	85	86
180-42924-2	TS-4NT-SED	76	73	79	82
180-42924-3	TS-2SB-SED	83	81	84	86
180-42924-4	TS-3NT-SED	85	81	88	88
LCS 180-138256/2-A	Lab Control Sample	95	95	96	100
MB 180-138256/1-A	Method Blank	69	67	84	86

Surrogate Legend

TBPH = Tributyl phosphate
TPP = Triphenylphosphate

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-139097/1-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		340	70	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,2-Dichlorobenzene	ND		17	1.7	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,3-Dichlorobenzene	ND		17	1.3	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,4-Dichlorobenzene	ND		17	1.2	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzoic acid	ND		85	6.9	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Bis(2-chloroethyl)ether	ND		3.4	0.45	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Bis(2-chloroethoxy)methane	ND		17	1.1	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Bis(2-ethylhexyl) phthalate	ND		33	2.7	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4-Bromophenyl phenyl ether	ND		17	1.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Butyl benzyl phthalate	ND		17	2.3	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4-Chloro-3-methylphenol	ND		17	1.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Chloronaphthalene	ND		3.4	0.35	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Chlorophenol	ND		17	1.4	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4-Chlorophenyl phenyl ether	ND		17	1.9	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Di-n-butyl phthalate	ND		17	2.1	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
3,3'-Dichlorobenzidine	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4-Dichlorophenol	ND		3.4	0.33	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Diethyl phthalate	3.29	J	17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4,6-Dinitro-2-methylphenol	ND		85	6.7	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4-Dimethylphenol	ND		17	2.6	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Dimethyl phthalate	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4-Dinitrophenol	ND		85	20	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4-Dinitrotoluene	ND		17	1.3	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,6-Dinitrotoluene	ND		17	1.7	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		17	2.1	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Di-n-octyl phthalate	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Hexachlorobenzene	ND		3.4	0.36	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Hexachlorobutadiene	ND		3.4	0.37	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Hexachloroethane	ND		17	1.2	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Hexachlorocyclopentadiene	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Isophorone	ND		17	1.3	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Methylphenol	ND		17	1.2	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Methylphenol, 3 & 4	ND		17	1.6	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Nitrobenzene	ND		33	1.4	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Nitrophenol	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4-Nitrophenol	ND		85	6.1	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
N-Nitrosodiphenylamine	ND		17	1.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
N-Nitrosodimethylamine	ND		17	1.4	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
N-Nitrosodi-n-propylamine	ND		3.4	0.39	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,2'-oxybis[1-chloropropane]	ND		3.4	0.36	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Pentachlorophenol	ND		17	1.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Phenol	ND		3.4	0.39	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,2,4-Trichlorobenzene	ND		17	0.92	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4,6-Trichlorophenol	ND		17	2.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Methylnaphthalene	ND		3.4	0.30	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1-Methylnaphthalene	ND		3.4	0.36	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Naphthalene	ND		3.4	0.29	ug/Kg		04/21/15 03:10	04/24/15 04:55	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-139097/1-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		3.4	0.38	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Acenaphthene	ND		3.4	0.32	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Fluorene	ND		3.4	0.44	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Phenanthrene	ND		3.4	0.53	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Anthracene	ND		3.4	0.33	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Fluoranthene	ND		3.4	0.36	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Pyrene	ND		3.4	0.34	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[a]anthracene	ND		3.4	0.42	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Chrysene	ND		3.4	0.40	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[b]fluoranthene	ND		3.4	0.52	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[k]fluoranthene	ND		3.4	0.67	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[a]pyrene	ND		3.4	0.33	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Indeno[1,2,3-cd]pyrene	ND		3.4	0.34	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Dibenz(a,h)anthracene	ND		3.4	0.37	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[g,h,i]perylene	ND		3.4	0.33	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzyl alcohol	ND		17	2.0	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Dibenzofuran	ND		17	1.6	ug/Kg		04/21/15 03:10	04/24/15 04:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*51*		*38 - 103*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
2-Fluorophenol (Surr)	*60*		*34 - 103*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
2,4,6-Tribromophenol (Surr)	*45*		*20 - 113*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
Nitrobenzene-d5 (Surr)	*69*		*41 - 108*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
Phenol-d5 (Surr)	*70*		*35 - 103*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*04/21/15 03:10*	*04/24/15 04:55*	*1*

Lab Sample ID: LCS 180-139097/2-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	333	ND		ug/Kg		18	10 - 101
1,2-Dichlorobenzene	333	206		ug/Kg		62	30 - 100
1,3-Dichlorobenzene	333	194		ug/Kg		58	30 - 100
1,4-Dichlorobenzene	333	201		ug/Kg		60	29 - 100
Benzoic acid	333	228		ug/Kg		68	10 - 131
Bis(2-chloroethyl)ether	333	225		ug/Kg		68	31 - 100
Bis(2-chloroethoxy)methane	333	230		ug/Kg		69	31 - 100
Bis(2-ethylhexyl) phthalate	333	236		ug/Kg		71	32 - 106
4-Bromophenyl phenyl ether	333	186		ug/Kg		56	33 - 100
Butyl benzyl phthalate	333	233		ug/Kg		70	33 - 105
4-Chloro-3-methylphenol	333	272		ug/Kg		82	37 - 100
2-Chloronaphthalene	333	175		ug/Kg		53	29 - 100
2-Chlorophenol	333	219		ug/Kg		66	31 - 100
4-Chlorophenyl phenyl ether	333	202		ug/Kg		61	35 - 100
Di-n-butyl phthalate	333	226		ug/Kg		68	36 - 102
3,3'-Dichlorobenzidine	333	177		ug/Kg		53	29 - 100
2,4-Dichlorophenol	333	214		ug/Kg		64	34 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139097/2-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diethyl phthalate	333	225		ug/Kg		68	36 - 103
4,6-Dinitro-2-methylphenol	667	468		ug/Kg		70	36 - 100
2,4-Dimethylphenol	333	244		ug/Kg		73	34 - 100
Dimethyl phthalate	333	221		ug/Kg		66	36 - 100
2,4-Dinitrophenol	667	541		ug/Kg		81	30 - 100
2,4-Dinitrotoluene	333	258		ug/Kg		77	36 - 102
2,6-Dinitrotoluene	333	236		ug/Kg		71	37 - 100
1,2-Diphenylhydrazine(as Azobenzene)	333	231		ug/Kg		69	29 - 103
Di-n-octyl phthalate	333	255		ug/Kg		76	26 - 112
Hexachlorobenzene	333	175		ug/Kg		52	30 - 104
Hexachlorobutadiene	333	173		ug/Kg		52	30 - 104
Hexachloroethane	333	210		ug/Kg		63	31 - 100
Hexachlorocyclopentadiene	333	176		ug/Kg		53	21 - 113
Isophorone	333	249		ug/Kg		75	34 - 100
2-Methylphenol	333	240		ug/Kg		72	33 - 100
Methylphenol, 3 & 4	333	254		ug/Kg		76	33 - 100
Nitrobenzene	333	235		ug/Kg		70	30 - 100
2-Nitrophenol	333	246		ug/Kg		74	33 - 100
4-Nitrophenol	667	550		ug/Kg		82	23 - 138
N-Nitrosodiphenylamine	667	393		ug/Kg		59	32 - 100
N-Nitrosodimethylamine	333	213		ug/Kg		64	23 - 102
N-Nitrosodi-n-propylamine	333	278		ug/Kg		83	33 - 100
2,2'-oxybis[1-chloropropane]	333	246		ug/Kg		74	29 - 100
Pentachlorophenol	667	381		ug/Kg		57	24 - 106
Phenol	333	235		ug/Kg		70	34 - 100
1,2,4-Trichlorobenzene	333	184		ug/Kg		55	31 - 100
2,4,6-Trichlorophenol	333	201		ug/Kg		60	34 - 103
2-Methylnaphthalene	333	225		ug/Kg		68	33 - 100
1-Methylnaphthalene	333	213		ug/Kg		64	31 - 100
Naphthalene	333	203		ug/Kg		61	32 - 100
Acenaphthylene	333	210		ug/Kg		63	34 - 100
Acenaphthene	333	205		ug/Kg		61	34 - 100
Fluorene	333	216		ug/Kg		65	35 - 100
Phenanthrene	333	209		ug/Kg		63	33 - 100
Anthracene	333	211		ug/Kg		63	35 - 100
Fluoranthene	333	215		ug/Kg		64	36 - 100
Pyrene	333	231		ug/Kg		69	32 - 100
Benzo[a]anthracene	333	212		ug/Kg		63	37 - 100
Chrysene	333	217		ug/Kg		65	37 - 100
Benzo[b]fluoranthene	333	226		ug/Kg		68	31 - 100
Benzo[k]fluoranthene	333	231		ug/Kg		69	34 - 100
Benzo[a]pyrene	333	218		ug/Kg		65	36 - 100
Indeno[1,2,3-cd]pyrene	333	189		ug/Kg		57	31 - 103
Dibenz(a,h)anthracene	333	194		ug/Kg		58	31 - 106
Benzo[g,h,i]perylene	333	189		ug/Kg		57	29 - 106
Benzyl alcohol	333	243		ug/Kg		73	30 - 100
Dibenzofuran	333	211		ug/Kg		63	35 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139097/2-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139097

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	60		38 - 103
2-Fluorophenol (Surr)	64		34 - 103
2,4,6-Tribromophenol (Surr)	61		20 - 113
Nitrobenzene-d5 (Surr)	77		41 - 108
Phenol-d5 (Surr)	75		35 - 103
Terphenyl-d14 (Surr)	64		28 - 109

Lab Sample ID: 180-42924-1MS
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 139097

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	ND	F1	430	ND	F1	ug/Kg	☼	0	10 - 101
1,2-Dichlorobenzene	ND		430	318		ug/Kg	☼	74	30 - 100
1,3-Dichlorobenzene	ND		430	305		ug/Kg	☼	71	30 - 100
1,4-Dichlorobenzene	ND		430	314		ug/Kg	☼	73	29 - 100
Benzoic acid	ND		430	98.7	J	ug/Kg	☼	23	10 - 131
Bis(2-chloroethyl)ether	ND		430	361		ug/Kg	☼	84	31 - 100
Bis(2-chloroethoxy)methane	ND		430	360		ug/Kg	☼	84	31 - 100
Bis(2-ethylhexyl) phthalate	24	J	430	399		ug/Kg	☼	87	32 - 106
4-Bromophenyl phenyl ether	ND		430	305		ug/Kg	☼	71	33 - 100
Butyl benzyl phthalate	3.2	J	430	383		ug/Kg	☼	88	33 - 105
4-Chloro-3-methylphenol	ND		430	402		ug/Kg	☼	93	37 - 100
2-Chloronaphthalene	ND		430	279		ug/Kg	☼	65	29 - 100
2-Chlorophenol	ND		430	347		ug/Kg	☼	81	31 - 100
4-Chlorophenyl phenyl ether	ND		430	313		ug/Kg	☼	73	35 - 100
Di-n-butyl phthalate	ND		430	321		ug/Kg	☼	75	36 - 102
3,3'-Dichlorobenzidine	ND		430	264		ug/Kg	☼	61	29 - 100
2,4-Dichlorophenol	ND		430	334		ug/Kg	☼	78	34 - 100
Diethyl phthalate	3.2	J B	430	342		ug/Kg	☼	79	36 - 103
4,6-Dinitro-2-methylphenol	ND		860	703		ug/Kg	☼	82	36 - 100
2,4-Dimethylphenol	ND		430	366		ug/Kg	☼	85	34 - 100
Dimethyl phthalate	ND		430	343		ug/Kg	☼	80	36 - 100
2,4-Dinitrophenol	ND		860	727		ug/Kg	☼	85	30 - 100
2,4-Dinitrotoluene	ND		430	401		ug/Kg	☼	93	36 - 102
2,6-Dinitrotoluene	ND		430	357		ug/Kg	☼	83	37 - 100
1,2-Diphenylhydrazine(as Azobenzene)	ND		430	375		ug/Kg	☼	87	29 - 103
Di-n-octyl phthalate	ND		430	376		ug/Kg	☼	87	26 - 112
Hexachlorobenzene	ND		430	275		ug/Kg	☼	64	30 - 104
Hexachlorobutadiene	ND		430	263		ug/Kg	☼	61	30 - 104
Hexachloroethane	ND		430	329		ug/Kg	☼	77	31 - 100
Hexachlorocyclopentadiene	ND		430	251		ug/Kg	☼	58	21 - 113
Isophorone	ND		430	377		ug/Kg	☼	88	34 - 100
2-Methylphenol	ND		430	375		ug/Kg	☼	87	33 - 100
Methylphenol, 3 & 4	2.2	J	430	395		ug/Kg	☼	91	33 - 100
Nitrobenzene	ND		430	379		ug/Kg	☼	88	30 - 100
2-Nitrophenol	ND		430	391		ug/Kg	☼	91	33 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-42924-1MS
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 139097

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Nitrophenol	ND		860	736		ug/Kg	☼	86	23 - 138
N-Nitrosodiphenylamine	ND		860	643		ug/Kg	☼	75	32 - 100
N-Nitrosodimethylamine	ND		430	337		ug/Kg	☼	78	23 - 102
N-Nitrosodi-n-propylamine	ND		430	412		ug/Kg	☼	96	33 - 100
2,2'-oxybis[1-chloropropane]	ND		430	384		ug/Kg	☼	89	29 - 100
Pentachlorophenol	ND		860	514		ug/Kg	☼	60	24 - 106
Phenol	5.5		430	372		ug/Kg	☼	85	34 - 100
1,2,4-Trichlorobenzene	ND		430	290		ug/Kg	☼	67	31 - 100
2,4,6-Trichlorophenol	ND		430	313		ug/Kg	☼	73	34 - 103
2-Methylnaphthalene	5.3		430	346		ug/Kg	☼	79	33 - 100
1-Methylnaphthalene	3.2	J	430	328		ug/Kg	☼	76	31 - 100
Naphthalene	17		430	341		ug/Kg	☼	75	32 - 100
Acenaphthylene	0.53	J	430	328		ug/Kg	☼	76	34 - 100
Acenaphthene	ND		430	314		ug/Kg	☼	73	34 - 100
Fluorene	ND		430	328		ug/Kg	☼	76	35 - 100
Phenanthrene	ND		430	349		ug/Kg	☼	81	33 - 100
Anthracene	ND		430	322		ug/Kg	☼	75	35 - 100
Fluoranthene	ND		430	331		ug/Kg	☼	77	36 - 100
Pyrene	ND		430	371		ug/Kg	☼	86	32 - 100
Benzo[a]anthracene	ND		430	344		ug/Kg	☼	80	37 - 100
Chrysene	ND		430	336		ug/Kg	☼	78	37 - 100
Benzo[b]fluoranthene	ND		430	337		ug/Kg	☼	78	31 - 100
Benzo[k]fluoranthene	ND		430	313		ug/Kg	☼	73	34 - 100
Benzo[a]pyrene	ND		430	325		ug/Kg	☼	76	36 - 100
Indeno[1,2,3-cd]pyrene	ND		430	296		ug/Kg	☼	69	31 - 103
Dibenz(a,h)anthracene	ND		430	302		ug/Kg	☼	70	31 - 106
Benzo[g,h,i]perylene	ND		430	297		ug/Kg	☼	69	29 - 106
Benzyl alcohol	ND		430	382		ug/Kg	☼	89	30 - 100
Dibenzofuran	ND		430	322		ug/Kg	☼	75	35 - 100

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*38 - 103*
2-Fluorophenol (Surr)	*70*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*68*		*20 - 113*
Nitrobenzene-d5 (Surr)	*84*		*41 - 108*
Phenol-d5 (Surr)	*82*		*35 - 103*
Terphenyl-d14 (Surr)	*67*		*28 - 109*

Lab Sample ID: 180-42924-1MSD
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 139097

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzidine	ND	F1	433	ND	F1	ug/Kg	☼	0	10 - 101	NC	30
1,2-Dichlorobenzene	ND		433	315		ug/Kg	☼	73	30 - 100	1	25
1,3-Dichlorobenzene	ND		433	305		ug/Kg	☼	70	30 - 100	0	32
1,4-Dichlorobenzene	ND		433	309		ug/Kg	☼	71	29 - 100	2	32
Benzoic acid	ND		433	96.1	J	ug/Kg	☼	22	10 - 131	3	36

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-42924-1MSD
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 139097

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bis(2-chloroethyl)ether	ND		433	351		ug/Kg	☼	81	31 - 100	3	33
Bis(2-chloroethoxy)methane	ND		433	349		ug/Kg	☼	81	31 - 100	3	35
Bis(2-ethylhexyl) phthalate	24	J	433	393		ug/Kg	☼	85	32 - 106	1	31
4-Bromophenyl phenyl ether	ND		433	302		ug/Kg	☼	70	33 - 100	1	20
Butyl benzyl phthalate	3.2	J	433	385		ug/Kg	☼	88	33 - 105	0	34
4-Chloro-3-methylphenol	ND		433	395		ug/Kg	☼	91	37 - 100	2	31
2-Chloronaphthalene	ND		433	268		ug/Kg	☼	62	29 - 100	4	34
2-Chlorophenol	ND		433	339		ug/Kg	☼	78	31 - 100	2	37
4-Chlorophenyl phenyl ether	ND		433	299		ug/Kg	☼	69	35 - 100	4	37
Di-n-butyl phthalate	ND		433	321		ug/Kg	☼	74	36 - 102	0	34
3,3'-Dichlorobenzidine	ND		433	270		ug/Kg	☼	62	29 - 100	2	30
2,4-Dichlorophenol	ND		433	330		ug/Kg	☼	76	34 - 100	1	27
Diethyl phthalate	3.2	J B	433	331		ug/Kg	☼	76	36 - 103	3	32
4,6-Dinitro-2-methylphenol	ND		866	710		ug/Kg	☼	82	36 - 100	1	35
2,4-Dimethylphenol	ND		433	366		ug/Kg	☼	85	34 - 100	0	42
Dimethyl phthalate	ND		433	333		ug/Kg	☼	77	36 - 100	3	34
2,4-Dinitrophenol	ND		866	702		ug/Kg	☼	81	30 - 100	3	43
2,4-Dinitrotoluene	ND		433	397		ug/Kg	☼	92	36 - 102	1	33
2,6-Dinitrotoluene	ND		433	352		ug/Kg	☼	81	37 - 100	1	30
1,2-Diphenylhydrazine(as Azobenzene)	ND		433	367		ug/Kg	☼	85	29 - 103	2	32
Di-n-octyl phthalate	ND		433	382		ug/Kg	☼	88	26 - 112	2	33
Hexachlorobenzene	ND		433	282		ug/Kg	☼	65	30 - 104	2	29
Hexachlorobutadiene	ND		433	264		ug/Kg	☼	61	30 - 104	0	25
Hexachloroethane	ND		433	326		ug/Kg	☼	75	31 - 100	1	34
Hexachlorocyclopentadiene	ND		433	232		ug/Kg	☼	54	21 - 113	8	33
Isophorone	ND		433	371		ug/Kg	☼	86	34 - 100	2	33
2-Methylphenol	ND		433	372		ug/Kg	☼	86	33 - 100	1	37
Methylphenol, 3 & 4	2.2	J	433	393		ug/Kg	☼	90	33 - 100	0	36
Nitrobenzene	ND		433	368		ug/Kg	☼	85	30 - 100	3	31
2-Nitrophenol	ND		433	397		ug/Kg	☼	92	33 - 100	1	30
4-Nitrophenol	ND		866	758		ug/Kg	☼	88	23 - 138	3	33
N-Nitrosodiphenylamine	ND		866	643		ug/Kg	☼	74	32 - 100	0	32
N-Nitrosodimethylamine	ND		433	337		ug/Kg	☼	78	23 - 102	0	30
N-Nitrosodi-n-propylamine	ND		433	412		ug/Kg	☼	95	33 - 100	0	32
2,2'-oxybis[1-chloropropane]	ND		433	380		ug/Kg	☼	88	29 - 100	1	35
Pentachlorophenol	ND		866	504		ug/Kg	☼	58	24 - 106	2	34
Phenol	5.5		433	366		ug/Kg	☼	83	34 - 100	2	40
1,2,4-Trichlorobenzene	ND		433	282		ug/Kg	☼	65	31 - 100	3	36
2,4,6-Trichlorophenol	ND		433	312		ug/Kg	☼	72	34 - 103	0	36
2-Methylnaphthalene	5.3		433	346		ug/Kg	☼	79	33 - 100	0	34
1-Methylnaphthalene	3.2	J	433	328		ug/Kg	☼	75	31 - 100	0	35
Naphthalene	17		433	335		ug/Kg	☼	74	32 - 100	2	25
Acenaphthylene	0.53	J	433	324		ug/Kg	☼	75	34 - 100	1	36
Acenaphthene	ND		433	307		ug/Kg	☼	71	34 - 100	2	34
Fluorene	ND		433	329		ug/Kg	☼	76	35 - 100	0	37
Phenanthrene	ND		433	349		ug/Kg	☼	81	33 - 100	0	20
Anthracene	ND		433	323		ug/Kg	☼	75	35 - 100	1	35

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-42924-1MSD
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 139097

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoranthene	ND		433	327		ug/Kg	☼	76	36 - 100	1	23
Pyrene	ND		433	355		ug/Kg	☼	82	32 - 100	4	28
Benzo[a]anthracene	ND		433	345		ug/Kg	☼	80	37 - 100	0	31
Chrysene	ND		433	333		ug/Kg	☼	77	37 - 100	1	31
Benzo[b]fluoranthene	ND		433	338		ug/Kg	☼	78	31 - 100	0	28
Benzo[k]fluoranthene	ND		433	328		ug/Kg	☼	76	34 - 100	5	42
Benzo[a]pyrene	ND		433	341		ug/Kg	☼	79	36 - 100	5	31
Indeno[1,2,3-cd]pyrene	ND		433	302		ug/Kg	☼	70	31 - 103	2	30
Dibenz(a,h)anthracene	ND		433	301		ug/Kg	☼	70	31 - 106	0	32
Benzo[g,h,i]perylene	ND		433	299		ug/Kg	☼	69	29 - 106	0	21
Benzyl alcohol	ND		433	383		ug/Kg	☼	88	30 - 100	0	41
Dibenzofuran	ND		433	319		ug/Kg	☼	74	35 - 100	1	33

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*64*		*38 - 103*
2-Fluorophenol (Surr)	*69*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*68*		*20 - 113*
Nitrobenzene-d5 (Surr)	*82*		*41 - 108*
Phenol-d5 (Surr)	*80*		*35 - 103*
Terphenyl-d14 (Surr)	*66*		*28 - 109*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-139146/1-B
Matrix: Sediment
Analysis Batch: 140156

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139146

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.042	0.0075	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
alpha-BHC	ND		0.042	0.0068	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
beta-BHC	ND		0.042	0.011	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
delta-BHC	ND		0.042	0.0064	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
gamma-BHC (Lindane)	ND		0.042	0.0073	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Chlordane (technical)	ND		0.42	0.018	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Chlorobenside	ND		0.042	0.022	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
DCPA	ND		0.042	0.0064	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
4,4'-DDD	ND		0.042	0.0055	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
4,4'-DDE	ND		0.042	0.0063	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
4,4'-DDT	ND		0.042	0.0063	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Dieldrin	ND		0.042	0.0070	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Endosulfan I	ND		0.042	0.0079	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Endosulfan II	ND		0.042	0.0074	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Endosulfan sulfate	ND		0.042	0.0044	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Endrin	ND		0.042	0.0081	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Endrin aldehyde	ND		0.042	0.0081	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Heptachlor	ND		0.042	0.0093	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Heptachlor epoxide	ND		0.042	0.0081	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Methoxychlor	ND		0.083	0.0087	ug/Kg		04/21/15 10:31	04/30/15 17:39	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 180-139146/1-B
Matrix: Sediment
Analysis Batch: 140156

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139146

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mirex	ND		0.042	0.0039	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Toxaphene	ND		1.7	0.28	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
2,4'-DDD	ND		0.042	0.0025	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
2,4'-DDE	ND		0.042	0.0039	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
2,4'-DDT	ND		0.042	0.0036	ug/Kg		04/21/15 10:31	04/30/15 17:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*73*		*10 - 140*	*04/21/15 10:31*	*04/30/15 17:39*	*1*
Tetrachloro-m-xylene	*74*		*10 - 140*	*04/21/15 10:31*	*04/30/15 17:39*	*1*
DCB Decachlorobiphenyl (Surr)	*82*		*10 - 140*	*04/21/15 10:31*	*04/30/15 17:39*	*1*
DCB Decachlorobiphenyl (Surr)	*79*		*10 - 140*	*04/21/15 10:31*	*04/30/15 17:39*	*1*

Lab Sample ID: LCS 180-139146/2-B
Matrix: Sediment
Analysis Batch: 140156

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139146

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	1.67	1.27		ug/Kg		76	10 - 150
alpha-BHC	1.67	1.23		ug/Kg		74	10 - 150
beta-BHC	1.67	1.29		ug/Kg		77	10 - 150
delta-BHC	1.67	0.952		ug/Kg		57	20 - 124
gamma-BHC (Lindane)	1.67	1.26		ug/Kg		75	10 - 150
4,4'-DDD	1.67	1.30		ug/Kg		78	15 - 150
4,4'-DDE	1.67	1.34		ug/Kg		80	10 - 150
4,4'-DDT	1.67	1.51		ug/Kg		91	10 - 150
Dieldrin	1.67	1.31		ug/Kg		79	20 - 150
Endosulfan I	1.67	1.26		ug/Kg		76	20 - 150
Endosulfan II	1.67	1.30		ug/Kg		78	10 - 150
Endosulfan sulfate	1.67	1.24		ug/Kg		74	13 - 140
Endrin	1.67	1.30		ug/Kg		78	10 - 150
Endrin aldehyde	1.67	1.07		ug/Kg		64	10 - 150
Heptachlor	1.67	1.34		ug/Kg		80	10 - 150
Heptachlor epoxide	1.67	1.26		ug/Kg		75	10 - 150
Methoxychlor	1.67	1.53		ug/Kg		92	10 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*73*		*10 - 140*
Tetrachloro-m-xylene	*70*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*75*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*75*		*10 - 140*

Lab Sample ID: 180-42924-1MS
Matrix: Sediment
Analysis Batch: 140156

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 139146

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	ND		2.16	1.59		ug/Kg	☼	74	10 - 150
alpha-BHC	ND		2.16	1.55		ug/Kg	☼	72	10 - 150

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 180-42924-1MS
Matrix: Sediment
Analysis Batch: 140156

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 139146

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
beta-BHC	ND		2.16	1.60		ug/Kg	☼	74	10 - 150
delta-BHC	0.011	J p	2.16	1.24		ug/Kg	☼	57	20 - 124
gamma-BHC (Lindane)	ND		2.16	1.58		ug/Kg	☼	73	10 - 150
4,4'-DDD	ND		2.16	1.54		ug/Kg	☼	71	15 - 150
4,4'-DDE	ND		2.16	1.64		ug/Kg	☼	76	10 - 150
4,4'-DDT	ND		2.16	1.85		ug/Kg	☼	86	10 - 150
Dieldrin	0.014	J p B	2.16	1.59		ug/Kg	☼	73	20 - 150
Endosulfan I	ND		2.16	1.54		ug/Kg	☼	71	20 - 150
Endosulfan II	ND		2.16	1.66		ug/Kg	☼	77	10 - 150
Endosulfan sulfate	ND		2.16	1.61		ug/Kg	☼	75	13 - 140
Endrin	ND		2.16	1.55		ug/Kg	☼	72	10 - 150
Endrin aldehyde	0.011	J p	2.16	1.53		ug/Kg	☼	70	10 - 150
Heptachlor	ND		2.16	1.58		ug/Kg	☼	73	10 - 150
Heptachlor epoxide	ND		2.16	1.61		ug/Kg	☼	75	10 - 150
Methoxychlor	ND		2.16	1.99		ug/Kg	☼	92	10 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene	*59*		*10 - 140*
Tetrachloro-m-xylene	*62*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*68*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*70*		*10 - 140*

Lab Sample ID: 180-42924-1MSD
Matrix: Sediment
Analysis Batch: 140156

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 139146

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin	ND		2.14	1.44		ug/Kg	☼	67	10 - 150	10	20
alpha-BHC	ND		2.14	1.39		ug/Kg	☼	65	10 - 150	10	20
beta-BHC	ND		2.14	1.44		ug/Kg	☼	68	10 - 150	10	20
delta-BHC	0.011	J p	2.14	1.14		ug/Kg	☼	53	20 - 124	8	20
gamma-BHC (Lindane)	ND		2.14	1.41		ug/Kg	☼	66	10 - 150	11	20
4,4'-DDD	ND		2.14	1.38		ug/Kg	☼	65	15 - 150	11	20
4,4'-DDE	ND		2.14	1.49		ug/Kg	☼	70	10 - 150	10	20
4,4'-DDT	ND		2.14	1.65		ug/Kg	☼	77	10 - 150	12	37
Dieldrin	0.014	J p B	2.14	1.42		ug/Kg	☼	66	20 - 150	12	20
Endosulfan I	ND		2.14	1.38		ug/Kg	☼	65	20 - 150	11	23
Endosulfan II	ND		2.14	1.48		ug/Kg	☼	69	10 - 150	11	33
Endosulfan sulfate	ND		2.14	1.42		ug/Kg	☼	66	13 - 140	13	26
Endrin	ND		2.14	1.42		ug/Kg	☼	67	10 - 150	8	20
Endrin aldehyde	0.011	J p	2.14	1.37		ug/Kg	☼	64	10 - 150	11	20
Heptachlor	ND		2.14	1.47		ug/Kg	☼	69	10 - 150	8	20
Heptachlor epoxide	ND		2.14	1.46		ug/Kg	☼	68	10 - 150	10	20
Methoxychlor	ND		2.14	1.85		ug/Kg	☼	86	10 - 150	8	26

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*56*		*10 - 140*

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 180-42924-1MSD
Matrix: Sediment
Analysis Batch: 140156

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 139146

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	*58*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*63*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*65*		*10 - 140*

Method: 8082A - PCB Congeners (GC)

Lab Sample ID: MB 180-139100/1-C
Matrix: Sediment
Analysis Batch: 139880

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139100

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.50	0.16	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-18	ND		0.50	0.14	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-28	ND		0.50	0.071	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-44	ND		0.50	0.056	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-49	ND		0.50	0.10	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-52	ND		0.50	0.096	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-66	ND		0.50	0.045	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-77	ND		0.50	0.054	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-87	ND		0.50	0.051	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-101	ND		0.50	0.059	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-105	ND		0.50	0.041	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-118	ND		0.50	0.045	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-126	ND		0.50	0.17	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-128	ND		0.50	0.053	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-138	ND		0.50	0.042	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-153	ND		0.50	0.043	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-156	ND		0.50	0.033	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-169	ND		0.50	0.032	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-170	ND		0.50	0.038	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-180	ND		0.50	0.043	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-183	ND		0.50	0.11	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-184	ND		0.50	0.045	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-187	ND		0.50	0.062	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-195	ND		0.50	0.099	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
PCB-206	ND		0.50	0.035	ug/Kg		04/21/15 04:50	04/28/15 13:51	1
DCB Decachlorobiphenyl	ND		0.50	0.035	ug/Kg		04/21/15 04:50	04/28/15 13:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	*79*		*35 - 140*	*04/21/15 04:50*	*04/28/15 13:51*	*1*
Tetrachloro-m-xylene (Surr)	*75*		*35 - 140*	*04/21/15 04:50*	*04/28/15 13:51*	*1*
PCB-205 (Surr)	*85*		*35 - 140*	*04/21/15 04:50*	*04/28/15 13:51*	*1*
PCB-205 (Surr)	*89*		*35 - 140*	*04/21/15 04:50*	*04/28/15 13:51*	*1*

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: LCS 180-139100/2-C
Matrix: Sediment
Analysis Batch: 139880

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139100

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	10.0	8.70		ug/Kg		87	50 - 140
PCB-18	10.0	8.81		ug/Kg		88	50 - 140
PCB-28	10.0	9.15		ug/Kg		91	50 - 140
PCB-44	10.0	8.11		ug/Kg		81	50 - 140
PCB-49	10.0	8.56		ug/Kg		86	50 - 140
PCB-52	10.0	8.17		ug/Kg		82	50 - 140
PCB-66	10.0	9.78		ug/Kg		98	50 - 140
PCB-77	10.0	9.92		ug/Kg		99	50 - 140
PCB-87	10.0	10.1		ug/Kg		101	50 - 140
PCB-101	10.0	8.83		ug/Kg		88	50 - 140
PCB-105	10.0	8.79		ug/Kg		88	50 - 140
PCB-118	10.0	9.02		ug/Kg		90	50 - 140
PCB-126	10.0	8.15		ug/Kg		81	50 - 140
PCB-128	10.0	8.22		ug/Kg		82	50 - 140
PCB-138	10.0	8.69		ug/Kg		87	50 - 140
PCB-153	10.0	7.93		ug/Kg		79	50 - 140
PCB-156	10.0	8.74		ug/Kg		87	50 - 140
PCB-169	10.0	7.68		ug/Kg		77	50 - 140
PCB-170	10.0	8.23		ug/Kg		82	50 - 140
PCB-180	10.0	8.83		ug/Kg		88	50 - 140
PCB-183	10.0	7.98		ug/Kg		80	50 - 140
PCB-184	10.0	9.14		ug/Kg		91	50 - 140
PCB-187	10.0	8.43		ug/Kg		84	50 - 140
PCB-195	10.0	8.35		ug/Kg		83	50 - 140
PCB-206	10.0	7.68		ug/Kg		77	50 - 140
DCB Decachlorobiphenyl	10.0	8.36		ug/Kg		84	50 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*78*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*78*		*35 - 140*
PCB-205 (Surr)	*85*		*35 - 140*
PCB-205 (Surr)	*89*		*35 - 140*

Lab Sample ID: 180-42924-1MS
Matrix: Sediment
Analysis Batch: 139880

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 139100

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	ND		13.0	12.6		ug/Kg	☼	97	50 - 140
PCB-18	ND		13.0	12.4		ug/Kg	☼	96	50 - 140
PCB-28	ND		13.0	10.6		ug/Kg	☼	82	50 - 140
PCB-44	ND		13.0	10.6		ug/Kg	☼	82	50 - 140
PCB-49	ND	F2	13.0	11.1		ug/Kg	☼	85	50 - 140
PCB-52	0.13	J p	13.0	10.9		ug/Kg	☼	83	50 - 140
PCB-66	ND		13.0	11.6		ug/Kg	☼	90	50 - 140
PCB-77	ND		13.0	12.0		ug/Kg	☼	92	50 - 140
PCB-87	ND		13.0	13.2		ug/Kg	☼	102	50 - 140
PCB-101	ND		13.0	11.8		ug/Kg	☼	91	50 - 140

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: 180-42924-1MS
Matrix: Sediment
Analysis Batch: 139880

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 139100

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-105	ND		13.0	10.9		ug/Kg	☼	84	50 - 140
PCB-118	ND		13.0	12.2		ug/Kg	☼	94	50 - 140
PCB-126	ND		13.0	9.95		ug/Kg	☼	77	50 - 140
PCB-128	ND		13.0	10.6		ug/Kg	☼	82	50 - 140
PCB-138	ND		13.0	11.0		ug/Kg	☼	84	50 - 140
PCB-153	ND		13.0	10.3		ug/Kg	☼	79	50 - 140
PCB-156	ND		13.0	10.8		ug/Kg	☼	83	50 - 140
PCB-169	ND		13.0	9.38		ug/Kg	☼	72	50 - 140
PCB-170	ND		13.0	10.4		ug/Kg	☼	80	50 - 140
PCB-180	ND		13.0	10.9		ug/Kg	☼	84	50 - 140
PCB-183	ND		13.0	9.89		ug/Kg	☼	76	50 - 140
PCB-184	ND		13.0	12.0		ug/Kg	☼	93	50 - 140
PCB-187	ND		13.0	10.8		ug/Kg	☼	83	50 - 140
PCB-195	ND	F2	13.0	10.6		ug/Kg	☼	81	50 - 140
PCB-206	ND	F1 F2	13.0	9.38		ug/Kg	☼	72	50 - 140
DCB Decachlorobiphenyl	ND	F2	13.0	10.3		ug/Kg	☼	79	50 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*81*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*79*		*35 - 140*
PCB-205 (Surr)	*79*		*35 - 140*
PCB-205 (Surr)	*84*		*35 - 140*

Lab Sample ID: 180-42924-1MSD
Matrix: Sediment
Analysis Batch: 139880

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 139100

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-8	ND		13.0	11.8		ug/Kg	☼	91	50 - 140	7	40
PCB-18	ND		13.0	9.92		ug/Kg	☼	76	50 - 140	22	40
PCB-28	ND		13.0	9.70	p	ug/Kg	☼	75	50 - 140	9	40
PCB-44	ND		13.0	7.72		ug/Kg	☼	59	50 - 140	31	40
PCB-49	ND	F2	13.0	7.23	F2	ug/Kg	☼	56	50 - 140	42	40
PCB-52	0.13	J p	13.0	7.97		ug/Kg	☼	60	50 - 140	31	40
PCB-66	ND		13.0	9.51		ug/Kg	☼	73	50 - 140	20	40
PCB-77	ND		13.0	11.9		ug/Kg	☼	92	50 - 140	0	40
PCB-87	ND		13.0	9.21		ug/Kg	☼	71	50 - 140	36	40
PCB-101	ND		13.0	8.30		ug/Kg	☼	64	50 - 140	35	40
PCB-105	ND		13.0	8.35		ug/Kg	☼	64	50 - 140	27	40
PCB-118	ND		13.0	8.73		ug/Kg	☼	67	50 - 140	33	40
PCB-126	ND		13.0	8.41		ug/Kg	☼	65	50 - 140	17	40
PCB-128	ND		13.0	7.29		ug/Kg	☼	56	50 - 140	37	40
PCB-138	ND		13.0	7.74		ug/Kg	☼	60	50 - 140	34	40
PCB-153	ND		13.0	7.14		ug/Kg	☼	55	50 - 140	36	40
PCB-156	ND		13.0	7.86		ug/Kg	☼	61	50 - 140	32	40
PCB-169	ND		13.0	7.19		ug/Kg	☼	55	50 - 140	26	40
PCB-170	ND		13.0	7.28		ug/Kg	☼	56	50 - 140	36	40
PCB-180	ND		13.0	7.26		ug/Kg	☼	56	50 - 140	40	40

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: 180-42924-1MSD
Matrix: Sediment
Analysis Batch: 139880

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 139100

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-183	ND		13.0	6.68		ug/Kg	☼	51	50 - 140	39	40
PCB-184	ND		13.0	8.85		ug/Kg	☼	68	50 - 140	31	40
PCB-187	ND		13.0	7.29		ug/Kg	☼	56	50 - 140	39	40
PCB-195	ND	F2	13.0	6.99	F2	ug/Kg	☼	54	50 - 140	41	40
PCB-206	ND	F1 F2	13.0	6.06	F1 F2	ug/Kg	☼	47	50 - 140	43	40
DCB Decachlorobiphenyl	ND	F2	13.0	6.46	F2	ug/Kg	☼	50	50 - 140	46	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*61*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*64*		*35 - 140*
PCB-205 (Surr)	*49*		*35 - 140*
PCB-205 (Surr)	*52*		*35 - 140*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Lab Sample ID: MB 180-138256/1-A
Matrix: Sediment
Analysis Batch: 138548

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138256

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Demeton, Total	ND		33	3.0	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Malathion	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Methyl parathion	ND		17	1.5	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Parathion	ND		17	1.3	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Bolstar	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Chlorpyrifos	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Coumaphos	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Diazinon	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Dichlorvos	ND		17	1.5	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Dimethoate	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Disulfoton	ND		17	1.8	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
EPN	ND		17	1.4	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Mocap	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Famphur	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Fensulfothion	ND		17	1.3	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Fenthion	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Mevinphos	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Phorate	ND		17	1.7	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Ronnel	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Stirophos	ND		17	1.7	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Sulfotepp	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Thionazin	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Tokuthion	ND		17	1.6	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
Trichloronate	ND		17	1.9	ug/Kg		04/13/15 03:33	04/15/15 12:41	1
O,O,O-Triethyl phosphorothioate	ND		17	3.2	ug/Kg		04/13/15 03:33	04/15/15 12:41	1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: MB 180-138256/1-A
Matrix: Sediment
Analysis Batch: 138548

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138256

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	69		47 - 130	04/13/15 03:33	04/15/15 12:41	1
Tributyl phosphate	67		47 - 130	04/13/15 03:33	04/15/15 12:41	1
Triphenylphosphate	84		55 - 125	04/13/15 03:33	04/15/15 12:41	1
Triphenylphosphate	86		55 - 125	04/13/15 03:33	04/15/15 12:41	1

Lab Sample ID: LCS 180-138256/2-A
Matrix: Sediment
Analysis Batch: 138548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138256

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	167	145		ug/Kg		87	40 - 150
Malathion	167	152		ug/Kg		91	50 - 135
Methyl parathion	167	148		ug/Kg		89	43 - 146
Parathion	167	150		ug/Kg		90	52 - 133
Bolstar	167	155		ug/Kg		93	10 - 150
Chlorpyrifos	167	151		ug/Kg		91	50 - 130
Coumaphos	167	150		ug/Kg		90	10 - 150
Diazinon	167	148		ug/Kg		89	50 - 150
Dichlorvos	167	172		ug/Kg		103	10 - 150
Dimethoate	167	134		ug/Kg		81	40 - 143
Disulfoton	167	150		ug/Kg		90	31 - 136
EPN	167	149		ug/Kg		89	10 - 150
Mocap	167	148		ug/Kg		89	10 - 150
Famphur	167	144		ug/Kg		86	54 - 137
Fensulfothion	167	136		ug/Kg		82	10 - 150
Fenthion	167	150		ug/Kg		90	10 - 150
Mevinphos	167	130		ug/Kg		78	10 - 150
Phorate	167	153		ug/Kg		92	41 - 143
Ronnel	167	145		ug/Kg		87	10 - 150
Stirophos	167	138		ug/Kg		83	10 - 150
Sulfotepp	167	152		ug/Kg		91	48 - 126
Thionazin	167	149		ug/Kg		89	48 - 126
Tokuthion	167	149		ug/Kg		90	10 - 150
Trichloronate	167	151		ug/Kg		90	10 - 150
O,O,O-Triethyl phosphorothioate	167	142		ug/Kg		85	45 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tributyl phosphate	95		47 - 130
Tributyl phosphate	95		47 - 130
Triphenylphosphate	96		55 - 125
Triphenylphosphate	100		55 - 125

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: 180-42924-1MS
Matrix: Sediment
Analysis Batch: 138548

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 138256

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	ND	F2	216	190		ug/Kg	☼	88	40 - 150
Malathion	ND	F2	216	188		ug/Kg	☼	87	50 - 150
Methyl parathion	ND	F2	216	185		ug/Kg	☼	85	41 - 148
Parathion	ND	F2 F1	216	182		ug/Kg	☼	84	56 - 125
Bolstar	ND	F2	216	185		ug/Kg	☼	85	50 - 150
Chlorpyrifos	ND	F2	216	187		ug/Kg	☼	86	50 - 130
Coumaphos	ND	F2	216	185		ug/Kg	☼	86	50 - 150
Diazinon	ND	F2	216	183		ug/Kg	☼	85	50 - 150
Dichlorvos	ND		216	200		ug/Kg	☼	92	30 - 150
Dimethoate	ND		216	195		ug/Kg	☼	90	26 - 136
Disulfoton	ND	F2 F1	216	189		ug/Kg	☼	87	45 - 124
EPN	ND	F2	216	184		ug/Kg	☼	85	50 - 150
Mocap	ND	F2	216	190		ug/Kg	☼	88	40 - 150
Famphur	ND		216	180		ug/Kg	☼	83	52 - 131
Fensulfothion	ND		216	204		ug/Kg	☼	94	38 - 150
Fenthion	ND	F2	216	187		ug/Kg	☼	86	10 - 150
Mevinphos	ND		216	179		ug/Kg	☼	83	30 - 150
Phorate	ND	F2	216	194		ug/Kg	☼	89	41 - 135
Ronnel	ND	F2	216	182		ug/Kg	☼	84	50 - 150
Stirophos	ND	F2	216	182		ug/Kg	☼	84	50 - 150
Sulfotepp	ND	F2 F1	216	186		ug/Kg	☼	86	56 - 128
Thionazin	ND	F2 F1	216	189		ug/Kg	☼	87	44 - 128
Tokuthion	ND	F2	216	181		ug/Kg	☼	83	50 - 150
Trichloronate	ND	F2	216	186		ug/Kg	☼	86	10 - 150
O,O,O-Triethyl phosphorothioate	ND	F2	216	177		ug/Kg	☼	82	31 - 131

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tributyl phosphate	*97*		*47 - 130*
Tributyl phosphate	*97*		*47 - 130*
Triphenylphosphate	*95*		*55 - 125*
Triphenylphosphate	*96*		*55 - 125*

Lab Sample ID: 180-42924-1MSD
Matrix: Sediment
Analysis Batch: 138548

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 138256

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	ND	F2	215	265	F2	ug/Kg	☼	124	40 - 150	33	30
Malathion	ND	F2	215	276	F2	ug/Kg	☼	129	50 - 150	38	30
Methyl parathion	ND	F2	215	274	F2	ug/Kg	☼	128	41 - 148	39	30
Parathion	ND	F2 F1	215	278	F1 F2	ug/Kg	☼	130	56 - 125	42	21
Bolstar	ND	F2	215	276	F2	ug/Kg	☼	129	50 - 150	39	30
Chlorpyrifos	ND	F2	215	279	F2	ug/Kg	☼	130	50 - 130	40	25
Coumaphos	ND	F2	215	262	F2	ug/Kg	☼	122	50 - 150	34	30
Diazinon	ND	F2	215	270	F2	ug/Kg	☼	126	50 - 150	38	30
Dichlorvos	ND		215	217		ug/Kg	☼	101	30 - 150	8	30

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: 180-42924-1MSD | **Client Sample ID: TS-2NB-SED**
Matrix: Sediment | **Prep Type: Total/NA**
Analysis Batch: 138548 | **Prep Batch: 138256**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dimethoate	ND		215	197		ug/Kg	☼	92	26 - 136	1	22
Disulfoton	ND	F2 F1	215	281	F1 F2	ug/Kg	☼	131	45 - 124	39	30
EPN	ND	F2	215	270	F2	ug/Kg	☼	126	50 - 150	38	30
Mocap	ND	F2	215	276	F2	ug/Kg	☼	128	40 - 150	37	30
Famphur	ND		215	230		ug/Kg	☼	107	52 - 131	24	24
Fensulfothion	ND		215	193		ug/Kg	☼	90	38 - 150	6	30
Fenthion	ND	F2	215	282	F2	ug/Kg	☼	132	10 - 150	41	30
Mevinphos	ND		215	206		ug/Kg	☼	96	30 - 150	14	30
Phorate	ND	F2	215	290	F2	ug/Kg	☼	135	41 - 135	40	24
Ronnel	ND	F2	215	270	F2	ug/Kg	☼	126	50 - 150	39	30
Stirophos	ND	F2	215	247	F2	ug/Kg	☼	115	50 - 150	31	30
Sulfotepp	ND	F2 F1	215	282	F1 F2	ug/Kg	☼	131	56 - 128	41	23
Thionazin	ND	F2 F1	215	278	F1 F2	ug/Kg	☼	129	44 - 128	38	21
Tokuthion	ND	F2	215	269	F2	ug/Kg	☼	125	50 - 150	39	30
Trichloronate	ND	F2	215	277	F2	ug/Kg	☼	129	10 - 150	39	30
O,O,O-Triethyl phosphorothioate	ND	F2	215	270	F2	ug/Kg	☼	126	31 - 131	41	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tributyl phosphate	*86*		*47 - 130*
Tributyl phosphate	*89*		*47 - 130*
Triphenylphosphate	*85*		*55 - 125*
Triphenylphosphate	*86*		*55 - 125*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 180-138931/1-A | **Client Sample ID: Method Blank**
Matrix: Sediment | **Prep Type: SEM/AVS**
Analysis Batch: 139594 | **Prep Batch: 138931**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.13	0.0041	mg/Kg		04/18/15 10:40	04/24/15 11:31	1
Copper SEM	ND		0.63	0.056	mg/Kg		04/18/15 10:40	04/24/15 11:31	1
Lead SEM	ND		0.25	0.050	mg/Kg		04/18/15 10:40	04/24/15 11:31	1
Nickel SEM	ND		1.0	0.029	mg/Kg		04/18/15 10:40	04/24/15 11:31	1
Zinc SEM	0.817	J	2.5	0.18	mg/Kg		04/18/15 10:40	04/24/15 11:31	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.0011	0.000036	umol/g		04/18/15 10:40	04/24/15 11:31	1
Copper SEM	ND		0.0098	0.00088	umol/g		04/18/15 10:40	04/24/15 11:31	1
Lead SEM	ND		0.0012	0.00024	umol/g		04/18/15 10:40	04/24/15 11:31	1
Nickel SEM	ND		0.017	0.00049	umol/g		04/18/15 10:40	04/24/15 11:31	1
Zinc SEM	0.0125	J	0.038	0.0028	umol/g		04/18/15 10:40	04/24/15 11:31	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 180-138931/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: SEM/AVS**
Analysis Batch: 139594 — **Prep Batch: 138931**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	1.25	1.33		mg/Kg		106	80 - 120
Copper SEM	6.25	6.24		mg/Kg		100	80 - 120
Lead SEM	12.5	12.3		mg/Kg		99	80 - 120
Nickel SEM	12.5	11.9		mg/Kg		95	80 - 120
Zinc SEM	12.5	14.1		mg/Kg		113	80 - 120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	0.011	0.0118		umol/g		106	80 - 120
Copper SEM	0.098	0.0983		umol/g		100	80 - 120
Lead SEM	0.060	0.0595		umol/g		99	80 - 120
Nickel SEM	0.21	0.203		umol/g		95	80 - 120
Zinc SEM	0.19	0.215		umol/g		113	80 - 120

Lab Sample ID: 180-42924-1MS — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: SEM/AVS**
Analysis Batch: 139594 — **Prep Batch: 138931**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	0.061	J	1.62	1.63		mg/Kg	☼	97	75 - 125
Copper SEM	0.55	J F1	8.08	6.28	F1	mg/Kg	☼	71	75 - 125
Zinc SEM	17	B F1	16.2	30.2		mg/Kg	☼	79	75 - 125

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	0.00054	J	0.014	0.0145		umol/g	☼	97	75 - 125
Copper SEM	0.0086	J F1	0.13	0.0988	F1	umol/g	☼	71	75 - 125
Zinc SEM	0.27	B F1	0.25	0.461		umol/g	☼	79	75 - 125

Lab Sample ID: 180-42924-1MS — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: SEM/AVS**
Analysis Batch: 139594 — **Prep Batch: 138931**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead SEM	1.8		16.2	17.1		mg/Kg	☼	94	75 - 125
Nickel SEM	4.9		16.2	19.5		mg/Kg	☼	90	75 - 125

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead SEM	0.0089		0.078	0.0823		umol/g	☼	94	75 - 125
Nickel SEM	0.084		0.28	0.332		umol/g	☼	90	75 - 125

Lab Sample ID: 180-42924-1MSD — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: SEM/AVS**
Analysis Batch: 139594 — **Prep Batch: 138931**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium SEM	0.061	J	1.63	1.69		mg/Kg	☼	100	75 - 125	3	20
Copper SEM	0.55	J F1	8.14	6.53	F1	mg/Kg	☼	73	75 - 125	4	20
Zinc SEM	17	B F1	16.3	27.5	F1	mg/Kg	☼	62	75 - 125	9	20

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium SEM	0.00054	J	0.014	0.0150		umol/g	☼	100	75 - 125	3	20
Copper SEM	0.0086	J F1	0.13	0.103	F1	umol/g	☼	73	75 - 125	4	20
Zinc SEM	0.27	B F1	0.25	0.421	F1	umol/g	☼	62	75 - 125	9	20

Lab Sample ID: 180-42924-1MSD — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: SEM/AVS**
Analysis Batch: 139594 — **Prep Batch: 138931**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead SEM	1.8		16.3	17.6		mg/Kg	☼	97	75 - 125	3	20
Nickel SEM	4.9		16.3	19.4		mg/Kg	☼	89	75 - 125	0	20

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead SEM	0.0089		0.079	0.0849		umol/g	☼	97	75 - 125	3	20
Nickel SEM	0.084		0.28	0.330		umol/g	☼	89	75 - 125	0	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-140029/1-A — **Client Sample ID: Method Blank**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 140127 — **Prep Batch: 140029**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.5	0.14	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Antimony	ND		0.10	0.0013	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Arsenic	ND		0.050	0.0091	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Barium	ND		0.50	0.0054	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Beryllium	ND		0.050	0.0038	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Cadmium	ND		0.050	0.0035	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Chromium	ND		0.10	0.0031	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Calcium	ND		25	0.66	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Cobalt	ND		0.025	0.00075	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Copper	ND		0.10	0.017	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Iron	ND		2.5	0.18	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Lead	ND		0.050	0.0019	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Nickel	ND		0.050	0.0057	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Potassium	ND		25	0.68	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Selenium	ND		0.25	0.025	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Magnesium	ND		25	0.094	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Silver	ND		0.050	0.0020	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Thallium	ND		0.050	0.0010	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Sodium	ND		25	0.68	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Zinc	ND		0.25	0.032	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Vanadium	ND		0.050	0.0040	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Manganese	ND		0.25	0.0052	mg/Kg		04/29/15 11:56	04/29/15 22:05	1

Lab Sample ID: LCS 180-140029/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 140127 — **Prep Batch: 140029**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	99.0	91.3		mg/Kg		92	80 - 120
Antimony	24.8	22.7		mg/Kg		92	80 - 120
Arsenic	1.98	1.82		mg/Kg		92	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-140029/2-A
Matrix: Sediment
Analysis Batch: 140127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140029

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	99.0	89.7		mg/Kg		91	80 - 120
Beryllium	2.48	2.30		mg/Kg		93	80 - 120
Cadmium	2.48	2.40		mg/Kg		97	80 - 120
Chromium	9.90	8.94		mg/Kg		90	80 - 120
Calcium	2480	2280		mg/Kg		92	80 - 120
Cobalt	24.8	22.5		mg/Kg		91	80 - 120
Copper	12.4	11.6		mg/Kg		94	80 - 120
Iron	49.5	45.2		mg/Kg		91	80 - 120
Lead	0.990	1.01		mg/Kg		102	80 - 120
Nickel	24.8	22.7		mg/Kg		92	80 - 120
Potassium	2480	2160		mg/Kg		87	80 - 120
Selenium	0.495	0.418		mg/Kg		85	80 - 120
Magnesium	2480	2250		mg/Kg		91	80 - 120
Silver	2.48	2.38		mg/Kg		96	80 - 120
Thallium	2.48	2.45		mg/Kg		99	80 - 120
Sodium	2480	2340		mg/Kg		94	80 - 120
Zinc	24.8	20.7		mg/Kg		84	80 - 120
Vanadium	24.8	22.6		mg/Kg		91	80 - 120
Manganese	24.8	24.1		mg/Kg		97	80 - 120

Lab Sample ID: 180-42924-1MS
Matrix: Sediment
Analysis Batch: 140127

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 140029

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	5200	F2	129	7470	4	mg/Kg	☼	1746	75 - 125
Antimony	0.075	J F1	32.3	16.4	F1	mg/Kg	☼	50	75 - 125
Arsenic	7.9	F1 F2	2.58	15.7	F1	mg/Kg	☼	302	75 - 125
Barium	12		129	125		mg/Kg	☼	87	75 - 125
Beryllium	0.45		3.23	3.73		mg/Kg	☼	102	75 - 125
Cadmium	0.076		3.23	3.03		mg/Kg	☼	91	75 - 125
Chromium	14		12.9	25.5		mg/Kg	☼	85	75 - 125
Calcium	63000	F2	3230	116000	4	mg/Kg	☼	1642	75 - 125
Cobalt	3.4		32.3	27.8		mg/Kg	☼	76	75 - 125
Copper	3.1	F1	16.1	14.6	F1	mg/Kg	☼	72	75 - 125
Iron	13000		64.6	14500	4	mg/Kg	☼	2300	75 - 125
Lead	5.8		1.29	7.42	4	mg/Kg	☼	128	75 - 125
Nickel	7.4	F1	32.3	31.1	F1	mg/Kg	☼	73	75 - 125
Potassium	1600		3230	4080		mg/Kg	☼	78	75 - 125
Selenium	0.21	J	0.646	0.741		mg/Kg	☼	83	75 - 125
Magnesium	3500		3230	6470		mg/Kg	☼	92	75 - 125
Silver	0.024	J	3.23	2.92		mg/Kg	☼	90	75 - 125
Thallium	0.065		3.23	3.25		mg/Kg	☼	99	75 - 125
Sodium	2500		3230	5230		mg/Kg	☼	85	75 - 125
Zinc	22	F1	32.3	41.3	F1	mg/Kg	☼	59	75 - 125
Vanadium	13		32.3	46.0		mg/Kg	☼	101	75 - 125
Manganese	120	F1 F2	32.3	205	F1	mg/Kg	☼	278	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-42924-1MSD — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 140127 — **Prep Batch: 140029**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	5200	F2	127	9780	4 F2	mg/Kg	☼	3585	75 - 125	27	20
Antimony	0.075	J F1	31.8	15.2	F1	mg/Kg	☼	48	75 - 125	7	20
Arsenic	7.9	F1 F2	2.55	10.3	F2	mg/Kg	☼	95	75 - 125	41	20
Barium	12		127	120		mg/Kg	☼	84	75 - 125	4	20
Beryllium	0.45		3.18	3.84		mg/Kg	☼	107	75 - 125	3	20
Cadmium	0.076		3.18	2.91		mg/Kg	☼	89	75 - 125	4	20
Chromium	14		12.7	27.9		mg/Kg	☼	105	75 - 125	9	20
Calcium	63000	F2	3180	56200	4 F2	mg/Kg	☼	-223	75 - 125	70	20
Cobalt	3.4		31.8	28.5		mg/Kg	☼	79	75 - 125	3	20
Copper	3.1	F1	15.9	16.0		mg/Kg	☼	82	75 - 125	9	20
Iron	13000		63.6	13500	4	mg/Kg	☼	820	75 - 125	7	20
Lead	5.8		1.27	7.12	4	mg/Kg	☼	105	75 - 125	4	20
Nickel	7.4	F1	31.8	33.0		mg/Kg	☼	80	75 - 125	6	20
Potassium	1600		3180	4360		mg/Kg	☼	87	75 - 125	7	20
Selenium	0.21	J	0.636	0.718		mg/Kg	☼	81	75 - 125	3	20
Magnesium	3500		3180	6050		mg/Kg	☼	80	75 - 125	7	20
Silver	0.024	J	3.18	2.91		mg/Kg	☼	91	75 - 125	0	20
Thallium	0.065		3.18	3.16		mg/Kg	☼	97	75 - 125	3	20
Sodium	2500		3180	5040		mg/Kg	☼	80	75 - 125	4	20
Zinc	22	F1	31.8	46.2		mg/Kg	☼	75	75 - 125	11	20
Vanadium	13		31.8	43.4		mg/Kg	☼	95	75 - 125	6	20
Manganese	120	F1 F2	31.8	123	F1 F2	mg/Kg	☼	25	75 - 125	50	20

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Lab Sample ID: MB 180-139859/1-A — **Client Sample ID: Method Blank**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 140049 — **Prep Batch: 139859**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.016	0.0055	mg/Kg		04/28/15 09:05	04/29/15 11:41	1

Lab Sample ID: LCS 180-139859/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 140049 — **Prep Batch: 139859**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.208	0.198		mg/Kg		95	80 - 120		

Lab Sample ID: 180-42924-1MS — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 140049 — **Prep Batch: 139859**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		0.103	0.118		mg/Kg	☼	114	75 - 125		

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique) (Continued)

Lab Sample ID: 180-42924-1MSD — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 140049 — **Prep Batch: 139859**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.105	0.116		mg/Kg	☼	111	75 - 125	1	20

Method: 2540G - SM 2540G

Lab Sample ID: 180-42924-1 DU — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 138185

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	23		24		%		3	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 180-140056/1-A — **Client Sample ID: Method Blank**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 140173 — **Prep Batch: 140056**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		4.9	3.1	mg/Kg		04/29/15 13:17	04/30/15 10:58	1

Lab Sample ID: LCS 180-140056/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 140173 — **Prep Batch: 140056**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	97.1	96.8		mg/Kg		100	90 - 110

Lab Sample ID: 180-42924-1MS — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 140173 — **Prep Batch: 140056**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	10		122	127		mg/Kg	☼	95	90 - 110

Lab Sample ID: 180-42924-1MSD — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 140173 — **Prep Batch: 140056**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia, distilled	10		127	126		mg/Kg	☼	91	90 - 110	1	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: LB 180-139721/2-A
Matrix: Sediment
Analysis Batch: 139943

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.0	0.21	mg/Kg			04/28/15 15:22	1

Lab Sample ID: LCS 180-139721/1-A
Matrix: Sediment
Analysis Batch: 139943

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	39.9	41.9		mg/Kg		105	90 - 110

Lab Sample ID: 180-42924-1MS
Matrix: Sediment
Analysis Batch: 139943

Client Sample ID: TS-2NB-SED
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	ND		25.9	25.6		mg/Kg	☼	99	90 - 110

Lab Sample ID: 180-42924-1MSD
Matrix: Sediment
Analysis Batch: 139943

Client Sample ID: TS-2NB-SED
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND		25.9	27.2		mg/Kg	☼	105	90 - 110	6	20

Method: 9014 - Cyanide

Lab Sample ID: MB 180-138541/4-A
Matrix: Sediment
Analysis Batch: 138612

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138541

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.25	0.082	mg/Kg		04/15/15 12:00	04/15/15 13:10	1

Lab Sample ID: HLCS 180-138541/2-A
Matrix: Sediment
Analysis Batch: 138612

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138541

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.252		mg/Kg		101	90 - 110

Lab Sample ID: LCS 180-138541/3-A
Matrix: Sediment
Analysis Batch: 138612

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138541

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	70.3	90.0		mg/Kg		128	38 - 162

Method: 9014 - Cyanide (Continued)

Lab Sample ID: LLCS 180-138541/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 138612 — **Prep Batch: 138541**

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.0500	0.0496		mg/Kg		99	90 - 110		

Lab Sample ID: 180-42924-1MS — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 138612 — **Prep Batch: 138541**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	ND	F1	6.49	4.46	F1	mg/Kg	☼	69	75 - 125		

Lab Sample ID: 180-42924-1MSD — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 138612 — **Prep Batch: 138541**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND	F1	6.36	3.78	F1	mg/Kg	☼	59	75 - 125	16	20

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-138240/1-A — **Client Sample ID: Method Blank**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 138379 — **Prep Batch: 138240**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		30	6.0	mg/Kg		04/12/15 09:15	04/12/15 11:18	1

Lab Sample ID: LCS 180-138240/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 138379 — **Prep Batch: 138240**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide			192	169		mg/Kg		88	85 - 115		

Lab Sample ID: 180-42924-1MS — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 138379 — **Prep Batch: 138240**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide	19	J F1	247	200	F1	mg/Kg	☼	74	75 - 125		

Lab Sample ID: 180-42924-1MSD — **Client Sample ID: TS-2NB-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 138379 — **Prep Batch: 138240**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	19	J F1	251	203	F1	mg/Kg	☼	73	75 - 125	1	20

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric) (Continued)

Lab Sample ID: MB 180-138932/1-A
Matrix: Sediment
Analysis Batch: 139134

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 138932

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		15	3.0	mg/Kg		04/18/15 10:40	04/18/15 12:03	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.47	0.094	umol/g		04/18/15 10:40	04/18/15 12:03	1

Lab Sample ID: LCS 180-138932/2-A
Matrix: Sediment
Analysis Batch: 139134

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 138932

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	96.1	88.7		mg/Kg		92	85 - 115

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	3.0	2.77		umol/g		92	85 - 115

Lab Sample ID: 180-42924-1MS
Matrix: Sediment
Analysis Batch: 139134

Client Sample ID: TS-2NB-SED
Prep Type: SEM/AVS
Prep Batch: 138932

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	ND		125	93.4		mg/Kg	☼	75	75 - 125

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	ND		3.9	2.91		umol/g	☼	75	75 - 125

Lab Sample ID: 180-42924-1MSD
Matrix: Sediment
Analysis Batch: 139134

Client Sample ID: TS-2NB-SED
Prep Type: SEM/AVS
Prep Batch: 138932

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acid Volatile Sulfides (AVS)	ND		125	101		mg/Kg	☼	80	75 - 125	7	20

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acid Volatile Sulfides (AVS)	ND		3.9	3.14		umol/g	☼	80	75 - 125	7	20

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 180-139359/3
Matrix: Sediment
Analysis Batch: 139359

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	89	mg/Kg			04/21/15 05:20	1

Method: Lloyd Kahn - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCS 180-139359/4
Matrix: Sediment
Analysis Batch: 139359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	35000	30300		mg/Kg		87	75 - 125

Lab Sample ID: MB 180-139540/3
Matrix: Sediment
Analysis Batch: 139540

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	89	mg/Kg			04/23/15 09:51	1

Lab Sample ID: LCS 180-139540/4
Matrix: Sediment
Analysis Batch: 139540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	35000	37300		mg/Kg		107	75 - 125

Lab Sample ID: 180-42924-1MS
Matrix: Sediment
Analysis Batch: 139540

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	2400	F2	25900	31000		mg/Kg	☼	110	75 - 125

Lab Sample ID: 180-42924-1MSD
Matrix: Sediment
Analysis Batch: 139540

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	2400	F2	25100	25000	F2	mg/Kg	☼	90	75 - 125	22	20

Lab Sample ID: 180-42924-1 DU
Matrix: Sediment
Analysis Batch: 139540

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon - Duplicates	2400	F2	3150	F5	mg/Kg	☼	26	20

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-177993/35-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 177993

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		9.6	0.88	mg/Kg		04/26/15 04:16	04/26/15 09:09	1

Method: SM4500 P E-1999 - Phosphorus (Continued)

Lab Sample ID: LCS 240-177993/36-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 177993

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Phosphorus as P			16.9	16.0		mg/Kg		94	75 - 125		

Lab Sample ID: 180-42924-1MS
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 177993

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Phosphorus as P	240	F1	69.1	336	F1	mg/Kg	☼	137	75 - 125		

Lab Sample ID: 180-42924-1MSD
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 177993

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Phosphorus as P	240	F1	69.1	309		mg/Kg	☼	98	75 - 125	8	20

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total

Lab Sample ID: MB 240-176755/1-A
Matrix: Sediment
Analysis Batch: 176849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 176755

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		140	49	mg/Kg		04/16/15 13:40	04/17/15 11:42	1

Lab Sample ID: LCS 240-176755/2-A
Matrix: Sediment
Analysis Batch: 176849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 176755

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Kjeldahl			360	339		mg/Kg		94	70 - 133		

Lab Sample ID: MB 240-178705/1-A
Matrix: Sediment
Analysis Batch: 178910

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 178705

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		150	50	mg/Kg		04/30/15 11:00	05/01/15 11:47	1

Lab Sample ID: LCS 240-178705/2-A
Matrix: Sediment
Analysis Batch: 178910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 178705

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Kjeldahl			367	414		mg/Kg		113	70 - 133		

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total (Continued)

Lab Sample ID: 180-42924-1MS
Matrix: Sediment
Analysis Batch: 178910

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 178705

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Kjeldahl	510		1350	1560		mg/Kg	☼	78	50 - 120		

Lab Sample ID: 180-42924-1MSD
Matrix: Sediment
Analysis Batch: 178910

Client Sample ID: TS-2NB-SED
Prep Type: Total/NA
Prep Batch: 178705

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	510		1270	1430		mg/Kg	☼	73	50 - 120	8	50

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-42924-1

CBBT Thimble Shoal

Lot #: H5D140413

Carrie Gamber

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.

Bruce Wagner
Project Manager

April 28, 2015

ANALYTICAL METHODS SUMMARY

H5D140413

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B
Percent Moisture	MCAWW 160.3 MOD

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SAMPLE SUMMARY

H5D140413

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M6K33	001	TS-2NB-SED	04/09/15	11:30
M6K34	002	TS-4NT-SED	04/09/15	14:45
M6K35	003	TS-2SB-SED	04/08/15	11:45
M6K36	004	TS-3NT-SED	04/08/15	15:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H5D140413

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

For solid and sediments samples, when percent moisture is included in the report header field, the sample results are reported on a dry weight basis. When percent moisture is not contained in the header field, sample results are reported on an as received or wet weight basis.

All 2378-TCDF results which met all qualitative requirements and were reported from the Rtx-5 column are qualified with an "X". This was done to indicate that the Rtx-5 column is not isomer specific for 2378-TCDF.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

PROJECT NARRATIVE
H5D140413

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

PROJECT NARRATIVE
H5D140413

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

PROJECT NARRATIVE
H5D140413

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of $\geq$2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: TS-2NB-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D140413 - 001	**Work Order #....:**	M6K331AA	**Matrix.....:**	SOLID
Date Sampled....:	04/09/15	**Date Received....:**	04/14/15	**Units....:**	pg/g
Prep Date....:	04/15/15			**Dilution Factor:**	1
Prep Batch # ....:	5105013			**Percent Moisture:**	24
Initial Wgt/Vol :	13.4 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/22/15	1	ND	0.98	0.076	1.0	0.076
1,2,3,7,8-PeCDD	**4/22/15**	**1**	**0.43 B J**	**4.9**	**0.028**	**0.5**	**0.22**
1,2,3,4,7,8-HxCDD	**4/22/15**	**1**	**0.55 J**	**4.9**	**0.032**	**0.1**	**0.055**
1,2,3,6,7,8-HxCDD	**4/22/15**	**1**	**0.90 J**	**4.9**	**0.037**	**0.1**	**0.090**
1,2,3,7,8,9-HxCDD	**4/22/15**	**1**	**2.6 C J**	**4.9**	**0.033**	**0.1**	**0.26**
1,2,3,4,6,7,8-HpCDD	**4/22/15**	**1**	**15 B**	**4.9**	**0.025**	**0.01**	**0.15**
OCDD	**4/22/15**	**1**	**110 B**	**9.8**	**0.024**	**0.001**	**0.11**
2,3,7,8-TCDF	4/22/15	1	ND	0.98	0.011	0.1	0.0011
1,2,3,7,8-PeCDF	**4/22/15**	**1**	**0.047 Q B J**	**4.9**	**0.011**	**0.05**	**0.0024**
2,3,4,7,8-PeCDF	4/22/15	1	ND	4.9	0.011	0.5	0.0055
1,2,3,4,7,8-HxCDF	**4/22/15**	**1**	**0.052 Q J**	**4.9**	**0.0069**	**0.1**	**0.0052**
1,2,3,6,7,8-HxCDF	4/22/15	1	ND	4.9	0.0066	0.1	0.00066
2,3,4,6,7,8-HxCDF	4/22/15	1	ND	4.9	0.0073	0.1	0.00073
1,2,3,7,8,9-HxCDF	**4/22/15**	**1**	**0.017 Q J**	**4.9**	**0.0090**	**0.1**	**0.0017**
1,2,3,4,6,7,8-HpCDF	4/22/15	1	ND	4.9	0.0074	0.01	0.000074
1,2,3,4,7,8,9-HpCDF	4/22/15	1	ND	4.9	0.010	0.01	0.00010
OCDF	**4/22/15**	**1**	**0.62 B J**	**9.8**	**0.0040**	**0.001**	**0.00062**
Total TEQ Concentration							**0.97**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	78	(23 - 140)
13C-OCDD	67	(17 - 157)
13C-2,3,7,8-TCDF	64	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	68	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	64	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	70	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	68	(26 - 138)
13C-OCDF	57	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-2NB-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-4NT-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D140413 - 002	**Work Order #....:**	M6K341AA	**Matrix.....:**	SOLID
Date Sampled....:	04/09/15	**Date Received....:**	04/14/15	**Units....:**	pg/g
Prep Date....:	04/15/15			**Dilution Factor:**	1
Prep Batch # ....:	5105013			**Percent Moisture:**	28
Initial Wgt/Vol :	14.4 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**4/22/15**	**1**	**0.13 Q J**	**0.96**	**0.072**	**1.0**	**0.13**
1,2,3,7,8-PeCDD	**4/22/15**	**1**	**0.64 B J**	**4.8**	**0.030**	**0.5**	**0.32**
1,2,3,4,7,8-HxCDD	**4/22/15**	**1**	**1.1 J**	**4.8**	**0.031**	**0.1**	**0.11**
1,2,3,6,7,8-HxCDD	**4/22/15**	**1**	**1.6 J**	**4.8**	**0.032**	**0.1**	**0.16**
1,2,3,7,8,9-HxCDD	**4/22/15**	**1**	**4.8 C**	**4.8**	**0.030**	**0.1**	**0.48**
1,2,3,4,6,7,8-HpCDD	**4/22/15**	**1**	**49 B**	**4.8**	**0.062**	**0.01**	**0.49**
OCDD	**4/22/15**	**1**	**970 B**	**9.6**	**0.071**	**0.001**	**0.97**
2,3,7,8-TCDF	**4/22/15**	**1**	**0.028 J**	**0.96**	**0.0088**	**0.1**	**0.0028**
1,2,3,7,8-PeCDF	4/22/15	1	ND	4.8	0.0085	0.05	0.00042
2,3,4,7,8-PeCDF	**4/22/15**	**1**	**0.040 Q B J**	**4.8**	**0.0084**	**0.5**	**0.020**
1,2,3,4,7,8-HxCDF	**4/22/15**	**1**	**0.032 Q J**	**4.8**	**0.0075**	**0.1**	**0.0032**
1,2,3,6,7,8-HxCDF	**4/22/15**	**1**	**0.061 J**	**4.8**	**0.0069**	**0.1**	**0.0061**
2,3,4,6,7,8-HxCDF	**4/22/15**	**1**	**0.024 Q J**	**4.8**	**0.0081**	**0.1**	**0.0024**
1,2,3,7,8,9-HxCDF	4/22/15	1	ND	4.8	0.0097	0.1	0.00097
1,2,3,4,6,7,8-HpCDF	**4/22/15**	**1**	**0.058 Q B J**	**4.8**	**0.0052**	**0.01**	**0.00058**
1,2,3,4,7,8,9-HpCDF	**4/22/15**	**1**	**0.037 Q B J**	**4.8**	**0.0074**	**0.01**	**0.00037**
OCDF	**4/22/15**	**1**	**0.16 B J**	**9.6**	**0.0032**	**0.001**	**0.00016**
Total TEQ Concentration							**2.7**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	68	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	76	(23 - 140)
13C-OCDD	72	(17 - 157)
13C-2,3,7,8-TCDF	65	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	70	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	69	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	71	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	68	(26 - 138)
13C-OCDF	60	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-4NT-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	83	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-2SB-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D140413 - 003	**Work Order #....:**	M6K351AA	**Matrix.....:**	SOLID
Date Sampled....:	04/08/15	**Date Received....:**	04/14/15	**Units....:**	pg/g
Prep Date....:	04/15/15			**Dilution Factor:**	1
Prep Batch # ....:	5105013			**Percent Moisture:**	21
Initial Wgt/Vol :	13.2 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/22/15	1	ND	0.95	0.067	1.0	0.067
1,2,3,7,8-PeCDD	**4/22/15**	**1**	**0.16 Q B J**	**4.8**	**0.022**	**0.5**	**0.080**
1,2,3,4,7,8-HxCDD	**4/22/15**	**1**	**0.14 Q J**	**4.8**	**0.020**	**0.1**	**0.014**
1,2,3,6,7,8-HxCDD	**4/22/15**	**1**	**0.29 Q J**	**4.8**	**0.022**	**0.1**	**0.029**
1,2,3,7,8,9-HxCDD	**4/22/15**	**1**	**0.86 C J**	**4.8**	**0.020**	**0.1**	**0.086**
1,2,3,4,6,7,8-HpCDD	**4/22/15**	**1**	**5.8 B**	**4.8**	**0.029**	**0.01**	**0.058**
OCDD	**4/22/15**	**1**	**69 B**	**9.5**	**0.029**	**0.001**	**0.069**
2,3,7,8-TCDF	4/22/15	1	ND	0.95	0.0083	0.1	0.00083
1,2,3,7,8-PeCDF	4/22/15	1	ND	4.8	0.0087	0.05	0.00044
2,3,4,7,8-PeCDF	4/22/15	1	ND	4.8	0.0083	0.5	0.0042
1,2,3,4,7,8-HxCDF	4/22/15	1	ND	4.8	0.0079	0.1	0.00079
1,2,3,6,7,8-HxCDF	**4/22/15**	**1**	**0.048 Q J**	**4.8**	**0.0076**	**0.1**	**0.0048**
2,3,4,6,7,8-HxCDF	4/22/15	1	ND	4.8	0.0083	0.1	0.00083
1,2,3,7,8,9-HxCDF	4/22/15	1	ND	4.8	0.0091	0.1	0.00091
1,2,3,4,6,7,8-HpCDF	4/22/15	1	ND	4.8	0.0037	0.01	0.000037
1,2,3,4,7,8,9-HpCDF	4/22/15	1	ND	4.8	0.0050	0.01	0.000050
OCDF	**4/22/15**	**1**	**0.078 Q B J**	**9.5**	**0.0041**	**0.001**	**0.000078**
Total TEQ Concentration							**0.42**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	73	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	63	(17 - 157)
13C-2,3,7,8-TCDF	63	(24 - 169)
13C-1,2,3,7,8-PeCDF	68	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	70	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	66	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	68	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	57	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-2SB-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	83	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-3NT-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D140413 - 004	**Work Order #....:**	M6K361AA	**Matrix.....:**	SOLID
Date Sampled....:	04/08/15	**Date Received....:**	04/14/15	**Units....:**	pg/g
Prep Date....:	04/15/15			**Dilution Factor:**	1
Prep Batch # ....:	5105013			**Percent Moisture:**	23
Initial Wgt/Vol :	13.2 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/22/15	1	ND	0.98	0.076	1.0	0.076
1,2,3,7,8-PeCDD	**4/22/15**	**1**	**0.27 Q B J**	**4.9**	**0.029**	**0.5**	**0.14**
1,2,3,4,7,8-HxCDD	**4/22/15**	**1**	**0.078 Q J**	**4.9**	**0.022**	**0.1**	**0.0078**
1,2,3,6,7,8-HxCDD	**4/22/15**	**1**	**0.29 J**	**4.9**	**0.024**	**0.1**	**0.029**
1,2,3,7,8,9-HxCDD	**4/22/15**	**1**	**0.68 C J**	**4.9**	**0.022**	**0.1**	**0.068**
1,2,3,4,6,7,8-HpCDD	**4/22/15**	**1**	**5.4 B**	**4.9**	**0.037**	**0.01**	**0.054**
OCDD	**4/22/15**	**1**	**74 B**	**9.8**	**0.020**	**0.001**	**0.074**
2,3,7,8-TCDF	4/22/15	1	ND	0.98	0.0069	0.1	0.00069
1,2,3,7,8-PeCDF	4/22/15	1	ND	4.9	0.0097	0.05	0.00048
2,3,4,7,8-PeCDF	4/22/15	1	ND	4.9	0.0091	0.5	0.0046
1,2,3,4,7,8-HxCDF	**4/22/15**	**1**	**0.0054 Q J**	**4.9**	**0.0071**	**0.1**	**0.00054**
1,2,3,6,7,8-HxCDF	4/22/15	1	ND	4.9	0.0070	0.1	0.00070
2,3,4,6,7,8-HxCDF	4/22/15	1	ND	4.9	0.0075	0.1	0.00075
1,2,3,7,8,9-HxCDF	4/22/15	1	ND	4.9	0.0091	0.1	0.00091
1,2,3,4,6,7,8-HpCDF	4/22/15	1	ND	4.9	0.0060	0.01	0.000060
1,2,3,4,7,8,9-HpCDF	**4/22/15**	**1**	**0.0099 Q B J**	**4.9**	**0.0088**	**0.01**	**0.000099**
OCDF	**4/22/15**	**1**	**0.013 Q B J**	**9.8**	**0.0040**	**0.001**	**0.000013**
Total TEQ Concentration							**0.45**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	66	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	72	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	75	(23 - 140)
13C-OCDD	64	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	68	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	66	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	71	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	54	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-3NT-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

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Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D150000 - 013B	**Work Order #....:**	M6LFH1AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	04/15/15	**Analysis Date....:**	04/21/15	**Percent Moisture:**	0.0
Prep Batch # ....:	5105013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.059	pg/g
1,2,3,7,8-PeCDD	**0.099**	**Q J**	**5.0**	**0.018**	**pg/g**
1,2,3,4,7,8-HxCDD	ND		5.0	0.0097	pg/g
1,2,3,6,7,8-HxCDD	ND		5.0	0.011	pg/g
1,2,3,7,8,9-HxCDD	ND		5.0	0.0096	pg/g
1,2,3,4,6,7,8-HpCDD	**0.14**	**Q J**	**5.0**	**0.011**	**pg/g**
OCDD	**0.91**	**J**	**10**	**0.0063**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.0061	pg/g
1,2,3,7,8-PeCDF	**0.062**	**J**	**5.0**	**0.0082**	**pg/g**
2,3,4,7,8-PeCDF	**0.022**	**Q J**	**5.0**	**0.0080**	**pg/g**
1,2,3,4,7,8-HxCDF	ND		5.0	0.0093	pg/g
1,2,3,6,7,8-HxCDF	ND		5.0	0.0083	pg/g
2,3,4,6,7,8-HxCDF	ND		5.0	0.0093	pg/g
1,2,3,7,8,9-HxCDF	ND		5.0	0.011	pg/g
1,2,3,4,6,7,8-HpCDF	**0.11**	**Q J**	**5.0**	**0.0085**	**pg/g**
1,2,3,4,7,8,9-HpCDF	**0.11**	**Q J**	**5.0**	**0.011**	**pg/g**
OCDF	**0.48**	**Q J**	**10**	**0.0084**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	25 - 164
13C-1,2,3,7,8-PeCDD	94	25 - 181
13C-1,2,3,4,7,8-HxCDD	82	32 - 141
13C-1,2,3,6,7,8-HxCDD	71	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	86	23 - 140
13C-OCDD	83	17 - 157
13C-2,3,7,8-TCDF	57	24 - 169
13C-1,2,3,7,8-PeCDF	82	24 - 185
13C-2,3,4,7,8-PeCDF	81	21 - 178
13C-1,2,3,4,7,8-HxCDF	64	26 - 152
13C-1,2,3,6,7,8-HxCDF	61	26 - 123
13C-2,3,4,6,7,8-HxCDF	62	28 - 136
13C-1,2,3,7,8,9-HxCDF	61	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	69	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	72	26 - 138
13C-OCDF	68	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D150000 - 013B	**Work Order #....:**	M6LFH1AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	04/15/15	**Analysis Date....:**	04/21/15	**Percent Moisture:**	0.0
Prep Batch # ....:	5105013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H5D140413 **Work Order # ...:** M6LFH1AC-LCS **Matrix .....:** SOLID
LCS Lot-Sample# : H5D150000 - 013
Prep Date .....: 04/15/15 **Analysis Date ..:** 04/21/15
Prep Batch # ...: 5105013
Dilution Factor : 1
Analyst ID.....: Melissa A. Davidson **Instrument ID..:** D2A **Method.....:** EPA-5 1613B
Initial Wgt/Vol: 10 g

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**18.9**	**pg/g**	**94**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**92.3**	**pg/g**	**92**	**B**	**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**89.4**	**pg/g**	**89**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**92.2**	**pg/g**	**92**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**92.7**	**pg/g**	**93**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**87.3**	**pg/g**	**87**	**B**	**(70 - 140)**
OCDD	**200**	**171**	**pg/g**	**86**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**20.0**	**pg/g**	**100**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**88.2**	**pg/g**	**88**	**B**	**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**93.7**	**pg/g**	**94**	**B**	**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**93.9**	**pg/g**	**94**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**95.0**	**pg/g**	**95**		**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**93.4**	**pg/g**	**93**		**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**93.9**	**pg/g**	**94**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**90.6**	**pg/g**	**91**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**98.9**	**pg/g**	**99**	**B**	**(78 - 138)**
OCDF	**200**	**184**	**pg/g**	**92**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	69	(20 - 175)
13C-1,2,3,7,8-PeCDD	106	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	84	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	75	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	89	(26 - 166)
13C-OCDD	72	(13 - 199)
13C-2,3,7,8-TCDF	58	(22 - 152)
13C-1,2,3,7,8-PeCDF	91	(21 - 192)
13C-2,3,4,7,8-PeCDF	85	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	65	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	60	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	63	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	58	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	73	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	62	(20 - 186)
13C-OCDF	53	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	81	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D140413	**Work Order # ...:**	M6K331AD-MS	**Matrix .....:**	SOLID
OS Lot-Sample# :	H5D140413 - 001		M6K331AE-MSD		
Prep Date .....:	04/15/15	**Analysis Date ..:**	04/22/15		
Prep Batch # ...:	5105013				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	13.4 g				

PARAMETER	SAMPLE AMOUNT	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	ND	19.7	19.0	pg/g	97	(67 - 158)		
	ND	19.7	20.0	pg/g	102	(67 - 158)	5.1	(0 - 25)
1,2,3,7,8-PeCDD	0.43	98.6	96.2	pg/g	97 B	(70 - 142)		
	0.43	98.6	98.6	pg/g	100 B	(70 - 142)	2.5	(0 - 25)
1,2,3,4,7,8-HxCDD	0.55	98.6	97.4	pg/g	98	(70 - 164)		
	0.55	98.6	94.6	pg/g	95	(70 - 164)	2.9	(0 - 25)
1,2,3,6,7,8-HxCDD	0.90	98.6	94.1	pg/g	95	(76 - 134)		
	0.90	98.6	94.0	pg/g	94	(76 - 134)	0.10	(0 - 25)
1,2,3,7,8,9-HxCDD	2.6	98.6	103	pg/g	102	(64 - 162)		
	2.6	98.6	105	pg/g	103	(64 - 162)	1.6	(0 - 25)
1,2,3,4,6,7,8-HpCDD	15	98.6	104	pg/g	90 B	(70 - 140)		
	15	98.6	108	pg/g	94 B	(70 - 140)	3.9	(0 - 25)
OCDD	110	197	267	pg/g	79 B	(78 - 144)		
	110	197	273	pg/g	82 B	(78 - 144)	2.2	(0 - 25)
2,3,7,8-TCDF	ND	19.7	19.6	pg/g	100 X	(75 - 158)		
	ND	19.7	19.5	pg/g	99 X	(75 - 158)	0.87	(0 - 25)
1,2,3,7,8-PeCDF	0.047	98.6	92.3	pg/g	94 B	(80 - 134)		
	0.047	98.6	92.1	pg/g	93 B	(80 - 134)	0.23	(0 - 25)
2,3,4,7,8-PeCDF	ND	98.6	89.2	pg/g	91 B	(68 - 160)		
	ND	98.6	98.2	pg/g	100 B	(68 - 160)	9.6	(0 - 25)
1,2,3,4,7,8-HxCDF	0.052	98.6	95.2	pg/g	97	(72 - 134)		
	0.052	98.6	97.0	pg/g	98	(72 - 134)	1.8	(0 - 25)
1,2,3,6,7,8-HxCDF	ND	98.6	94.5	pg/g	96	(84 - 130)		
	ND	98.6	95.0	pg/g	96	(84 - 130)	0.56	(0 - 25)
2,3,4,6,7,8-HxCDF	ND	98.6	93.3	pg/g	95	(70 - 156)		
	ND	98.6	92.9	pg/g	94	(70 - 156)	0.36	(0 - 25)
1,2,3,7,8,9-HxCDF	0.017	98.6	92.9	pg/g	94	(78 - 130)		
	0.017	98.6	90.4	pg/g	92	(78 - 130)	2.7	(0 - 25)
1,2,3,4,6,7,8-HpCDF	ND	98.6	89.7	pg/g	91 B	(82 - 122)		
	ND	98.6	95.0	pg/g	96 B	(82 - 122)	5.8	(0 - 25)
1,2,3,4,7,8,9-HpCDF	ND	98.6	95.8	pg/g	97 B	(78 - 138)		
	ND	98.6	101	pg/g	103 B	(78 - 138)	5.6	(0 - 25)
OCDF	0.62	197	189	pg/g	96 B	(63 - 170)		
	0.62	197	194	pg/g	98 B	(63 - 170)	2.5	(0 - 25)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D140413	**Work Order # ...:**	M6K331AD-MS	**Matrix .....:**	SOLID
OS Lot-Sample# :	H5D140413 - 001		M6K331AE-MSD		
Prep Date .....:	04/15/15	**Analysis Date ..:**	04/22/15		
Prep Batch # ...:	5105013				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	13.4 g				

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	66	(25 - 164)
	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	72	(25 - 181)
	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	71	(23 - 140)
	66	(23 - 140)
13C-OCDD	63	(17 - 157)
	56	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
	59	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	73	(21 - 178)
	61	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
	63	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
	58	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
	63	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
	62	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	69	(28 - 143)
	60	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	65	(26 - 138)
	58	(26 - 138)
13C-OCDF	55	(17 - 157)
	49	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	76	(35 - 197)
	72	(35 - 197)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D140413	**Work Order # ...:**	M6K331AD-MS	**Matrix .....:**	SOLID
OS Lot-Sample# :	H5D140413 - 001		M6K331AE-MSD		
Prep Date .....:	04/15/15	**Analysis Date ..:**	04/22/15		
Prep Batch # ...:	5105013				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	13.4 g				

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

X See project narrative.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

H5D140413

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195491.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-42924-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/4/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
TS-2NB-SED (180-42924-1)	4/9/15	11:30 Eastern		Sediment			X	1	
TS-2NB-SED (180-42924-1MS)	4/9/15	11:30 Eastern	MS	Sediment			X	1	
TS-2NB-SED (180-42924-1MSD)	4/9/15	11:30 Eastern	MSD	Sediment			X	1	
TS-4NT-SED (180-42924-2)	4/9/15	14:45 Eastern		Sediment			X	1	
TS-2SB-SED (180-42924-3)	4/8/15	11:45 Eastern		Sediment			X	1	
TS-3NT-SED (180-42924-4)	4/8/15	15:00 Eastern		Sediment			X	1	

CUSTODY SEALS INTACT
RECEIVED AT RT 0.3, 2.5/CT 0.3, 2.5°C
BKD 4-14-15
2 COOLER FEDX# 568237254730m

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4/13/14 AW	[signature]	[signature]	4-14-15 09:30	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSD1410413

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC57 Correction factor: 0.0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?	✓		✓	☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: _____	✓		✓	☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	**Labeling Verified by:** _____ **Date:** _____
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	**pH test strip lot number:** _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?		✓		☐ **19a** Other	

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: NA

Sample Receiving Associate: _____ Date: 4-14-15

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Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

H5D140413

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195491.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-42924-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/4/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
TS-2NB-SED (180-42924-1)	4/9/15	11:30 Eastern		Sediment			X	1	
TS-2NB-SED (180-42924-1MS)	4/9/15	11:30 Eastern	MS	Sediment			X	1	
TS-2NB-SED (180-42924-1MSD)	4/9/15	11:30 Eastern	MSD	Sediment			X	1	
TS-4NT-SED (180-42924-2)	4/9/15	14:45 Eastern		Sediment			X	1	
TS-2SB-SED (180-42924-3)	4/8/15	11:45 Eastern		Sediment			X	1	
TS-3NT-SED (180-42924-4)	4/8/15	15:00 Eastern		Sediment			X	1	

CUSTODY SEALS INTACT
RECEIVED AT RT 0.3, 2.5/CT 0.3, 2.5°C
BKD 4-14-15
2 COOLER FEDX# 568237254730m

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4/13/14 AW	[signature]	[signature]	4-14-15 09:30	TA KNOX

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSD1410413

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SCS7 Correction factor: 0.0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?	✓		✓	☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: _____	✓		✓	☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	**Labeling Verified by:** **Date:**
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	**pH test strip lot number:**
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?		✓		☐ **19a** Other	

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: NA

Sample Receiving Associate: _____ Date: 4-14-15

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Subcontract Data

Shipping and Receiving Documents

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**		Laboratory:
	Phone: **410-584-7000**		**TestAmerica - Pittsburgh**
225 Schilling Circle	Field Contact:		**301 Alpha Drive**
Hunt Valley, MD 21031	**Morgan Gelinas**		**Pittsburgh, PA 15238**
	Phone: 860-287-0745		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement			**fax: 412.963.2468**
Billing (Project #, phase): 15204.01, 0009			**ATTN: Carrie Gamber**

Page 1 of 1

Date	Time	Water	Sediment	Sediment Samples: Sample Identification	No. of Containers	Semivolatiles and PAHs SW846 8270C	Metals SW846 6020	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon Lloyd Kahn	AVS/SEM EPA Draft 1991	Remarks
4/9/15	1130		x	T3-2NB-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SEE PROJECT SPECIFIC ANALYTE LIST
4/9/15	1140		x	T3-2NB-SED-MS	4	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
4/9/15	1145		x	T3-2NB-SED-MSD	4	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
4/9/15	1445		x	T3-4NT-SED	4	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
4/9/15	1445		x	TS-2SB-SED	4	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
4/9/15	1600		x	TS-3NT-SED	4	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	

180-42924 Chain of Custody

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
	4/9/15 1600		
Relinquished By: (Signature)	**Date/Time**	**Received by Laboratory: (Signature)**	**Date/Time**
	4/9/15 1700	TA Pgh	4/10/15 945

OCEAN SEDIMENT
Parallel Thimble Shoal Tunnel

UPS CampusShip: View/Print Label

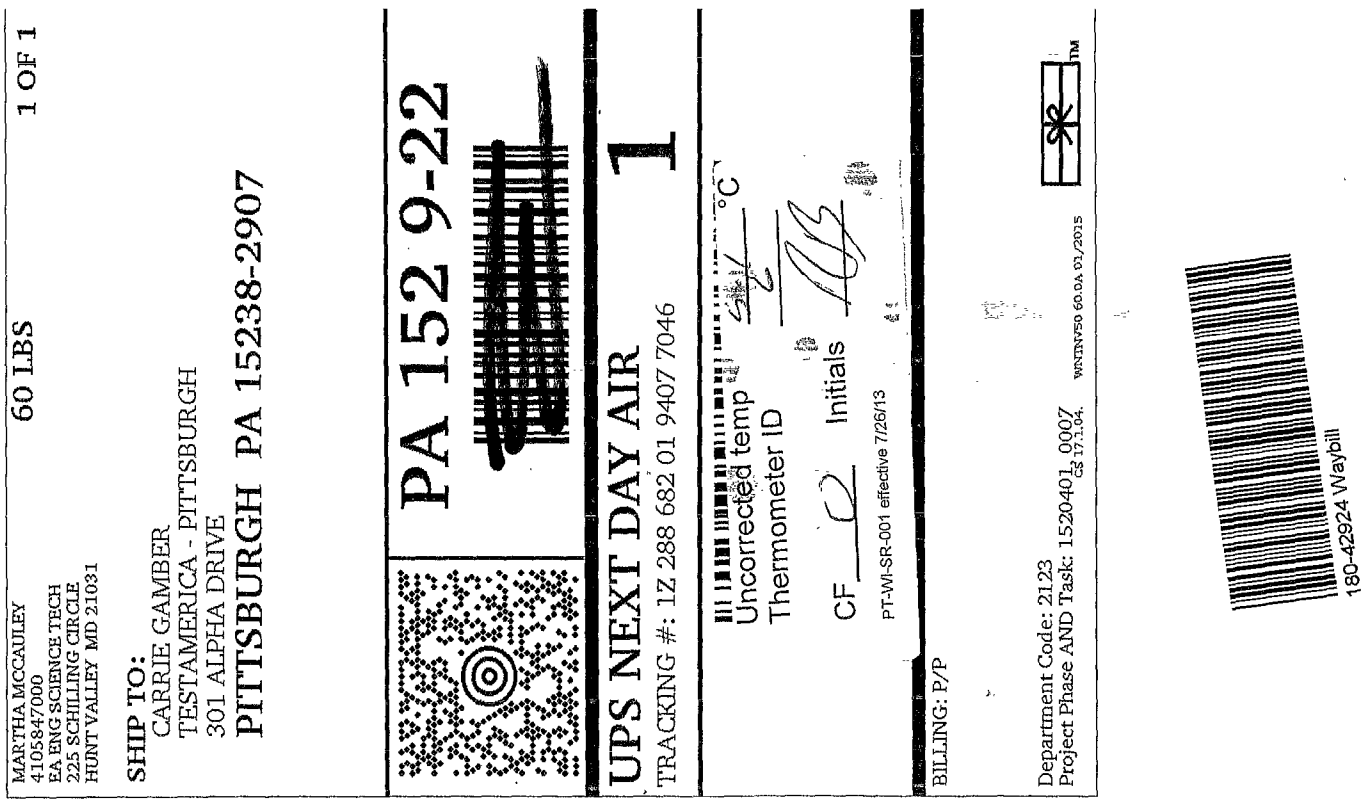
1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE



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   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE

MARTHA MCCAULEY
4105847000
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

60 LBS 1 OF 1

SHIP TO:
CARRIE GAMBER
TESTAMERICA - PITTSBURGH
301 ALPHA DRIVE
PITTSBURGH PA 15238-2907

PA 152 9-22

UPS NEXT DAY AIR 1
TRACKING #: 1Z 288 682 01 9929 6738

Uncorrected temp 4.6 °C
Thermometer ID
CF 0 Initials
PT-WI-SR-001 effective 7/26/13

BILLING: P/P

Department Code: 2123
Project Phase AND Task: 1520401_0009
CS 17.1.04. WNINV50 60.0A 01/2015

/

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

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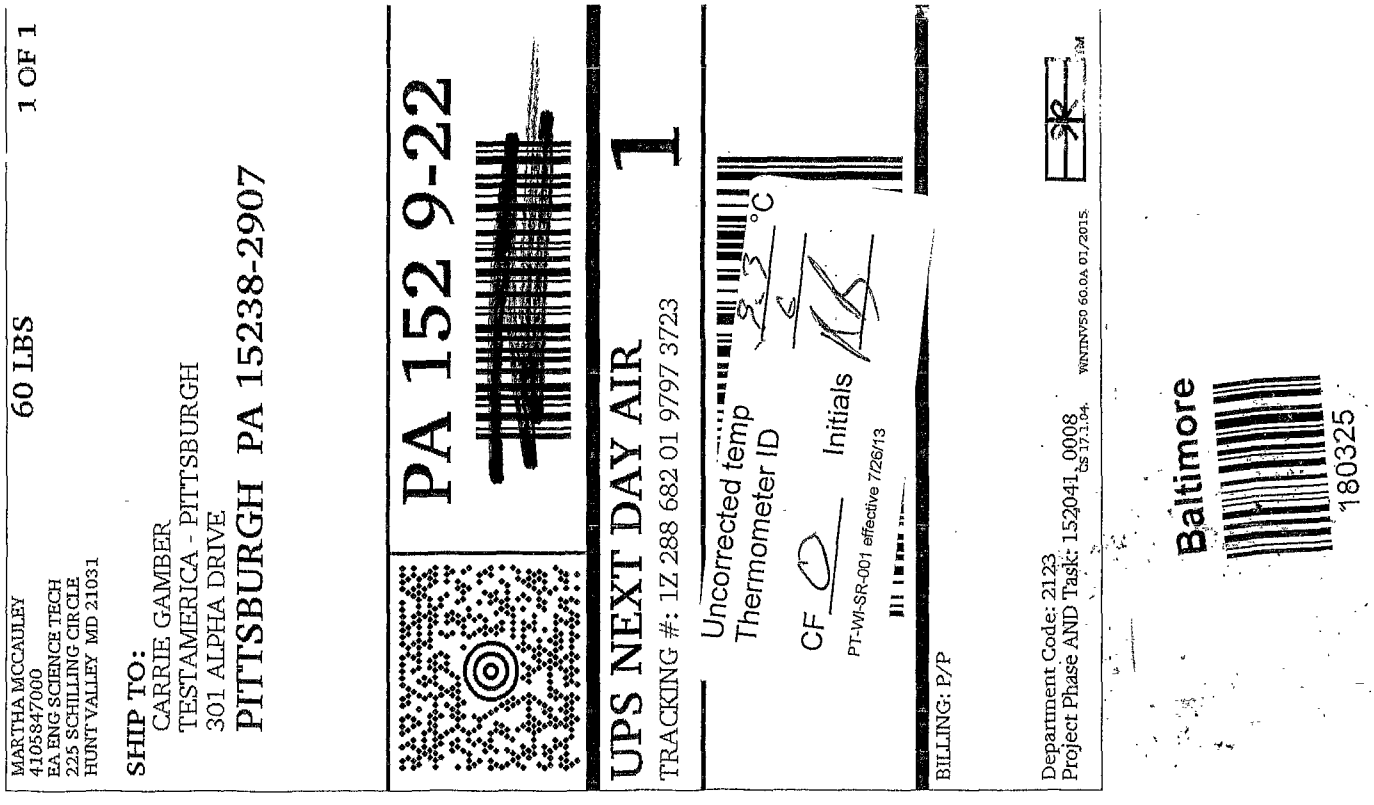
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE



Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-42924-1
SDG Number: 15204.01,0009

Login Number: 42924
List Number: 1
Creator: Kovitch, Christina M

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-43044-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/10/2015 4:13 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/10/2015
Revision: 2

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
B	Compound was found in the blank and sample.
F2	MS/MSD RPD exceeds control limits
F1	MS and/or MSD Recovery is outside acceptance limits.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
V	Serial Dilution exceeds the control limits

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-43044-1 REVISED 1

NOTE: This report has been revised to include Manganese per EA Engineering's request.

NOTE: This report has been revised to correct the reporting units for nitrate/nitrite as a di leach to mg/kg. The results have also been updated to reflect this correction.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/14/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.2 C.

SEMIVOLATILES
Diethyl phthalate was detected in method blank MB 180-139097/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

PESTICIDES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PCB CONGENERS
PCB-169, PCB-206 and PCB-77 failed the recovery criteria low for the MS of sample TS-4NB-SED (180-43044-4) in batch 180-140217. PCB-126, PCB-169, PCB-206 and PCB-77 failed the recovery criteria low for the MSD of sample TS-4NB-SED (180-43044-4) in batch 180-140217.

The continuing calibration verification (CCV) associated with batch 140217 recovered above the upper control limit for BZ-8, 126, 28, 66, and 77. The samples associated with this CCV were non-detects or estimated values for the affected analytes; therefore, the data have been reported.

ORGANOPHOSPHORUS PESTICIDES
Famfur recovered outside QC limits for sample TS-4SB-SED (180-43044-3). Most RPDs were outside QC limits for the MS/MSD of sample TS-4SB-SED (180-43044-3). All data was reported.

AVS/SEM
Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following samples: TS-4SB-SED (180-43044-3) and TS-4NB-SED (180-43044-4). All analytes referencing the indium internal standard required dilution due to the indium counts being low and outside the 70%-130% control limits.

Zinc SEM was detected in method blank MB 180-139589/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Copper SEM and Zinc SEM failed the recovery criteria low for the MS/MSD of sample TS-4MT-SED (180-43044-2) in batch 180-139953.

The serial dilution performed for the following sample associated with batch 139589 was outside the control limits for zinc: TS-4MT-SED (180-43044-2)

METALS
The following samples were diluted due to the nature of the sample matrix: TS-4SB-SED (180-43044-3) and TS-4NB-SED (180-43044-4). Elevated reporting limits (RLs) are provided

GENERAL CHEMISTRY
Several samples required dilution prior to analysis for total phosphorus. The reporting limits have been adjusted accordingly.

The reporting limit for Lloyd Kahn TOC analysis is a nominal value and does not reflect adjustments in sample mass processed on an individual basis.

SUBCONTRACT WORK
Method 1613 B Dioxins/Furans + TEQs (EA criteria): This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43044-1

Client Sample ID: TS-3SB-SED

Lab Sample ID: 180-43044-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	47		45	3.6	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	4.9	J	22	3.1	ug/Kg	1	☼	8270D LL	Total/NA
Methylphenol, 3 & 4	3.1	J	22	2.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	7.8		4.5	0.53	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	8.9		4.5	0.40	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	5.1		4.5	0.48	ug/Kg	1	☼	8270D LL	Total/NA
Naphthalene	34		4.5	0.39	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthylene	1.3	J	4.5	0.51	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	0.85	J	4.5	0.72	ug/Kg	1	☼	8270D LL	Total/NA
Dieldrin	0.023	J p B	0.056	0.0093	ug/Kg	1	☼	8081B_LL	Total/NA
2,4'-DDD	0.0060	J p	0.056	0.0034	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan II	0.011	J p	0.056	0.0099	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.022	J B	0.056	0.011	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin aldehyde	0.017	J	0.056	0.011	ug/Kg	1	☼	8081B_LL	Total/NA
Methoxychlor	0.014	J p	0.11	0.012	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-44	0.20	J	0.67	0.075	ug/Kg	1	☼	8082A	Total/NA
PCB-180	0.063	J p	0.67	0.058	ug/Kg	1	☼	8082A	Total/NA
Cadmium SEM	0.026	J	0.17	0.0055	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	0.68	J	0.84	0.075	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	2.2		0.34	0.066	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	7.7		1.3	0.038	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	24	B	3.4	0.25	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	7900		2.0	0.19	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.057	J	0.13	0.0017	mg/Kg	1	☼	6020A	Total/NA
Arsenic	6.1		0.066	0.012	mg/Kg	1	☼	6020A	Total/NA
Barium	13		0.66	0.0071	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.45		0.066	0.0050	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.19		0.066	0.0046	mg/Kg	1	☼	6020A	Total/NA
Chromium	21		0.13	0.0041	mg/Kg	1	☼	6020A	Total/NA
Calcium	34000		33	0.88	mg/Kg	1	☼	6020A	Total/NA
Cobalt	4.4		0.033	0.0010	mg/Kg	1	☼	6020A	Total/NA
Copper	4.5		0.13	0.022	mg/Kg	1	☼	6020A	Total/NA
Iron	18000		3.3	0.23	mg/Kg	1	☼	6020A	Total/NA
Lead	8.0		0.066	0.0025	mg/Kg	1	☼	6020A	Total/NA
Nickel	9.9		0.066	0.0075	mg/Kg	1	☼	6020A	Total/NA
Potassium	2800		33	0.90	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.19	J	0.33	0.033	mg/Kg	1	☼	6020A	Total/NA
Magnesium	4200		33	0.12	mg/Kg	1	☼	6020A	Total/NA
Silver	0.025	J	0.066	0.0026	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.11		0.066	0.0013	mg/Kg	1	☼	6020A	Total/NA
Sodium	2200		33	0.91	mg/Kg	1	☼	6020A	Total/NA
Zinc	32		0.33	0.043	mg/Kg	1	☼	6020A	Total/NA
Vanadium	18		0.066	0.0052	mg/Kg	1	☼	6020A	Total/NA
Manganese	120		0.33	0.0068	mg/Kg	1	☼	6020A	Total/NA
SEM/AVS Ratio	NC		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ammonia, distilled	18		7.0	4.5	mg/Kg	1	☼	350.1	Total/NA
Sulfide	29	J	40	8.1	mg/Kg	1	☼	9034	Total/NA
Total Organic Carbon - Duplicates	3300		1300	120	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	260		130	12	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	450		190	64	mg/Kg	1	☼	SM4500_NH3_E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-3SB-SED (Continued)

Lab Sample ID: 180-43044-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate Nitrite as N	1.5		1.3	0.29	mg/Kg	1	☼	353.2	Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00023	J	0.0015	0.000049	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.011	J	0.013	0.0012	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.011		0.0016	0.00032	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.13		0.023	0.00066	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.36	B	0.051	0.0038	umol/g	1	☼	6010B	SEM/AVS

Client Sample ID: TS-4MT-SED

Lab Sample ID: 180-43044-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	46		42	3.4	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	5.1	J	21	2.9	ug/Kg	1	☼	8270D LL	Total/NA
Methylphenol, 3 & 4	3.6	J	21	2.1	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	15		4.2	0.38	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	8.3		4.2	0.45	ug/Kg	1	☼	8270D LL	Total/NA
Naphthalene	50		4.2	0.36	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthylene	2.1	J	4.2	0.48	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthene	0.54	J	4.2	0.40	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	0.75	J	4.2	0.56	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	0.87	J	4.2	0.67	ug/Kg	1	☼	8270D LL	Total/NA
Dieldrin	0.028	J	0.052	0.0087	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan II	0.015	J p	0.052	0.0092	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.012	J p B	0.052	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-44	0.087	J p	0.63	0.071	ug/Kg	1	☼	8082A	Total/NA
Cadmium SEM	0.0083	J	0.16	0.0052	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	2.5	F1	0.80	0.071	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	2.7		0.32	0.063	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	5.3		1.3	0.037	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	16	F1 B	3.2	0.24	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	5500		1.9	0.18	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.062	J	0.12	0.0016	mg/Kg	1	☼	6020A	Total/NA
Arsenic	6.4		0.062	0.011	mg/Kg	1	☼	6020A	Total/NA
Barium	22		0.62	0.0067	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.35		0.062	0.0047	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.13		0.062	0.0044	mg/Kg	1	☼	6020A	Total/NA
Chromium	15		0.12	0.0038	mg/Kg	1	☼	6020A	Total/NA
Calcium	33000		31	0.83	mg/Kg	1	☼	6020A	Total/NA
Cobalt	4.9		0.031	0.00094	mg/Kg	1	☼	6020A	Total/NA
Copper	4.9		0.12	0.021	mg/Kg	1	☼	6020A	Total/NA
Iron	16000		3.1	0.22	mg/Kg	1	☼	6020A	Total/NA
Lead	5.8		0.062	0.0024	mg/Kg	1	☼	6020A	Total/NA
Nickel	6.6		0.062	0.0071	mg/Kg	1	☼	6020A	Total/NA
Potassium	1400		31	0.85	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.12	J	0.31	0.031	mg/Kg	1	☼	6020A	Total/NA
Magnesium	2300		31	0.12	mg/Kg	1	☼	6020A	Total/NA
Silver	0.016	J	0.062	0.0024	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.092		0.062	0.0012	mg/Kg	1	☼	6020A	Total/NA
Sodium	2200		31	0.85	mg/Kg	1	☼	6020A	Total/NA
Zinc	23		0.31	0.040	mg/Kg	1	☼	6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-4MT-SED (Continued)

Lab Sample ID: 180-43044-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vanadium	16		0.062	0.0049	mg/Kg	1	☼	6020A	Total/NA
Manganese	170		0.31	0.0064	mg/Kg	1	☼	6020A	Total/NA
Mercury	0.010	J	0.020	0.0070	mg/Kg	1	☼	7471B	Total/NA
SEM/AVS Ratio	NC		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ammonia, distilled	5.5	J	6.2	4.0	mg/Kg	1	☼	350.1	Total/NA
Sulfide	21	J	38	7.7	mg/Kg	1	☼	9034	Total/NA
Total Organic Carbon - Duplicates	1500		1300	110	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	340		130	12	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	200		180	61	mg/Kg	1	☼	SM4500_NH3_E	Total/NA
Nitrate Nitrite as N	1.5		1.3	0.27	mg/Kg	1	☼	353.2	Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.000074	J	0.0014	0.000046	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.039	F1	0.013	0.0011	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.013		0.0015	0.00030	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.091		0.022	0.00062	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.24	F1 B	0.049	0.0036	umol/g	1	☼	6010B	SEM/AVS

Client Sample ID: TS-4SB-SED

Lab Sample ID: 180-43044-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	57		42	3.4	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	4.2	J	21	2.9	ug/Kg	1	☼	8270D LL	Total/NA
Diethyl phthalate	4.6	J B	21	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Methylphenol, 3 & 4	3.1	J	21	2.1	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	7.9		4.2	0.50	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	12		4.2	0.38	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	7.0		4.2	0.45	ug/Kg	1	☼	8270D LL	Total/NA
Naphthalene	50		4.2	0.36	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthylene	1.8	J	4.2	0.48	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthene	0.53	J	4.2	0.41	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	0.60	J	4.2	0.56	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	0.85	J	4.2	0.67	ug/Kg	1	☼	8270D LL	Total/NA
Dieldrin	0.030	J B	0.053	0.0088	ug/Kg	1	☼	8081B_LL	Total/NA
2,4'-DDD	0.0033	J p	0.053	0.0032	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan II	0.023	J p	0.053	0.0094	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.012	J p B	0.053	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
Mirex	0.012	J p	0.053	0.0049	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-44	0.073	J p	0.64	0.071	ug/Kg	1	☼	8082A	Total/NA
Cadmium SEM	0.0095	J	0.16	0.0052	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	1.5		0.79	0.071	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	2.4		0.63	0.13	mg/Kg	2	☼	6010B	SEM/AVS
Nickel SEM	5.8		2.5	0.073	mg/Kg	2	☼	6010B	SEM/AVS
Zinc SEM	17	B	3.2	0.23	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	5600		19	1.8	mg/Kg	10	☼	6020A	Total/NA
Antimony	0.048	J	1.3	0.016	mg/Kg	10	☼	6020A	Total/NA
Arsenic	9.9		0.63	0.11	mg/Kg	10	☼	6020A	Total/NA
Barium	14		6.3	0.067	mg/Kg	10	☼	6020A	Total/NA
Beryllium	0.38	J	0.63	0.047	mg/Kg	10	☼	6020A	Total/NA
Cadmium	0.20	J	0.63	0.044	mg/Kg	10	☼	6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-4SB-SED (Continued) — Lab Sample ID: 180-43044-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	18		1.3	0.038	mg/Kg	10	☼	6020A	Total/NA
Calcium	85000		310	8.3	mg/Kg	10	☼	6020A	Total/NA
Cobalt	3.8		0.31	0.0094	mg/Kg	10	☼	6020A	Total/NA
Copper	3.2		1.3	0.21	mg/Kg	10	☼	6020A	Total/NA
Iron	18000		31	2.2	mg/Kg	10	☼	6020A	Total/NA
Lead	5.6		0.63	0.024	mg/Kg	10	☼	6020A	Total/NA
Nickel	7.6		0.63	0.071	mg/Kg	10	☼	6020A	Total/NA
Potassium	2200		310	8.5	mg/Kg	10	☼	6020A	Total/NA
Magnesium	3600		310	1.2	mg/Kg	10	☼	6020A	Total/NA
Silver	0.030	J	0.63	0.024	mg/Kg	10	☼	6020A	Total/NA
Thallium	0.070	J	0.63	0.013	mg/Kg	10	☼	6020A	Total/NA
Sodium	2400		310	8.6	mg/Kg	10	☼	6020A	Total/NA
Zinc	25		3.1	0.41	mg/Kg	10	☼	6020A	Total/NA
Vanadium	21		0.63	0.050	mg/Kg	10	☼	6020A	Total/NA
Manganese	130		3.1	0.065	mg/Kg	10	☼	6020A	Total/NA
SEM/AVS Ratio	2.6		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ammonia, distilled	13		6.2	4.0	mg/Kg	1	☼	350.1	Total/NA
Sulfide	23	J	38	7.6	mg/Kg	1	☼	9034	Total/NA
Total Organic Carbon - Duplicates	11000		1300	110	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	610		120	11	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	340		190	64	mg/Kg	1	☼	SM4500_NH3_E	Total/NA
Nitrate Nitrite as N	0.79	J	1.3	0.27	mg/Kg	1	☼	353.2	Soluble
Acid Volatile Sulfides (AVS)	4.9	J	19	3.8	mg/Kg	1	☼	9034	SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.000085	J	0.0014	0.000046	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.023		0.012	0.0011	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.012		0.0031	0.00061	umol/g	2	☼	6010B	SEM/AVS
Nickel SEM	0.099		0.043	0.0012	umol/g	2	☼	6010B	SEM/AVS
Zinc SEM	0.26	B	0.048	0.0036	umol/g	1	☼	6010B	SEM/AVS
Acid Volatile Sulfides (AVS)	0.15	J	0.59	0.12	umol/g	1	☼	9034	SEM/AVS

Client Sample ID: TS-4NB-SED — Lab Sample ID: 180-43044-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	34	J	42	3.4	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	4.5	J	21	2.9	ug/Kg	1	☼	8270D LL	Total/NA
Di-n-butyl phthalate	2.6	J	21	2.6	ug/Kg	1	☼	8270D LL	Total/NA
Diethyl phthalate	4.3	J B	21	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	4.6		4.2	0.49	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	7.8		4.2	0.38	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	4.3		4.2	0.45	ug/Kg	1	☼	8270D LL	Total/NA
Naphthalene	29		4.2	0.36	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthylene	3.4	J	4.2	0.48	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthene	0.46	J	4.2	0.40	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	4.1	J	4.2	0.55	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	25		4.2	0.67	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	7.0		4.2	0.41	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	10		4.2	0.45	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	15		4.2	0.42	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-4NB-SED (Continued)

Lab Sample ID: 180-43044-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	5.9		4.2	0.52	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	5.3		4.2	0.50	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	3.1	J	4.2	0.66	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[k]fluoranthene	1.7	J	4.2	0.85	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	4.2		4.2	0.42	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	1.2	J	4.2	0.43	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	1.6	J	4.2	0.42	ug/Kg	1	☼	8270D LL	Total/NA
gamma-BHC (Lindane)	0.010	J	0.052	0.0091	ug/Kg	1	☼	8081B_LL	Total/NA
Dieldrin	0.020	J p	0.052	0.0086	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.012	J p B	0.052	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-8	0.66	p	0.63	0.20	ug/Kg	1	☼	8082A	Total/NA
PCB-206	0.078	J F1	0.63	0.044	ug/Kg	1	☼	8082A	Total/NA
Copper SEM	1.7		0.78	0.070	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	2.2		0.62	0.12	mg/Kg	2	☼	6010B	SEM/AVS
Nickel SEM	4.7		2.5	0.072	mg/Kg	2	☼	6010B	SEM/AVS
Zinc SEM	14	B	3.1	0.23	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	4400		18	1.7	mg/Kg	10	☼	6020A	Total/NA
Antimony	0.054	J	1.2	0.016	mg/Kg	10	☼	6020A	Total/NA
Arsenic	15		0.61	0.11	mg/Kg	10	☼	6020A	Total/NA
Barium	15		6.1	0.065	mg/Kg	10	☼	6020A	Total/NA
Beryllium	0.33	J	0.61	0.046	mg/Kg	10	☼	6020A	Total/NA
Cadmium	0.19	J	0.61	0.043	mg/Kg	10	☼	6020A	Total/NA
Chromium	16		1.2	0.037	mg/Kg	10	☼	6020A	Total/NA
Calcium	110000		310	8.1	mg/Kg	10	☼	6020A	Total/NA
Cobalt	3.5		0.31	0.0092	mg/Kg	10	☼	6020A	Total/NA
Copper	2.3		1.2	0.20	mg/Kg	10	☼	6020A	Total/NA
Iron	17000		31	2.2	mg/Kg	10	☼	6020A	Total/NA
Lead	5.5		0.61	0.023	mg/Kg	10	☼	6020A	Total/NA
Nickel	5.8		0.61	0.069	mg/Kg	10	☼	6020A	Total/NA
Potassium	1900		310	8.3	mg/Kg	10	☼	6020A	Total/NA
Magnesium	3500		310	1.1	mg/Kg	10	☼	6020A	Total/NA
Thallium	0.057	J	0.61	0.012	mg/Kg	10	☼	6020A	Total/NA
Sodium	2700		310	8.4	mg/Kg	10	☼	6020A	Total/NA
Zinc	21		3.1	0.40	mg/Kg	10	☼	6020A	Total/NA
Vanadium	21		0.61	0.048	mg/Kg	10	☼	6020A	Total/NA
Manganese	140		3.1	0.063	mg/Kg	10	☼	6020A	Total/NA
SEM/AVS Ratio	2.5		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ammonia, distilled	4.7	J	6.3	4.1	mg/Kg	1	☼	350.1	Total/NA
Total Organic Carbon - Duplicates	9800		1300	110	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	410		120	11	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	210		200	67	mg/Kg	1	☼	SM4500_NH3_E	Total/NA
Nitrate Nitrite as N	1.0	J	1.2	0.27	mg/Kg	1	☼	353.2	Soluble
Acid Volatile Sulfides (AVS)	4.4	J	19	3.7	mg/Kg	1	☼	9034	SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper SEM	0.026		0.012	0.0011	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.010		0.0030	0.00060	umol/g	2	☼	6010B	SEM/AVS
Nickel SEM	0.080		0.043	0.0012	umol/g	2	☼	6010B	SEM/AVS
Zinc SEM	0.22	B	0.048	0.0035	umol/g	1	☼	6010B	SEM/AVS
Acid Volatile Sulfides (AVS)	0.14	J	0.58	0.12	umol/g	1	☼	9034	SEM/AVS

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43044-1

Client Sample ID: TS-4ST-SED

Lab Sample ID: 180-43044-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	53		42	3.4	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	3.3	J	21	2.8	ug/Kg	1	☼	8270D LL	Total/NA
Diethyl phthalate	6.2	J B	21	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Methylphenol, 3 & 4	12	J	21	2.0	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	6.2		4.2	0.49	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	8.5		4.2	0.37	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	4.9		4.2	0.44	ug/Kg	1	☼	8270D LL	Total/NA
Naphthalene	21		4.2	0.36	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthylene	0.69	J	4.2	0.48	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthene	0.69	J	4.2	0.40	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	0.68	J	4.2	0.66	ug/Kg	1	☼	8270D LL	Total/NA
4,4'-DDD	0.011	J p	0.052	0.0068	ug/Kg	1	☼	8081B_LL	Total/NA
Dieldrin	0.032	J B	0.052	0.0086	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan II	0.028	J p	0.052	0.0091	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.011	J p B	0.052	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
Mirex	0.010	J p	0.052	0.0048	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-44	0.21	J	0.61	0.069	ug/Kg	1	☼	8082A	Total/NA
Cadmium SEM	0.0097	J	0.16	0.0051	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	2.7		0.78	0.070	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	2.9		0.31	0.062	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	6.0		1.2	0.036	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	17	B	3.1	0.23	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	5500		1.8	0.17	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.077	J	0.12	0.0016	mg/Kg	1	☼	6020A	Total/NA
Arsenic	7.2		0.061	0.011	mg/Kg	1	☼	6020A	Total/NA
Barium	20		0.61	0.0065	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.42		0.061	0.0046	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.14		0.061	0.0043	mg/Kg	1	☼	6020A	Total/NA
Chromium	16		0.12	0.0037	mg/Kg	1	☼	6020A	Total/NA
Calcium	29000		30	0.81	mg/Kg	1	☼	6020A	Total/NA
Cobalt	4.7		0.030	0.00091	mg/Kg	1	☼	6020A	Total/NA
Copper	5.8		0.12	0.020	mg/Kg	1	☼	6020A	Total/NA
Iron	17000		3.0	0.22	mg/Kg	1	☼	6020A	Total/NA
Lead	7.0		0.061	0.0023	mg/Kg	1	☼	6020A	Total/NA
Nickel	7.1		0.061	0.0069	mg/Kg	1	☼	6020A	Total/NA
Potassium	1400		30	0.83	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.12	J	0.30	0.031	mg/Kg	1	☼	6020A	Total/NA
Magnesium	2200		30	0.11	mg/Kg	1	☼	6020A	Total/NA
Silver	0.018	J	0.061	0.0024	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.096		0.061	0.0012	mg/Kg	1	☼	6020A	Total/NA
Sodium	2000		30	0.83	mg/Kg	1	☼	6020A	Total/NA
Zinc	24		0.30	0.039	mg/Kg	1	☼	6020A	Total/NA
Vanadium	19		0.061	0.0048	mg/Kg	1	☼	6020A	Total/NA
Manganese	160		0.30	0.0063	mg/Kg	1	☼	6020A	Total/NA
Mercury	0.013	J	0.021	0.0071	mg/Kg	1	☼	7471B	Total/NA
SEM/AVS Ratio	NC		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Sulfide	11	J	38	7.6	mg/Kg	1	☼	9034	Total/NA
Total Organic Carbon - Duplicates	2400		1200	110	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	320		120	11	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	200		180	62	mg/Kg	1	☼	SM4500_NH3_E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-4ST-SED (Continued)

Lab Sample ID: 180-43044-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate Nitrite as N	1.5		1.2	0.27	mg/Kg	1	☼	353.2	Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.000086	J	0.0014	0.000046	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.043		0.012	0.0011	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.014		0.0015	0.00030	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.10		0.021	0.00061	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.26	B	0.048	0.0035	umol/g	1	☼	6010B	SEM/AVS

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-3SB-SED
Date Collected: 04/10/15 13:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-1
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		450	94	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
1,2-Dichlorobenzene	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
1,3-Dichlorobenzene	ND		22	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
1,4-Dichlorobenzene	ND		22	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Benzoic acid	ND		110	9.3	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Bis(2-chloroethyl)ether	ND		4.5	0.60	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Bis(2-chloroethoxy)methane	ND		22	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Bis(2-ethylhexyl) phthalate	**47**		45	3.6	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
4-Bromophenyl phenyl ether	ND		22	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Butyl benzyl phthalate	**4.9**	**J**	22	3.1	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
4-Chloro-3-methylphenol	ND		22	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
2-Chloronaphthalene	ND		4.5	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
2-Chlorophenol	ND		22	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
4-Chlorophenyl phenyl ether	ND		22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Di-n-butyl phthalate	ND		22	2.8	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
3,3'-Dichlorobenzidine	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
2,4-Dichlorophenol	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Diethyl phthalate	ND		22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
4,6-Dinitro-2-methylphenol	ND		110	9.0	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
2,4-Dimethylphenol	ND		22	3.5	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Dimethyl phthalate	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
2,4-Dinitrophenol	ND		110	27	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
2,4-Dinitrotoluene	ND		22	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
2,6-Dinitrotoluene	ND		22	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		22	2.9	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Di-n-octyl phthalate	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Hexachlorobenzene	ND		4.5	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Hexachlorobutadiene	ND		4.5	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Hexachloroethane	ND		22	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Hexachlorocyclopentadiene	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Isophorone	ND		22	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
2-Methylphenol	ND		22	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Methylphenol, 3 & 4	**3.1**	**J**	22	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Nitrobenzene	ND		45	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
2-Nitrophenol	ND		22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
4-Nitrophenol	ND		110	8.2	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
N-Nitrosodiphenylamine	ND		22	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
N-Nitrosodimethylamine	ND		22	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
N-Nitrosodi-n-propylamine	ND		4.5	0.53	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
2,2'-oxybis[1-chloropropane]	ND		4.5	0.49	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Pentachlorophenol	ND		22	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Phenol	**7.8**		4.5	0.53	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
1,2,4-Trichlorobenzene	ND		22	1.2	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
2,4,6-Trichlorophenol	ND		22	3.4	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
2-Methylnaphthalene	**8.9**		4.5	0.40	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
1-Methylnaphthalene	**5.1**		4.5	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Naphthalene	**34**		4.5	0.39	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Acenaphthylene	**1.3**	**J**	4.5	0.51	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-3SB-SED
Date Collected: 04/10/15 13:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-1
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		4.5	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Fluorene	ND		4.5	0.59	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Phenanthrene	**0.85**	**J**	4.5	0.72	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Anthracene	ND		4.5	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Fluoranthene	ND		4.5	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Pyrene	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Benzo[a]anthracene	ND		4.5	0.56	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Chrysene	ND		4.5	0.54	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Benzo[b]fluoranthene	ND		4.5	0.71	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Benzo[k]fluoranthene	ND		4.5	0.91	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Benzo[a]pyrene	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Indeno[1,2,3-cd]pyrene	ND		4.5	0.46	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Dibenz(a,h)anthracene	ND		4.5	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Benzo[g,h,i]perylene	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Benzyl alcohol	ND		22	2.7	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1
Dibenzofuran	ND		22	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 10:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*38 - 103*	*04/21/15 03:10*	*04/24/15 10:07*	*1*
2-Fluorophenol (Surr)	*72*		*34 - 103*	*04/21/15 03:10*	*04/24/15 10:07*	*1*
2,4,6-Tribromophenol (Surr)	*48*		*20 - 113*	*04/21/15 03:10*	*04/24/15 10:07*	*1*
Nitrobenzene-d5 (Surr)	*79*		*41 - 108*	*04/21/15 03:10*	*04/24/15 10:07*	*1*
Phenol-d5 (Surr)	*86*		*35 - 103*	*04/21/15 03:10*	*04/24/15 10:07*	*1*
Terphenyl-d14 (Surr)	*61*		*28 - 109*	*04/21/15 03:10*	*04/24/15 10:07*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-4MT-SED
Date Collected: 04/10/15 16:00
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-2
Matrix: Sediment
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		420	88	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
1,2-Dichlorobenzene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
1,3-Dichlorobenzene	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
1,4-Dichlorobenzene	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Benzoic acid	ND		110	8.7	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Bis(2-chloroethyl)ether	ND		4.2	0.57	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Bis(2-chloroethoxy)methane	ND		21	1.4	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Bis(2-ethylhexyl) phthalate	**46**		42	3.4	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
4-Bromophenyl phenyl ether	ND		21	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Butyl benzyl phthalate	**5.1**	**J**	21	2.9	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
4-Chloro-3-methylphenol	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
2-Chloronaphthalene	ND		4.2	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
2-Chlorophenol	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
4-Chlorophenyl phenyl ether	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Di-n-butyl phthalate	ND		21	2.6	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
3,3'-Dichlorobenzidine	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
2,4-Dichlorophenol	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Diethyl phthalate	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
4,6-Dinitro-2-methylphenol	ND		110	8.5	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
2,4-Dimethylphenol	ND		21	3.3	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Dimethyl phthalate	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
2,4-Dinitrophenol	ND		110	25	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
2,4-Dinitrotoluene	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
2,6-Dinitrotoluene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		21	2.7	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Di-n-octyl phthalate	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Hexachlorobenzene	ND		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Hexachlorobutadiene	ND		4.2	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Hexachloroethane	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Hexachlorocyclopentadiene	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Isophorone	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
2-Methylphenol	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Methylphenol, 3 & 4	**3.6**	**J**	21	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Nitrobenzene	ND		42	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
2-Nitrophenol	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
4-Nitrophenol	ND		110	7.7	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
N-Nitrosodiphenylamine	ND		21	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
N-Nitrosodimethylamine	ND		21	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
N-Nitrosodi-n-propylamine	ND		4.2	0.49	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
2,2'-oxybis[1-chloropropane]	ND		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Pentachlorophenol	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Phenol	ND		4.2	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
1,2,4-Trichlorobenzene	ND		21	1.2	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
2,4,6-Trichlorophenol	ND		21	3.2	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
2-Methylnaphthalene	**15**		4.2	0.38	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
1-Methylnaphthalene	**8.3**		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Naphthalene	**50**		4.2	0.36	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Acenaphthylene	**2.1**	**J**	4.2	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Acenaphthene	**0.54**	**J**	4.2	0.40	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-4MT-SED
Date Collected: 04/10/15 16:00
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-2
Matrix: Sediment
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**0.75**	**J**	4.2	0.56	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Phenanthrene	**0.87**	**J**	4.2	0.67	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Anthracene	ND		4.2	0.41	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Fluoranthene	ND		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Pyrene	ND		4.2	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Benzo[a]anthracene	ND		4.2	0.53	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Chrysene	ND		4.2	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Benzo[b]fluoranthene	ND		4.2	0.66	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Benzo[k]fluoranthene	ND		4.2	0.85	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Benzo[a]pyrene	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Indeno[1,2,3-cd]pyrene	ND		4.2	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Dibenz(a,h)anthracene	ND		4.2	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Benzo[g,h,i]perylene	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Benzyl alcohol	ND		21	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1
Dibenzofuran	ND		21	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 10:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*38 - 103*	*04/21/15 03:10*	*04/24/15 10:36*	*1*
2-Fluorophenol (Surr)	*77*		*34 - 103*	*04/21/15 03:10*	*04/24/15 10:36*	*1*
2,4,6-Tribromophenol (Surr)	*52*		*20 - 113*	*04/21/15 03:10*	*04/24/15 10:36*	*1*
Nitrobenzene-d5 (Surr)	*87*		*41 - 108*	*04/21/15 03:10*	*04/24/15 10:36*	*1*
Phenol-d5 (Surr)	*92*		*35 - 103*	*04/21/15 03:10*	*04/24/15 10:36*	*1*
Terphenyl-d14 (Surr)	*59*		*28 - 109*	*04/21/15 03:10*	*04/24/15 10:36*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-4SB-SED
Date Collected: 04/13/15 11:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-3
Matrix: Sediment
Percent Solids: 78.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		420	89	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
1,2-Dichlorobenzene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
1,3-Dichlorobenzene	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
1,4-Dichlorobenzene	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Benzoic acid	ND		110	8.8	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Bis(2-chloroethyl)ether	ND		4.2	0.57	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Bis(2-chloroethoxy)methane	ND		21	1.4	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Bis(2-ethylhexyl) phthalate	**57**		42	3.4	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
4-Bromophenyl phenyl ether	ND		21	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Butyl benzyl phthalate	**4.2**	**J**	21	2.9	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
4-Chloro-3-methylphenol	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
2-Chloronaphthalene	ND		4.2	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
2-Chlorophenol	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
4-Chlorophenyl phenyl ether	ND		21	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Di-n-butyl phthalate	ND		21	2.7	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
3,3'-Dichlorobenzidine	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
2,4-Dichlorophenol	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Diethyl phthalate	**4.6**	**J B**	21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
4,6-Dinitro-2-methylphenol	ND		110	8.5	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
2,4-Dimethylphenol	ND		21	3.3	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Dimethyl phthalate	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
2,4-Dinitrophenol	ND		110	25	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
2,4-Dinitrotoluene	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
2,6-Dinitrotoluene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		21	2.7	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Di-n-octyl phthalate	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Hexachlorobenzene	ND		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Hexachlorobutadiene	ND		4.2	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Hexachloroethane	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Hexachlorocyclopentadiene	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Isophorone	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
2-Methylphenol	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Methylphenol, 3 & 4	**3.1**	**J**	21	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Nitrobenzene	ND		42	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
2-Nitrophenol	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
4-Nitrophenol	ND		110	7.7	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
N-Nitrosodiphenylamine	ND		21	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
N-Nitrosodimethylamine	ND		21	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
N-Nitrosodi-n-propylamine	ND		4.2	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
2,2'-oxybis[1-chloropropane]	ND		4.2	0.46	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Pentachlorophenol	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Phenol	**7.9**		4.2	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
1,2,4-Trichlorobenzene	ND		21	1.2	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
2,4,6-Trichlorophenol	ND		21	3.2	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
2-Methylnaphthalene	**12**		4.2	0.38	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
1-Methylnaphthalene	**7.0**		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Naphthalene	**50**		4.2	0.36	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Acenaphthylene	**1.8**	**J**	4.2	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Acenaphthene	**0.53**	**J**	4.2	0.41	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-4SB-SED
Date Collected: 04/13/15 11:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-3
Matrix: Sediment
Percent Solids: 78.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**0.60**	**J**	4.2	0.56	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Phenanthrene	**0.85**	**J**	4.2	0.67	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Anthracene	ND		4.2	0.41	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Fluoranthene	ND		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Pyrene	ND		4.2	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Benzo[a]anthracene	ND		4.2	0.53	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Chrysene	ND		4.2	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Benzo[b]fluoranthene	ND		4.2	0.67	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Benzo[k]fluoranthene	ND		4.2	0.86	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Benzo[a]pyrene	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Indeno[1,2,3-cd]pyrene	ND		4.2	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Dibenz(a,h)anthracene	ND		4.2	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Benzo[g,h,i]perylene	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Benzyl alcohol	ND		21	2.6	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1
Dibenzofuran	ND		21	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 11:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*38 - 103*	*04/21/15 03:10*	*04/24/15 11:05*	*1*
2-Fluorophenol (Surr)	*69*		*34 - 103*	*04/21/15 03:10*	*04/24/15 11:05*	*1*
2,4,6-Tribromophenol (Surr)	*39*		*20 - 113*	*04/21/15 03:10*	*04/24/15 11:05*	*1*
Nitrobenzene-d5 (Surr)	*80*		*41 - 108*	*04/21/15 03:10*	*04/24/15 11:05*	*1*
Phenol-d5 (Surr)	*83*		*35 - 103*	*04/21/15 03:10*	*04/24/15 11:05*	*1*
Terphenyl-d14 (Surr)	*59*		*28 - 109*	*04/21/15 03:10*	*04/24/15 11:05*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-4NB-SED
Date Collected: 04/13/15 13:50
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-4
Matrix: Sediment
Percent Solids: 79.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		420	88	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
1,2-Dichlorobenzene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
1,3-Dichlorobenzene	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
1,4-Dichlorobenzene	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Benzoic acid	ND		110	8.7	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Bis(2-chloroethyl)ether	ND		4.2	0.56	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Bis(2-chloroethoxy)methane	ND		21	1.4	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Bis(2-ethylhexyl) phthalate	**34**	**J**	42	3.4	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
4-Bromophenyl phenyl ether	ND		21	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Butyl benzyl phthalate	**4.5**	**J**	21	2.9	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
4-Chloro-3-methylphenol	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
2-Chloronaphthalene	ND		4.2	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
2-Chlorophenol	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
4-Chlorophenyl phenyl ether	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Di-n-butyl phthalate	**2.6**	**J**	21	2.6	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
3,3'-Dichlorobenzidine	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
2,4-Dichlorophenol	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Diethyl phthalate	**4.3**	**J B**	21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
4,6-Dinitro-2-methylphenol	ND		110	8.4	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
2,4-Dimethylphenol	ND		21	3.3	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Dimethyl phthalate	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
2,4-Dinitrophenol	ND		110	25	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
2,4-Dinitrotoluene	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
2,6-Dinitrotoluene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		21	2.7	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Di-n-octyl phthalate	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Hexachlorobenzene	ND		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Hexachlorobutadiene	ND		4.2	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Hexachloroethane	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Hexachlorocyclopentadiene	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Isophorone	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
2-Methylphenol	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Methylphenol, 3 & 4	ND		21	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Nitrobenzene	ND		42	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
2-Nitrophenol	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
4-Nitrophenol	ND		110	7.6	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
N-Nitrosodiphenylamine	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
N-Nitrosodimethylamine	ND		21	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
N-Nitrosodi-n-propylamine	ND		4.2	0.49	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
2,2'-oxybis[1-chloropropane]	ND		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Pentachlorophenol	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Phenol	**4.6**		4.2	0.49	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
1,2,4-Trichlorobenzene	ND		21	1.2	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
2,4,6-Trichlorophenol	ND		21	3.1	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
2-Methylnaphthalene	**7.8**		4.2	0.38	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
1-Methylnaphthalene	**4.3**		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Naphthalene	**29**		4.2	0.36	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Acenaphthylene	**3.4**	**J**	4.2	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Acenaphthene	**0.46**	**J**	4.2	0.40	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-4NB-SED
Date Collected: 04/13/15 13:50
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-4
Matrix: Sediment
Percent Solids: 79.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**4.1**	**J**	4.2	0.55	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Phenanthrene	**25**		4.2	0.67	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Anthracene	**7.0**		4.2	0.41	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Fluoranthene	**10**		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Pyrene	**15**		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Benzo[a]anthracene	**5.9**		4.2	0.52	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Chrysene	**5.3**		4.2	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Benzo[b]fluoranthene	**3.1**	**J**	4.2	0.66	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Benzo[k]fluoranthene	**1.7**	**J**	4.2	0.85	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Benzo[a]pyrene	**4.2**		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Indeno[1,2,3-cd]pyrene	**1.2**	**J**	4.2	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Dibenz(a,h)anthracene	ND		4.2	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Benzo[g,h,i]perylene	**1.6**	**J**	4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Benzyl alcohol	ND		21	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1
Dibenzofuran	ND		21	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 11:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*53*		*38 - 103*	*04/21/15 03:10*	*04/24/15 11:34*	*1*
2-Fluorophenol (Surr)	*65*		*34 - 103*	*04/21/15 03:10*	*04/24/15 11:34*	*1*
2,4,6-Tribromophenol (Surr)	*44*		*20 - 113*	*04/21/15 03:10*	*04/24/15 11:34*	*1*
Nitrobenzene-d5 (Surr)	*75*		*41 - 108*	*04/21/15 03:10*	*04/24/15 11:34*	*1*
Phenol-d5 (Surr)	*80*		*35 - 103*	*04/21/15 03:10*	*04/24/15 11:34*	*1*
Terphenyl-d14 (Surr)	*53*		*28 - 109*	*04/21/15 03:10*	*04/24/15 11:34*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-4ST-SED
Date Collected: 04/13/15 15:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-5
Matrix: Sediment
Percent Solids: 80.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		420	87	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
1,2-Dichlorobenzene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
1,3-Dichlorobenzene	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
1,4-Dichlorobenzene	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Benzoic acid	ND		110	8.6	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Bis(2-chloroethyl)ether	ND		4.2	0.56	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Bis(2-chloroethoxy)methane	ND		21	1.4	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Bis(2-ethylhexyl) phthalate	**53**		42	3.4	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
4-Bromophenyl phenyl ether	ND		21	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Butyl benzyl phthalate	**3.3**	**J**	21	2.8	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
4-Chloro-3-methylphenol	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
2-Chloronaphthalene	ND		4.2	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
2-Chlorophenol	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
4-Chlorophenyl phenyl ether	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Di-n-butyl phthalate	ND		21	2.6	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
3,3'-Dichlorobenzidine	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
2,4-Dichlorophenol	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Diethyl phthalate	**6.2**	**J B**	21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
4,6-Dinitro-2-methylphenol	ND		110	8.4	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
2,4-Dimethylphenol	ND		21	3.3	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Dimethyl phthalate	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
2,4-Dinitrophenol	ND		110	25	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
2,4-Dinitrotoluene	ND		21	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
2,6-Dinitrotoluene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		21	2.7	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Di-n-octyl phthalate	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Hexachlorobenzene	ND		4.2	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Hexachlorobutadiene	ND		4.2	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Hexachloroethane	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Hexachlorocyclopentadiene	ND		21	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Isophorone	ND		21	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
2-Methylphenol	ND		21	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Methylphenol, 3 & 4	**12**	**J**	21	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Nitrobenzene	ND		42	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
2-Nitrophenol	ND		21	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
4-Nitrophenol	ND		110	7.6	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
N-Nitrosodiphenylamine	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
N-Nitrosodimethylamine	ND		21	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
N-Nitrosodi-n-propylamine	ND		4.2	0.49	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
2,2'-oxybis[1-chloropropane]	ND		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Pentachlorophenol	ND		21	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Phenol	**6.2**		4.2	0.49	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
1,2,4-Trichlorobenzene	ND		21	1.2	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
2,4,6-Trichlorophenol	ND		21	3.1	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
2-Methylnaphthalene	**8.5**		4.2	0.37	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
1-Methylnaphthalene	**4.9**		4.2	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Naphthalene	**21**		4.2	0.36	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Acenaphthylene	**0.69**	**J**	4.2	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Acenaphthene	**0.69**	**J**	4.2	0.40	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-4ST-SED
Date Collected: 04/13/15 15:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-5
Matrix: Sediment
Percent Solids: 80.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		4.2	0.55	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Phenanthrene	**0.68**	**J**	4.2	0.66	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Anthracene	ND		4.2	0.41	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Fluoranthene	ND		4.2	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Pyrene	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Benzo[a]anthracene	ND		4.2	0.52	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Chrysene	ND		4.2	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Benzo[b]fluoranthene	ND		4.2	0.66	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Benzo[k]fluoranthene	ND		4.2	0.84	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Benzo[a]pyrene	ND		4.2	0.42	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Indeno[1,2,3-cd]pyrene	ND		4.2	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Dibenz(a,h)anthracene	ND		4.2	0.46	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Benzo[g,h,i]perylene	ND		4.2	0.41	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Benzyl alcohol	ND		21	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1
Dibenzofuran	ND		21	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 12:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*38 - 103*	*04/21/15 03:10*	*04/24/15 12:03*	*1*
2-Fluorophenol (Surr)	*70*		*34 - 103*	*04/21/15 03:10*	*04/24/15 12:03*	*1*
2,4,6-Tribromophenol (Surr)	*53*		*20 - 113*	*04/21/15 03:10*	*04/24/15 12:03*	*1*
Nitrobenzene-d5 (Surr)	*82*		*41 - 108*	*04/21/15 03:10*	*04/24/15 12:03*	*1*
Phenol-d5 (Surr)	*85*		*35 - 103*	*04/21/15 03:10*	*04/24/15 12:03*	*1*
Terphenyl-d14 (Surr)	*62*		*28 - 109*	*04/21/15 03:10*	*04/24/15 12:03*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-3SB-SED
Date Collected: 04/10/15 13:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-1
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.056	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
alpha-BHC	ND		0.056	0.0091	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
beta-BHC	ND		0.056	0.015	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
delta-BHC	ND		0.056	0.0086	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
gamma-BHC (Lindane)	ND		0.056	0.0098	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
Chlordane (technical)	ND		0.56	0.025	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
Chlorobenside	ND		0.056	0.029	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
DCPA	ND		0.056	0.0085	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
4,4'-DDD	ND		0.056	0.0073	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
4,4'-DDE	ND		0.056	0.0085	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
4,4'-DDT	ND		0.056	0.0084	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
Dieldrin	**0.023**	**J p B**	0.056	0.0093	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
Endosulfan I	ND		0.056	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
2,4'-DDD	**0.0060**	**J p**	0.056	0.0034	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
Endosulfan II	**0.011**	**J p**	0.056	0.0099	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
Endosulfan sulfate	ND		0.056	0.0058	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
2,4'-DDE	ND		0.056	0.0052	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
Endrin	**0.022**	**J B**	0.056	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
Endrin aldehyde	**0.017**	**J**	0.056	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
2,4'-DDT	ND		0.056	0.0048	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
Heptachlor	ND		0.056	0.012	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
Heptachlor epoxide	ND		0.056	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
Methoxychlor	**0.014**	**J p**	0.11	0.012	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
Mirex	ND		0.056	0.0052	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1
Toxaphene	ND		2.2	0.37	ug/Kg	☼	04/21/15 10:31	04/30/15 19:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*50*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:42*	*1*
Tetrachloro-m-xylene	*55*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:42*	*1*
DCB Decachlorobiphenyl (Surr)	*56*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:42*	*1*
DCB Decachlorobiphenyl (Surr)	*60*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:42*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-4MT-SED
Date Collected: 04/10/15 16:00
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-2
Matrix: Sediment
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.052	0.0093	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
alpha-BHC	ND		0.052	0.0085	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
beta-BHC	ND		0.052	0.014	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
delta-BHC	ND		0.052	0.0080	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
gamma-BHC (Lindane)	ND		0.052	0.0092	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
Chlordane (technical)	ND		0.52	0.023	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
Chlorobenside	ND		0.052	0.027	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
DCPA	ND		0.052	0.0080	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
4,4'-DDD	ND		0.052	0.0068	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
4,4'-DDE	ND		0.052	0.0079	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
4,4'-DDT	ND		0.052	0.0078	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
Dieldrin	**0.028**	**J**	0.052	0.0087	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
Endosulfan I	ND		0.052	0.0099	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
2,4'-DDD	ND		0.052	0.0031	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
Endosulfan II	**0.015**	**J p**	0.052	0.0092	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
Endosulfan sulfate	ND		0.052	0.0055	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
2,4'-DDE	ND		0.052	0.0048	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
Endrin	**0.012**	**J p B**	0.052	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
Endrin aldehyde	ND		0.052	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
2,4'-DDT	ND		0.052	0.0045	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
Heptachlor	ND		0.052	0.012	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
Heptachlor epoxide	ND		0.052	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
Methoxychlor	ND		0.10	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
Mirex	ND		0.052	0.0048	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1
Toxaphene	ND		2.1	0.35	ug/Kg	☼	04/21/15 10:31	04/30/15 19:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*49*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:58*	*1*
Tetrachloro-m-xylene	*57*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:58*	*1*
DCB Decachlorobiphenyl (Surr)	*61*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:58*	*1*
DCB Decachlorobiphenyl (Surr)	*59*		*10 - 140*	*04/21/15 10:31*	*04/30/15 19:58*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-4SB-SED
Date Collected: 04/13/15 11:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-3
Matrix: Sediment
Percent Solids: 78.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.053	0.0095	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
alpha-BHC	ND		0.053	0.0087	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
beta-BHC	ND		0.053	0.014	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
delta-BHC	ND		0.053	0.0081	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
gamma-BHC (Lindane)	ND		0.053	0.0093	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
Chlordane (technical)	ND		0.53	0.023	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
Chlorobenside	ND		0.053	0.028	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
DCPA	ND		0.053	0.0081	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
4,4'-DDD	ND		0.053	0.0069	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
4,4'-DDE	ND		0.053	0.0080	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
4,4'-DDT	ND		0.053	0.0080	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
Dieldrin	**0.030**	**J B**	0.053	0.0088	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
Endosulfan I	ND		0.053	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
2,4'-DDD	**0.0033**	**J p**	0.053	0.0032	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
Endosulfan II	**0.023**	**J p**	0.053	0.0094	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
Endosulfan sulfate	ND		0.053	0.0055	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
2,4'-DDE	ND		0.053	0.0049	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
Endrin	**0.012**	**J p B**	0.053	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
Endrin aldehyde	ND		0.053	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
2,4'-DDT	ND		0.053	0.0046	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
Heptachlor	ND		0.053	0.012	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
Heptachlor epoxide	ND		0.053	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
Methoxychlor	ND		0.11	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
Mirex	**0.012**	**J p**	0.053	0.0049	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1
Toxaphene	ND		2.1	0.35	ug/Kg	☼	04/21/15 10:31	04/30/15 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*61*		*10 - 140*	*04/21/15 10:31*	*04/30/15 20:14*	*1*
Tetrachloro-m-xylene	*69*		*10 - 140*	*04/21/15 10:31*	*04/30/15 20:14*	*1*
DCB Decachlorobiphenyl (Surr)	*79*		*10 - 140*	*04/21/15 10:31*	*04/30/15 20:14*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*10 - 140*	*04/21/15 10:31*	*04/30/15 20:14*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-4NB-SED
Date Collected: 04/13/15 13:50
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-4
Matrix: Sediment
Percent Solids: 79.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.052	0.0092	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
alpha-BHC	ND		0.052	0.0084	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
beta-BHC	ND		0.052	0.013	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
delta-BHC	ND		0.052	0.0079	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
gamma-BHC (Lindane)	**0.010**	**J**	0.052	0.0091	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
Chlordane (technical)	ND		0.52	0.023	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
Chlorobenside	ND		0.052	0.027	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
DCPA	ND		0.052	0.0079	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
4,4'-DDD	ND		0.052	0.0068	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
4,4'-DDE	ND		0.052	0.0078	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
4,4'-DDT	ND		0.052	0.0078	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
Dieldrin	**0.020**	**J p**	0.052	0.0086	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
Endosulfan I	ND		0.052	0.0097	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
2,4'-DDD	ND		0.052	0.0031	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
Endosulfan II	ND		0.052	0.0091	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
Endosulfan sulfate	ND		0.052	0.0054	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
2,4'-DDE	ND		0.052	0.0048	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
Endrin	**0.012**	**J p B**	0.052	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
Endrin aldehyde	ND		0.052	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
2,4'-DDT	ND		0.052	0.0045	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
Heptachlor	ND		0.052	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
Heptachlor epoxide	ND		0.052	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
Methoxychlor	ND		0.10	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
Mirex	ND		0.052	0.0048	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1
Toxaphene	ND		2.1	0.35	ug/Kg	☼	04/21/15 10:31	04/30/15 20:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*54*		*10 - 140*	*04/21/15 10:31*	*04/30/15 20:29*	*1*
Tetrachloro-m-xylene	*60*		*10 - 140*	*04/21/15 10:31*	*04/30/15 20:29*	*1*
DCB Decachlorobiphenyl (Surr)	*62*		*10 - 140*	*04/21/15 10:31*	*04/30/15 20:29*	*1*
DCB Decachlorobiphenyl (Surr)	*62*		*10 - 140*	*04/21/15 10:31*	*04/30/15 20:29*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-4ST-SED
Date Collected: 04/13/15 15:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-5
Matrix: Sediment
Percent Solids: 80.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.052	0.0092	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
alpha-BHC	ND		0.052	0.0084	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
beta-BHC	ND		0.052	0.013	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
delta-BHC	ND		0.052	0.0079	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
gamma-BHC (Lindane)	ND		0.052	0.0091	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
Chlordane (technical)	ND		0.52	0.023	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
Chlorobenside	ND		0.052	0.027	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
DCPA	ND		0.052	0.0079	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
4,4'-DDD	**0.011**	**J p**	0.052	0.0068	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
4,4'-DDE	ND		0.052	0.0078	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
4,4'-DDT	ND		0.052	0.0078	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
Dieldrin	**0.032**	**J B**	0.052	0.0086	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
Endosulfan I	ND		0.052	0.0097	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
2,4'-DDD	ND		0.052	0.0031	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
Endosulfan II	**0.028**	**J p**	0.052	0.0091	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
Endosulfan sulfate	ND		0.052	0.0054	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
2,4'-DDE	ND		0.052	0.0048	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
Endrin	**0.011**	**J p B**	0.052	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
Endrin aldehyde	ND		0.052	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
2,4'-DDT	ND		0.052	0.0045	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
Heptachlor	ND		0.052	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
Heptachlor epoxide	ND		0.052	0.010	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
Methoxychlor	ND		0.10	0.011	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
Mirex	**0.010**	**J p**	0.052	0.0048	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1
Toxaphene	ND		2.1	0.35	ug/Kg	☼	04/21/15 10:31	04/30/15 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*61*		*10 - 140*	*04/21/15 10:31*	*04/30/15 20:45*	*1*
Tetrachloro-m-xylene	*71*		*10 - 140*	*04/21/15 10:31*	*04/30/15 20:45*	*1*
DCB Decachlorobiphenyl (Surr)	*78*		*10 - 140*	*04/21/15 10:31*	*04/30/15 20:45*	*1*
DCB Decachlorobiphenyl (Surr)	*80*		*10 - 140*	*04/21/15 10:31*	*04/30/15 20:45*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-3SB-SED
Date Collected: 04/10/15 13:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-1
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.67	0.22	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-18	ND		0.67	0.19	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-28	ND		0.67	0.095	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-44	**0.20**	**J**	0.67	0.075	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-49	ND		0.67	0.14	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-52	ND		0.67	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-66	ND		0.67	0.060	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-77	ND		0.67	0.071	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-87	ND		0.67	0.068	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-101	ND		0.67	0.078	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-105	ND		0.67	0.055	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-118	ND		0.67	0.060	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-126	ND		0.67	0.22	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-128	ND		0.67	0.071	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-138	ND		0.67	0.056	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-153	ND		0.67	0.057	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-156	ND		0.67	0.045	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-169	ND		0.67	0.043	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-170	ND		0.67	0.051	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-180	**0.063**	**J p**	0.67	0.058	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-183	ND		0.67	0.14	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-184	ND		0.67	0.060	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-187	ND		0.67	0.082	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-195	ND		0.67	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
PCB-206	ND		0.67	0.046	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1
DCB Decachlorobiphenyl	ND		0.67	0.046	ug/Kg	☼	04/24/15 04:41	05/01/15 18:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*61*		*35 - 140*	*04/24/15 04:41*	*05/01/15 18:12*	*1*
Tetrachloro-m-xylene (Surr)	*61*		*35 - 140*	*04/24/15 04:41*	*05/01/15 18:12*	*1*
PCB-205 (Surr)	*73*		*35 - 140*	*04/24/15 04:41*	*05/01/15 18:12*	*1*
PCB-205 (Surr)	*72*		*35 - 140*	*04/24/15 04:41*	*05/01/15 18:12*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-4MT-SED
Date Collected: 04/10/15 16:00
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-2
Matrix: Sediment
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.63	0.21	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-18	ND		0.63	0.18	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-28	ND		0.63	0.090	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-44	**0.087**	**J p**	0.63	0.071	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-49	ND		0.63	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-52	ND		0.63	0.12	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-66	ND		0.63	0.057	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-77	ND		0.63	0.068	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-87	ND		0.63	0.064	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-101	ND		0.63	0.074	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-105	ND		0.63	0.052	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-118	ND		0.63	0.057	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-126	ND		0.63	0.21	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-128	ND		0.63	0.067	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-138	ND		0.63	0.053	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-153	ND		0.63	0.055	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-156	ND		0.63	0.042	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-169	ND		0.63	0.041	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-170	ND		0.63	0.048	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-180	ND		0.63	0.055	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-183	ND		0.63	0.14	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-184	ND		0.63	0.057	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-187	ND		0.63	0.078	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-195	ND		0.63	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
PCB-206	ND		0.63	0.044	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1
DCB Decachlorobiphenyl	ND		0.63	0.044	ug/Kg	☼	04/24/15 04:41	05/01/15 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*60*		*35 - 140*	*04/24/15 04:41*	*05/01/15 18:44*	*1*
Tetrachloro-m-xylene (Surr)	*60*		*35 - 140*	*04/24/15 04:41*	*05/01/15 18:44*	*1*
PCB-205 (Surr)	*66*		*35 - 140*	*04/24/15 04:41*	*05/01/15 18:44*	*1*
PCB-205 (Surr)	*66*		*35 - 140*	*04/24/15 04:41*	*05/01/15 18:44*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-4SB-SED
Date Collected: 04/13/15 11:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-3
Matrix: Sediment
Percent Solids: 78.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.64	0.21	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-18	ND		0.64	0.18	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-28	ND		0.64	0.091	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-44	**0.073**	**J p**	0.64	0.071	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-49	ND		0.64	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-52	ND		0.64	0.12	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-66	ND		0.64	0.058	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-77	ND		0.64	0.068	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-87	ND		0.64	0.065	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-101	ND		0.64	0.075	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-105	ND		0.64	0.052	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-118	ND		0.64	0.057	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-126	ND		0.64	0.21	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-128	ND		0.64	0.068	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-138	ND		0.64	0.053	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-153	ND		0.64	0.055	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-156	ND		0.64	0.042	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-169	ND		0.64	0.041	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-170	ND		0.64	0.048	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-180	ND		0.64	0.055	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-183	ND		0.64	0.14	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-184	ND		0.64	0.057	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-187	ND		0.64	0.079	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-195	ND		0.64	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
PCB-206	ND		0.64	0.044	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1
DCB Decachlorobiphenyl	ND		0.64	0.044	ug/Kg	☼	04/24/15 04:41	05/01/15 19:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*60*		*35 - 140*	*04/24/15 04:41*	*05/01/15 19:16*	*1*
Tetrachloro-m-xylene (Surr)	*59*		*35 - 140*	*04/24/15 04:41*	*05/01/15 19:16*	*1*
PCB-205 (Surr)	*70*		*35 - 140*	*04/24/15 04:41*	*05/01/15 19:16*	*1*
PCB-205 (Surr)	*76*		*35 - 140*	*04/24/15 04:41*	*05/01/15 19:16*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-4NB-SED
Date Collected: 04/13/15 13:50
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-4
Matrix: Sediment
Percent Solids: 79.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	**0.66**	**p**	0.63	0.20	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-18	ND		0.63	0.18	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-28	ND		0.63	0.089	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-44	ND		0.63	0.070	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-49	ND		0.63	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-52	ND		0.63	0.12	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-66	ND		0.63	0.057	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-77	ND	F1 F2	0.63	0.067	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-87	ND		0.63	0.064	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-101	ND		0.63	0.073	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-105	ND		0.63	0.051	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-118	ND		0.63	0.056	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-126	ND	F1	0.63	0.21	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-128	ND		0.63	0.067	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-138	ND		0.63	0.052	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-153	ND		0.63	0.054	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-156	ND		0.63	0.042	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-169	ND	F1	0.63	0.040	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-170	ND		0.63	0.048	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-180	ND		0.63	0.054	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-183	ND		0.63	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-184	ND		0.63	0.056	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-187	ND		0.63	0.077	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-195	ND		0.63	0.12	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
PCB-206	**0.078**	**J F1**	0.63	0.044	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1
DCB Decachlorobiphenyl	ND		0.63	0.044	ug/Kg	☼	04/24/15 04:41	05/01/15 19:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*50*		*35 - 140*	*04/24/15 04:41*	*05/01/15 19:48*	*1*
Tetrachloro-m-xylene (Surr)	*47*		*35 - 140*	*04/24/15 04:41*	*05/01/15 19:48*	*1*
PCB-205 (Surr)	*57*		*35 - 140*	*04/24/15 04:41*	*05/01/15 19:48*	*1*
PCB-205 (Surr)	*57*		*35 - 140*	*04/24/15 04:41*	*05/01/15 19:48*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-4ST-SED
Date Collected: 04/13/15 15:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-5
Matrix: Sediment
Percent Solids: 80.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.61	0.20	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-18	ND		0.61	0.17	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-28	ND		0.61	0.087	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-44	**0.21**	**J**	0.61	0.069	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-49	ND		0.61	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-52	ND		0.61	0.12	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-66	ND		0.61	0.055	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-77	ND		0.61	0.066	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-87	ND		0.61	0.062	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-101	ND		0.61	0.072	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-105	ND		0.61	0.050	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-118	ND		0.61	0.055	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-126	ND		0.61	0.20	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-128	ND		0.61	0.065	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-138	ND		0.61	0.051	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-153	ND		0.61	0.053	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-156	ND		0.61	0.041	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-169	ND		0.61	0.039	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-170	ND		0.61	0.046	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-180	ND		0.61	0.053	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-183	ND		0.61	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-184	ND		0.61	0.055	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-187	ND		0.61	0.076	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-195	ND		0.61	0.12	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
PCB-206	ND		0.61	0.043	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1
DCB Decachlorobiphenyl	ND		0.61	0.043	ug/Kg	☼	04/24/15 04:41	05/01/15 21:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*59*		*35 - 140*	*04/24/15 04:41*	*05/01/15 21:22*	*1*
Tetrachloro-m-xylene (Surr)	*61*		*35 - 140*	*04/24/15 04:41*	*05/01/15 21:22*	*1*
PCB-205 (Surr)	*73*		*35 - 140*	*04/24/15 04:41*	*05/01/15 21:22*	*1*
PCB-205 (Surr)	*95*		*35 - 140*	*04/24/15 04:41*	*05/01/15 21:22*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-3SB-SED
Date Collected: 04/10/15 13:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-1
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Demeton, Total	ND		44	4.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Malathion	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Methyl parathion	ND		22	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Parathion	ND		22	1.8	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Bolstar	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Chlorpyrifos	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Coumaphos	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Diazinon	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Dichlorvos	ND		22	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Dimethoate	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Disulfoton	ND		22	2.4	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
EPN	ND		22	1.9	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Mocap	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Famphur	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Fensulfothion	ND		22	1.7	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Fenthion	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Mevinphos	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Phorate	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Ronnel	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Stirophos	ND		22	2.3	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Sulfotepp	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Thionazin	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Tokuthion	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
Trichloronate	ND		22	2.6	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1
O,O,O-Triethyl phosphorothioate	ND		22	4.3	ug/Kg	☼	04/17/15 04:37	04/20/15 15:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*87*		*47 - 130*	*04/17/15 04:37*	*04/20/15 15:13*	*1*
Tributyl phosphate	*86*		*47 - 130*	*04/17/15 04:37*	*04/20/15 15:13*	*1*
Triphenylphosphate	*87*		*55 - 125*	*04/17/15 04:37*	*04/20/15 15:13*	*1*
Triphenylphosphate	*91*		*55 - 125*	*04/17/15 04:37*	*04/20/15 15:13*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-4MT-SED
Date Collected: 04/10/15 16:00
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-2
Matrix: Sediment
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Demeton, Total	ND		42	3.8	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Malathion	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Methyl parathion	ND		21	1.8	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Parathion	ND		21	1.7	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Bolstar	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Chlorpyrifos	ND		21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Coumaphos	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Diazinon	ND		21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Dichlorvos	ND		21	1.9	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Dimethoate	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Disulfoton	ND		21	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
EPN	ND		21	1.8	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Mocap	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Famphur	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Fensulfothion	ND		21	1.6	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Fenthion	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Mevinphos	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Phorate	ND		21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Ronnel	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Stirophos	ND		21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Sulfotepp	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Thionazin	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Tokuthion	ND		21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
Trichloronate	ND		21	2.5	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1
O,O,O-Triethyl phosphorothioate	ND		21	4.1	ug/Kg	☼	04/17/15 04:37	04/20/15 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*88*		*47 - 130*	*04/17/15 04:37*	*04/20/15 15:46*	*1*
Tributyl phosphate	*85*		*47 - 130*	*04/17/15 04:37*	*04/20/15 15:46*	*1*
Triphenylphosphate	*90*		*55 - 125*	*04/17/15 04:37*	*04/20/15 15:46*	*1*
Triphenylphosphate	*91*		*55 - 125*	*04/17/15 04:37*	*04/20/15 15:46*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-4SB-SED
Date Collected: 04/13/15 11:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-3
Matrix: Sediment
Percent Solids: 78.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND	F2	21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Demeton, Total	ND	F2	42	3.8	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Malathion	ND	F2	21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Methyl parathion	ND	F2	21	1.8	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Parathion	ND	F2	21	1.7	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Bolstar	ND	F2	21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Chlorpyrifos	ND	F2	21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Coumaphos	ND	F2	21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Diazinon	ND	F2	21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Dichlorvos	ND	F2	21	1.9	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Dimethoate	ND	F2	21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Disulfoton	ND	F2	21	2.3	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
EPN	ND	F2	21	1.8	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Mocap	ND	F2	21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Famphur	ND	F2 F1	21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Fensulfothion	ND	F2	21	1.6	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Fenthion	ND	F2	21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Mevinphos	ND	F2	21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Phorate	ND	F2	21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Ronnel	ND	F2	21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Stirophos	ND	F2	21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Sulfotepp	ND	F2	21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Thionazin	ND	F2	21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Tokuthion	ND	F2	21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
Trichloronate	ND	F2	21	2.5	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1
O,O,O-Triethyl phosphorothioate	ND		21	4.1	ug/Kg	☼	04/17/15 04:37	04/20/15 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*88*		*47 - 130*	*04/17/15 04:37*	*04/20/15 16:20*	*1*
Tributyl phosphate	*84*		*47 - 130*	*04/17/15 04:37*	*04/20/15 16:20*	*1*
Triphenylphosphate	*90*		*55 - 125*	*04/17/15 04:37*	*04/20/15 16:20*	*1*
Triphenylphosphate	*91*		*55 - 125*	*04/17/15 04:37*	*04/20/15 16:20*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-4NB-SED
Date Collected: 04/13/15 13:50
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-4
Matrix: Sediment
Percent Solids: 79.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		21	1.9	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Demeton, Total	ND		41	3.8	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Malathion	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Methyl parathion	ND		21	1.8	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Parathion	ND		21	1.7	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Bolstar	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Chlorpyrifos	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Coumaphos	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Diazinon	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Dichlorvos	ND		21	1.8	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Dimethoate	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Disulfoton	ND		21	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
EPN	ND		21	1.8	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Mocap	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Famphur	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Fensulfothion	ND		21	1.6	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Fenthion	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Mevinphos	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Phorate	ND		21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Ronnel	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Stirophos	ND		21	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Sulfotepp	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Thionazin	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Tokuthion	ND		21	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
Trichloronate	ND		21	2.4	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1
O,O,O-Triethyl phosphorothioate	ND		21	4.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*94*		*47 - 130*	*04/17/15 04:37*	*04/20/15 18:02*	*1*
Tributyl phosphate	*91*		*47 - 130*	*04/17/15 04:37*	*04/20/15 18:02*	*1*
Triphenylphosphate	*94*		*55 - 125*	*04/17/15 04:37*	*04/20/15 18:02*	*1*
Triphenylphosphate	*98*		*55 - 125*	*04/17/15 04:37*	*04/20/15 18:02*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-4ST-SED
Date Collected: 04/13/15 15:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-5
Matrix: Sediment
Percent Solids: 80.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		20	1.9	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Demeton, Total	ND		41	3.7	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Malathion	ND		20	1.9	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Methyl parathion	ND		20	1.8	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Parathion	ND		20	1.6	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Bolstar	ND		20	1.9	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Chlorpyrifos	ND		20	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Coumaphos	ND		20	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Diazinon	ND		20	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Dichlorvos	ND		20	1.8	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Dimethoate	ND		20	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Disulfoton	ND		20	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
EPN	ND		20	1.8	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Mocap	ND		20	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Famphur	ND		20	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Fensulfothion	ND		20	1.6	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Fenthion	ND		20	1.9	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Mevinphos	ND		20	1.9	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Phorate	ND		20	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Ronnel	ND		20	1.9	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Stirophos	ND		20	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Sulfotepp	ND		20	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Thionazin	ND		20	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Tokuthion	ND		20	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
Trichloronate	ND		20	2.4	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1
O,O,O-Triethyl phosphorothioate	ND		20	4.0	ug/Kg	☼	04/17/15 04:37	04/20/15 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*74*		*47 - 130*	*04/17/15 04:37*	*04/20/15 18:36*	*1*
Tributyl phosphate	*70*		*47 - 130*	*04/17/15 04:37*	*04/20/15 18:36*	*1*
Triphenylphosphate	*72*		*55 - 125*	*04/17/15 04:37*	*04/20/15 18:36*	*1*
Triphenylphosphate	*76*		*55 - 125*	*04/17/15 04:37*	*04/20/15 18:36*	*1*

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-3SB-SED
Date Collected: 04/10/15 13:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-1
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.026	J	0.17	0.0055	mg/Kg	☼	04/24/15 13:10	04/28/15 13:14	1
Copper SEM	0.68	J	0.84	0.075	mg/Kg	☼	04/24/15 13:10	04/28/15 13:14	1
Lead SEM	2.2		0.34	0.066	mg/Kg	☼	04/24/15 13:10	04/28/15 13:14	1
Nickel SEM	7.7		1.3	0.038	mg/Kg	☼	04/24/15 13:10	04/28/15 13:14	1
Zinc SEM	24	B	3.4	0.25	mg/Kg	☼	04/24/15 13:10	04/28/15 13:14	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00023	J	0.0015	0.000049	umol/g	☼	04/24/15 13:10	04/28/15 13:14	1
Copper SEM	0.011	J	0.013	0.0012	umol/g	☼	04/24/15 13:10	04/28/15 13:14	1
Lead SEM	0.011		0.0016	0.00032	umol/g	☼	04/24/15 13:10	04/28/15 13:14	1
Nickel SEM	0.13		0.023	0.00066	umol/g	☼	04/24/15 13:10	04/28/15 13:14	1
Zinc SEM	0.36	B	0.051	0.0038	umol/g	☼	04/24/15 13:10	04/28/15 13:14	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-4MT-SED
Date Collected: 04/10/15 16:00
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-2
Matrix: Sediment
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.0083	J	0.16	0.0052	mg/Kg	☼	04/24/15 13:10	04/28/15 13:19	1
Copper SEM	2.5	F1	0.80	0.071	mg/Kg	☼	04/24/15 13:10	04/28/15 13:19	1
Lead SEM	2.7		0.32	0.063	mg/Kg	☼	04/24/15 13:10	04/28/15 13:19	1
Nickel SEM	5.3		1.3	0.037	mg/Kg	☼	04/24/15 13:10	04/28/15 13:19	1
Zinc SEM	16	F1 B	3.2	0.24	mg/Kg	☼	04/24/15 13:10	04/28/15 13:19	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.000074	J	0.0014	0.000046	umol/g	☼	04/24/15 13:10	04/28/15 13:19	1
Copper SEM	0.039	F1	0.013	0.0011	umol/g	☼	04/24/15 13:10	04/28/15 13:19	1
Lead SEM	0.013		0.0015	0.00030	umol/g	☼	04/24/15 13:10	04/28/15 13:19	1
Nickel SEM	0.091		0.022	0.00062	umol/g	☼	04/24/15 13:10	04/28/15 13:19	1
Zinc SEM	0.24	F1 B	0.049	0.0036	umol/g	☼	04/24/15 13:10	04/28/15 13:19	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-4SB-SED
Date Collected: 04/13/15 11:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-3
Matrix: Sediment
Percent Solids: 78.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.0095	J	0.16	0.0052	mg/Kg	☼	04/24/15 13:10	04/28/15 13:50	1
Copper SEM	1.5		0.79	0.071	mg/Kg	☼	04/24/15 13:10	04/28/15 13:50	1
Lead SEM	2.4		0.63	0.13	mg/Kg	☼	04/24/15 13:10	04/29/15 06:32	2
Nickel SEM	5.8		2.5	0.073	mg/Kg	☼	04/24/15 13:10	04/29/15 06:32	2
Zinc SEM	17	B	3.2	0.23	mg/Kg	☼	04/24/15 13:10	04/28/15 13:50	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.000085	J	0.0014	0.000046	umol/g	☼	04/24/15 13:10	04/28/15 13:50	1
Copper SEM	0.023		0.012	0.0011	umol/g	☼	04/24/15 13:10	04/28/15 13:50	1
Lead SEM	0.012		0.0031	0.00061	umol/g	☼	04/24/15 13:10	04/29/15 06:32	2
Nickel SEM	0.099		0.043	0.0012	umol/g	☼	04/24/15 13:10	04/29/15 06:32	2
Zinc SEM	0.26	B	0.048	0.0036	umol/g	☼	04/24/15 13:10	04/28/15 13:50	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-4NB-SED
Date Collected: 04/13/15 13:50
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-4
Matrix: Sediment
Percent Solids: 79.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.16	0.0051	mg/Kg	☼	04/24/15 13:10	04/28/15 13:55	1
Copper SEM	**1.7**		0.78	0.070	mg/Kg	☼	04/24/15 13:10	04/28/15 13:55	1
Lead SEM	**2.2**		0.62	0.12	mg/Kg	☼	04/24/15 13:10	04/29/15 06:37	2
Nickel SEM	**4.7**		2.5	0.072	mg/Kg	☼	04/24/15 13:10	04/29/15 06:37	2
Zinc SEM	**14**	**B**	3.1	0.23	mg/Kg	☼	04/24/15 13:10	04/28/15 13:55	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.0014	0.000046	umol/g	☼	04/24/15 13:10	04/28/15 13:55	1
Copper SEM	**0.026**		0.012	0.0011	umol/g	☼	04/24/15 13:10	04/28/15 13:55	1
Lead SEM	**0.010**		0.0030	0.00060	umol/g	☼	04/24/15 13:10	04/29/15 06:37	2
Nickel SEM	**0.080**		0.043	0.0012	umol/g	☼	04/24/15 13:10	04/29/15 06:37	2
Zinc SEM	**0.22**	**B**	0.048	0.0035	umol/g	☼	04/24/15 13:10	04/28/15 13:55	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-4ST-SED
Date Collected: 04/13/15 15:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-5
Matrix: Sediment
Percent Solids: 80.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.0097	J	0.16	0.0051	mg/Kg	☼	04/24/15 13:10	04/28/15 14:00	1
Copper SEM	2.7		0.78	0.070	mg/Kg	☼	04/24/15 13:10	04/28/15 14:00	1
Lead SEM	2.9		0.31	0.062	mg/Kg	☼	04/24/15 13:10	04/28/15 14:00	1
Nickel SEM	6.0		1.2	0.036	mg/Kg	☼	04/24/15 13:10	04/28/15 14:00	1
Zinc SEM	17	B	3.1	0.23	mg/Kg	☼	04/24/15 13:10	04/28/15 14:00	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.000086	J	0.0014	0.000046	umol/g	☼	04/24/15 13:10	04/28/15 14:00	1
Copper SEM	0.043		0.012	0.0011	umol/g	☼	04/24/15 13:10	04/28/15 14:00	1
Lead SEM	0.014		0.0015	0.00030	umol/g	☼	04/24/15 13:10	04/28/15 14:00	1
Nickel SEM	0.10		0.021	0.00061	umol/g	☼	04/24/15 13:10	04/28/15 14:00	1
Zinc SEM	0.26	B	0.048	0.0035	umol/g	☼	04/24/15 13:10	04/28/15 14:00	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-3SB-SED
Date Collected: 04/10/15 13:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-1
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7900		2.0	0.19	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Antimony	0.057	J	0.13	0.0017	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Arsenic	6.1		0.066	0.012	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Barium	13		0.66	0.0071	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Beryllium	0.45		0.066	0.0050	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Cadmium	0.19		0.066	0.0046	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Chromium	21		0.13	0.0041	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Calcium	34000		33	0.88	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Cobalt	4.4		0.033	0.0010	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Copper	4.5		0.13	0.022	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Iron	18000		3.3	0.23	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Lead	8.0		0.066	0.0025	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Nickel	9.9		0.066	0.0075	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Potassium	2800		33	0.90	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Selenium	0.19	J	0.33	0.033	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Magnesium	4200		33	0.12	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Silver	0.025	J	0.066	0.0026	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Thallium	0.11		0.066	0.0013	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Sodium	2200		33	0.91	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Zinc	32		0.33	0.043	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Vanadium	18		0.066	0.0052	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1
Manganese	120		0.33	0.0068	mg/Kg	☼	04/20/15 15:09	04/28/15 02:23	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-4MT-SED
Date Collected: 04/10/15 16:00
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-2
Matrix: Sediment
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	5500		1.9	0.18	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Antimony	0.062	J	0.12	0.0016	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Arsenic	6.4		0.062	0.011	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Barium	22		0.62	0.0067	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Beryllium	0.35		0.062	0.0047	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Cadmium	0.13		0.062	0.0044	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Chromium	15		0.12	0.0038	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Calcium	33000		31	0.83	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Cobalt	4.9		0.031	0.00094	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Copper	4.9		0.12	0.021	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Iron	16000		3.1	0.22	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Lead	5.8		0.062	0.0024	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Nickel	6.6		0.062	0.0071	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Potassium	1400		31	0.85	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Selenium	0.12	J	0.31	0.031	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Magnesium	2300		31	0.12	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Silver	0.016	J	0.062	0.0024	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Thallium	0.092		0.062	0.0012	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Sodium	2200		31	0.85	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Zinc	23		0.31	0.040	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Vanadium	16		0.062	0.0049	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1
Manganese	170		0.31	0.0064	mg/Kg	☼	04/20/15 15:09	04/28/15 02:27	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-4SB-SED
Date Collected: 04/13/15 11:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-3
Matrix: Sediment
Percent Solids: 78.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**5600**		19	1.8	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Antimony	**0.048**	**J**	1.3	0.016	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Arsenic	**9.9**		0.63	0.11	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Barium	**14**		6.3	0.067	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Beryllium	**0.38**	**J**	0.63	0.047	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Cadmium	**0.20**	**J**	0.63	0.044	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Chromium	**18**		1.3	0.038	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Calcium	**85000**		310	8.3	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Cobalt	**3.8**		0.31	0.0094	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Copper	**3.2**		1.3	0.21	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Iron	**18000**		31	2.2	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Lead	**5.6**		0.63	0.024	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Nickel	**7.6**		0.63	0.071	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Potassium	**2200**		310	8.5	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Selenium	ND		3.1	0.31	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Magnesium	**3600**		310	1.2	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Silver	**0.030**	**J**	0.63	0.024	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Thallium	**0.070**	**J**	0.63	0.013	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Sodium	**2400**		310	8.6	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Zinc	**25**		3.1	0.41	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Vanadium	**21**		0.63	0.050	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10
Manganese	**130**		3.1	0.065	mg/Kg	☼	04/20/15 15:09	04/28/15 22:59	10

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-4NB-SED
Date Collected: 04/13/15 13:50
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-4
Matrix: Sediment
Percent Solids: 79.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**4400**		18	1.7	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Antimony	**0.054**	**J**	1.2	0.016	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Arsenic	**15**		0.61	0.11	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Barium	**15**		6.1	0.065	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Beryllium	**0.33**	**J**	0.61	0.046	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Cadmium	**0.19**	**J**	0.61	0.043	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Chromium	**16**		1.2	0.037	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Calcium	**110000**		310	8.1	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Cobalt	**3.5**		0.31	0.0092	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Copper	**2.3**		1.2	0.20	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Iron	**17000**		31	2.2	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Lead	**5.5**		0.61	0.023	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Nickel	**5.8**		0.61	0.069	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Potassium	**1900**		310	8.3	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Selenium	ND		3.1	0.31	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Magnesium	**3500**		310	1.1	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Silver	ND		0.61	0.024	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Thallium	**0.057**	**J**	0.61	0.012	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Sodium	**2700**		310	8.4	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Zinc	**21**		3.1	0.40	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Vanadium	**21**		0.61	0.048	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10
Manganese	**140**		3.1	0.063	mg/Kg	☼	04/20/15 15:09	04/28/15 23:03	10

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-4ST-SED
Date Collected: 04/13/15 15:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-5
Matrix: Sediment
Percent Solids: 80.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	5500		1.8	0.17	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Antimony	0.077	J	0.12	0.0016	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Arsenic	7.2		0.061	0.011	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Barium	20		0.61	0.0065	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Beryllium	0.42		0.061	0.0046	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Cadmium	0.14		0.061	0.0043	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Chromium	16		0.12	0.0037	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Calcium	29000		30	0.81	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Cobalt	4.7		0.030	0.00091	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Copper	5.8		0.12	0.020	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Iron	17000		3.0	0.22	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Lead	7.0		0.061	0.0023	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Nickel	7.1		0.061	0.0069	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Potassium	1400		30	0.83	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Selenium	0.12	J	0.30	0.031	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Magnesium	2200		30	0.11	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Silver	0.018	J	0.061	0.0024	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Thallium	0.096		0.061	0.0012	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Sodium	2000		30	0.83	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Zinc	24		0.30	0.039	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Vanadium	19		0.061	0.0048	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1
Manganese	160		0.30	0.0063	mg/Kg	☼	04/20/15 15:09	04/28/15 02:39	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-3SB-SED
Date Collected: 04/10/15 13:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-1
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0072	mg/Kg	☼	04/28/15 09:05	04/29/15 12:14	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-4MT-SED
Date Collected: 04/10/15 16:00
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-2
Matrix: Sediment
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.010	J	0.020	0.0070	mg/Kg	☼	04/28/15 09:05	04/29/15 12:16	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-4SB-SED
Date Collected: 04/13/15 11:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-3
Matrix: Sediment
Percent Solids: 78.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.0068	mg/Kg	☼	04/28/15 09:05	04/29/15 12:18	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-4NB-SED
Date Collected: 04/13/15 13:50
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-4
Matrix: Sediment
Percent Solids: 79.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.0069	mg/Kg	☼	04/28/15 09:05	04/29/15 12:20	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-4ST-SED
Date Collected: 04/13/15 15:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-5
Matrix: Sediment
Percent Solids: 80.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.013	J	0.021	0.0071	mg/Kg	☼	04/28/15 09:05	04/29/15 12:26	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-3SB-SED
Date Collected: 04/10/15 13:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	0.0010	NONE			04/29/15 12:06	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-4MT-SED
Date Collected: 04/10/15 16:00
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	0.0010	NONE			04/29/15 12:06	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-4SB-SED
Date Collected: 04/13/15 11:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	2.6		0.0010	0.0010	NONE			04/29/15 12:06	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-4NB-SED
Date Collected: 04/13/15 13:50
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	2.5		0.0010	0.0010	NONE			04/29/15 12:06	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-4ST-SED
Date Collected: 04/13/15 15:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	0.0010	NONE			04/29/15 12:06	1

General Chemistry

Client Sample ID: TS-3SB-SED
Date Collected: 04/10/15 13:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**26**		0.10	0.10	%			04/17/15 13:31	1
Ammonia, distilled	**18**		7.0	4.5	mg/Kg	☼	04/29/15 13:17	04/30/15 11:06	1
Cyanide, Total	ND		0.34	0.11	mg/Kg	☼	04/15/15 12:00	04/15/15 13:47	1
Sulfide	**29**	**J**	40	8.1	mg/Kg	☼	04/17/15 06:30	04/17/15 10:50	1
Total Organic Carbon - Duplicates	**3300**		1300	120	mg/Kg	☼		04/23/15 14:34	1
Total Phosphorus as P	**260**		130	12	mg/Kg	☼	04/26/15 04:07	04/26/15 09:21	10
Nitrogen, Kjeldahl	**450**		190	64	mg/Kg	☼	04/30/15 11:00	05/01/15 11:58	1

General Chemistry

Client Sample ID: TS-4MT-SED
Date Collected: 04/10/15 16:00
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**21**		0.10	0.10	%			04/17/15 13:31	1
Ammonia, distilled	**5.5**	**J**	6.2	4.0	mg/Kg	☼	04/29/15 13:17	04/30/15 11:07	1
Cyanide, Total	ND		0.32	0.11	mg/Kg	☼	04/15/15 12:00	04/15/15 13:49	1
Sulfide	**21**	**J**	38	7.7	mg/Kg	☼	04/17/15 06:30	04/17/15 10:55	1
Total Organic Carbon - Duplicates	**1500**		1300	110	mg/Kg	☼		04/24/15 04:42	1
Total Phosphorus as P	**340**		130	12	mg/Kg	☼	04/26/15 04:09	04/26/15 09:21	10
Nitrogen, Kjeldahl	**200**		180	61	mg/Kg	☼	04/30/15 11:00	05/01/15 12:00	1

General Chemistry

Client Sample ID: TS-4SB-SED
Date Collected: 04/13/15 11:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**21**		0.10	0.10	%			04/17/15 13:31	1
Ammonia, distilled	**13**		6.2	4.0	mg/Kg	☼	04/29/15 13:17	04/30/15 11:09	1
Cyanide, Total	ND		0.31	0.10	mg/Kg	☼	04/15/15 12:00	04/15/15 13:55	1
Sulfide	**23**	**J**	38	7.6	mg/Kg	☼	04/17/15 06:30	04/17/15 10:56	1
Total Organic Carbon - Duplicates	**11000**		1300	110	mg/Kg	☼		04/24/15 04:57	1
Total Phosphorus as P	**610**		120	11	mg/Kg	☼	04/26/15 04:10	04/26/15 09:23	10
Nitrogen, Kjeldahl	**340**		190	64	mg/Kg	☼	04/30/15 11:00	05/01/15 12:02	1

General Chemistry

Client Sample ID: TS-4NB-SED
Date Collected: 04/13/15 13:50
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**20**		0.10	0.10	%			04/17/15 13:31	1
Ammonia, distilled	**4.7**	**J**	6.3	4.1	mg/Kg	☼	04/29/15 13:17	04/30/15 11:15	1
Cyanide, Total	ND		0.32	0.10	mg/Kg	☼	04/15/15 12:00	04/15/15 13:57	1
Sulfide	ND		38	7.6	mg/Kg	☼	04/17/15 06:30	04/17/15 10:58	1
Total Organic Carbon - Duplicates	**9800**		1300	110	mg/Kg	☼		04/24/15 05:13	1
Total Phosphorus as P	**410**		120	11	mg/Kg	☼	04/26/15 04:11	04/26/15 09:23	10
Nitrogen, Kjeldahl	**210**		200	67	mg/Kg	☼	04/30/15 11:00	05/01/15 12:04	1

General Chemistry

Client Sample ID: TS-4ST-SED
Date Collected: 04/13/15 15:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**20**		0.10	0.10	%			04/17/15 13:31	1
Ammonia, distilled	ND		6.1	3.9	mg/Kg	☼	04/29/15 13:17	04/30/15 11:16	1
Cyanide, Total	ND		0.31	0.10	mg/Kg	☼	04/15/15 12:00	04/15/15 13:58	1
Sulfide	**11**	**J**	38	7.6	mg/Kg	☼	04/17/15 06:30	04/17/15 10:59	1
Total Organic Carbon - Duplicates	**2400**		1200	110	mg/Kg	☼		04/24/15 05:30	1
Total Phosphorus as P	**320**		120	11	mg/Kg	☼	04/26/15 04:12	04/26/15 09:23	10
Nitrogen, Kjeldahl	**200**		180	62	mg/Kg	☼	04/30/15 11:00	05/01/15 12:06	1

General Chemistry - Soluble

Client Sample ID: TS-3SB-SED
Date Collected: 04/10/15 13:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-1
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.5		1.3	0.29	mg/Kg	☼		05/02/15 10:20	1

General Chemistry - Soluble

Client Sample ID: TS-4MT-SED
Date Collected: 04/10/15 16:00
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-2
Matrix: Sediment
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.5		1.3	0.27	mg/Kg	☼		05/02/15 10:21	1

General Chemistry - Soluble

Client Sample ID: TS-4SB-SED
Date Collected: 04/13/15 11:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-3
Matrix: Sediment
Percent Solids: 78.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.79	J	1.3	0.27	mg/Kg	☼		05/02/15 10:23	1

General Chemistry - Soluble

Client Sample ID: TS-4NB-SED
Date Collected: 04/13/15 13:50
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-4
Matrix: Sediment
Percent Solids: 79.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.0	J	1.2	0.27	mg/Kg	☼		05/02/15 10:25	1

General Chemistry - Soluble

Client Sample ID: TS-4ST-SED
Date Collected: 04/13/15 15:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-5
Matrix: Sediment
Percent Solids: 80.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.5		1.2	0.27	mg/Kg	☼		05/02/15 10:26	1

General Chemistry - SEM/AVS

Client Sample ID: TS-3SB-SED
Date Collected: 04/10/15 13:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-1
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		20	4.0	mg/Kg	☼	04/24/15 13:10	04/24/15 19:39	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.63	0.13	umol/g	☼	04/24/15 13:10	04/24/15 19:39	1

General Chemistry - SEM/AVS

Client Sample ID: TS-4MT-SED
Date Collected: 04/10/15 16:00
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-2
Matrix: Sediment
Percent Solids: 78.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	3.8	mg/Kg	☼	04/24/15 13:10	04/24/15 19:40	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.60	0.12	umol/g	☼	04/24/15 13:10	04/24/15 19:40	1

General Chemistry - SEM/AVS

Client Sample ID: TS-4SB-SED
Date Collected: 04/13/15 11:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-3
Matrix: Sediment
Percent Solids: 78.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	4.9	J	19	3.8	mg/Kg	☼	04/24/15 13:10	04/24/15 19:43	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	0.15	J	0.59	0.12	umol/g	☼	04/24/15 13:10	04/24/15 19:43	1

General Chemistry - SEM/AVS

Client Sample ID: TS-4NB-SED
Date Collected: 04/13/15 13:50
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-4
Matrix: Sediment
Percent Solids: 79.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	4.4	J	19	3.7	mg/Kg	☼	04/24/15 13:10	04/24/15 19:44	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	0.14	J	0.58	0.12	umol/g	☼	04/24/15 13:10	04/24/15 19:44	1

General Chemistry - SEM/AVS

Client Sample ID: TS-4ST-SED
Date Collected: 04/13/15 15:30
Date Received: 04/14/15 09:30

Lab Sample ID: 180-43044-5
Matrix: Sediment
Percent Solids: 80.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	3.7	mg/Kg	☼	04/24/15 13:10	04/24/15 19:45	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.58	0.12	umol/g	☼	04/24/15 13:10	04/24/15 19:45	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
1,2,4-Trichlorobenzene	17	0.92	ug/Kg	8270D LL
1,2-Dichlorobenzene	17	1.7	ug/Kg	8270D LL
1,2-Diphenylhydrazine(as Azobenzene)	17	2.1	ug/Kg	8270D LL
1,3-Dichlorobenzene	17	1.3	ug/Kg	8270D LL
1,4-Dichlorobenzene	17	1.2	ug/Kg	8270D LL
1-Methylnaphthalene	3.4	0.36	ug/Kg	8270D LL
2,2'-oxybis[1-chloropropane]	3.4	0.36	ug/Kg	8270D LL
2,4,6-Trichlorophenol	17	2.5	ug/Kg	8270D LL
2,4-Dichlorophenol	3.4	0.33	ug/Kg	8270D LL
2,4-Dimethylphenol	17	2.6	ug/Kg	8270D LL
2,4-Dinitrophenol	85	20	ug/Kg	8270D LL
2,4-Dinitrotoluene	17	1.3	ug/Kg	8270D LL
2,6-Dinitrotoluene	17	1.7	ug/Kg	8270D LL
2-Chloronaphthalene	3.4	0.35	ug/Kg	8270D LL
2-Chlorophenol	17	1.4	ug/Kg	8270D LL
2-Methylnaphthalene	3.4	0.30	ug/Kg	8270D LL
2-Methylphenol	17	1.2	ug/Kg	8270D LL
2-Nitrophenol	17	1.8	ug/Kg	8270D LL
3,3'-Dichlorobenzidine	17	1.8	ug/Kg	8270D LL
4,6-Dinitro-2-methylphenol	85	6.7	ug/Kg	8270D LL
4-Bromophenyl phenyl ether	17	1.5	ug/Kg	8270D LL
4-Chloro-3-methylphenol	17	1.5	ug/Kg	8270D LL
4-Chlorophenyl phenyl ether	17	1.9	ug/Kg	8270D LL
4-Nitrophenol	85	6.1	ug/Kg	8270D LL
Acenaphthene	3.4	0.32	ug/Kg	8270D LL
Acenaphthylene	3.4	0.38	ug/Kg	8270D LL
Anthracene	3.4	0.33	ug/Kg	8270D LL
Benzidine	340	70	ug/Kg	8270D LL
Benzo[a]anthracene	3.4	0.42	ug/Kg	8270D LL
Benzo[a]pyrene	3.4	0.33	ug/Kg	8270D LL
Benzo[b]fluoranthene	3.4	0.52	ug/Kg	8270D LL
Benzo[g,h,i]perylene	3.4	0.33	ug/Kg	8270D LL
Benzo[k]fluoranthene	3.4	0.67	ug/Kg	8270D LL
Benzoic acid	85	6.9	ug/Kg	8270D LL
Benzyl alcohol	17	2.0	ug/Kg	8270D LL
Bis(2-chloroethoxy)methane	17	1.1	ug/Kg	8270D LL
Bis(2-chloroethyl)ether	3.4	0.45	ug/Kg	8270D LL
Bis(2-ethylhexyl) phthalate	33	2.7	ug/Kg	8270D LL
Butyl benzyl phthalate	17	2.3	ug/Kg	8270D LL
Chrysene	3.4	0.40	ug/Kg	8270D LL
Dibenz(a,h)anthracene	3.4	0.37	ug/Kg	8270D LL
Dibenzofuran	17	1.6	ug/Kg	8270D LL
Diethyl phthalate	17	1.8	ug/Kg	8270D LL
Dimethyl phthalate	17	1.8	ug/Kg	8270D LL
Di-n-butyl phthalate	17	2.1	ug/Kg	8270D LL
Di-n-octyl phthalate	17	1.8	ug/Kg	8270D LL
Fluoranthene	3.4	0.36	ug/Kg	8270D LL
Fluorene	3.4	0.44	ug/Kg	8270D LL
Hexachlorobenzene	3.4	0.36	ug/Kg	8270D LL
Hexachlorobutadiene	3.4	0.37	ug/Kg	8270D LL
Hexachlorocyclopentadiene	17	1.8	ug/Kg	8270D LL
Hexachloroethane	17	1.2	ug/Kg	8270D LL

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	RL	MDL	Units	Method
Indeno[1,2,3-cd]pyrene	3.4	0.34	ug/Kg	8270D LL
Isophorone	17	1.3	ug/Kg	8270D LL
Methylphenol, 3 & 4	17	1.6	ug/Kg	8270D LL
Naphthalene	3.4	0.29	ug/Kg	8270D LL
Nitrobenzene	33	1.4	ug/Kg	8270D LL
N-Nitrosodimethylamine	17	1.4	ug/Kg	8270D LL
N-Nitrosodi-n-propylamine	3.4	0.39	ug/Kg	8270D LL
N-Nitrosodiphenylamine	17	1.5	ug/Kg	8270D LL
Pentachlorophenol	17	1.5	ug/Kg	8270D LL
Phenanthrene	3.4	0.53	ug/Kg	8270D LL
Phenol	3.4	0.39	ug/Kg	8270D LL
Pyrene	3.4	0.34	ug/Kg	8270D LL

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.042	0.0025	ug/Kg	8081B_LL
2,4'-DDE	0.042	0.0039	ug/Kg	8081B_LL
2,4'-DDT	0.042	0.0036	ug/Kg	8081B_LL
4,4'-DDD	0.042	0.0055	ug/Kg	8081B_LL
4,4'-DDE	0.042	0.0063	ug/Kg	8081B_LL
4,4'-DDT	0.042	0.0063	ug/Kg	8081B_LL
Aldrin	0.042	0.0075	ug/Kg	8081B_LL
alpha-BHC	0.042	0.0068	ug/Kg	8081B_LL
beta-BHC	0.042	0.011	ug/Kg	8081B_LL
Chlordane (technical)	0.42	0.018	ug/Kg	8081B_LL
Chlorobenside	0.042	0.022	ug/Kg	8081B_LL
DCPA	0.042	0.0064	ug/Kg	8081B_LL
delta-BHC	0.042	0.0064	ug/Kg	8081B_LL
Dieldrin	0.042	0.0070	ug/Kg	8081B_LL
Endosulfan I	0.042	0.0079	ug/Kg	8081B_LL
Endosulfan II	0.042	0.0074	ug/Kg	8081B_LL
Endosulfan sulfate	0.042	0.0044	ug/Kg	8081B_LL
Endrin	0.042	0.0081	ug/Kg	8081B_LL
Endrin aldehyde	0.042	0.0081	ug/Kg	8081B_LL
gamma-BHC (Lindane)	0.042	0.0073	ug/Kg	8081B_LL
Heptachlor	0.042	0.0093	ug/Kg	8081B_LL
Heptachlor epoxide	0.042	0.0081	ug/Kg	8081B_LL
Methoxychlor	0.083	0.0087	ug/Kg	8081B_LL
Mirex	0.042	0.0039	ug/Kg	8081B_LL
Toxaphene	1.7	0.28	ug/Kg	8081B_LL

Method: 8082A - PCB Congeners (GC)

Analyte	RL	MDL	Units	Method
DCB Decachlorobiphenyl	1.0	0.070	ug/Kg	8082A
PCB-101	1.0	0.12	ug/Kg	8082A
PCB-105	1.0	0.082	ug/Kg	8082A
PCB-118	1.0	0.090	ug/Kg	8082A
PCB-126	1.0	0.33	ug/Kg	8082A
PCB-128	1.0	0.11	ug/Kg	8082A
PCB-138	1.0	0.084	ug/Kg	8082A

Method: 8082A - PCB Congeners (GC) (Continued)

Analyte	RL	MDL	Units	Method
PCB-153	1.0	0.086	ug/Kg	8082A
PCB-156	1.0	0.067	ug/Kg	8082A
PCB-169	1.0	0.064	ug/Kg	8082A
PCB-170	1.0	0.076	ug/Kg	8082A
PCB-18	1.0	0.28	ug/Kg	8082A
PCB-180	1.0	0.086	ug/Kg	8082A
PCB-183	1.0	0.22	ug/Kg	8082A
PCB-184	1.0	0.090	ug/Kg	8082A
PCB-187	1.0	0.12	ug/Kg	8082A
PCB-195	1.0	0.20	ug/Kg	8082A
PCB-206	1.0	0.070	ug/Kg	8082A
PCB-28	1.0	0.14	ug/Kg	8082A
PCB-44	1.0	0.11	ug/Kg	8082A
PCB-49	1.0	0.21	ug/Kg	8082A
PCB-52	1.0	0.19	ug/Kg	8082A
PCB-66	1.0	0.090	ug/Kg	8082A
PCB-77	1.0	0.11	ug/Kg	8082A
PCB-8	1.0	0.33	ug/Kg	8082A
PCB-87	1.0	0.10	ug/Kg	8082A

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
Azinphos-methyl	17	1.6	ug/Kg	8141B
Bolstar	17	1.6	ug/Kg	8141B
Chlorpyrifos	17	1.6	ug/Kg	8141B
Coumaphos	17	1.6	ug/Kg	8141B
Demeton, Total	33	3.0	ug/Kg	8141B
Diazinon	17	1.6	ug/Kg	8141B
Dichlorvos	17	1.5	ug/Kg	8141B
Dimethoate	17	1.6	ug/Kg	8141B
Disulfoton	17	1.8	ug/Kg	8141B
EPN	17	1.4	ug/Kg	8141B
Famphur	17	1.6	ug/Kg	8141B
Fensulfothion	17	1.3	ug/Kg	8141B
Fenthion	17	1.6	ug/Kg	8141B
Malathion	17	1.6	ug/Kg	8141B
Methyl parathion	17	1.5	ug/Kg	8141B
Mevinphos	17	1.6	ug/Kg	8141B
Mocap	17	1.6	ug/Kg	8141B
O,O,O-Triethyl phosphorothioate	17	3.2	ug/Kg	8141B
Parathion	17	1.3	ug/Kg	8141B
Phorate	17	1.7	ug/Kg	8141B
Ronnel	17	1.6	ug/Kg	8141B
Stirophos	17	1.7	ug/Kg	8141B
Sulfotepp	17	1.6	ug/Kg	8141B
Thionazin	17	1.6	ug/Kg	8141B
Tokuthion	17	1.6	ug/Kg	8141B
Trichloronate	17	1.9	ug/Kg	8141B

Method: 6010B - Metals (ICP) - SEM/AVS

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43044-1

Method: 6010B - Metals (ICP) - SEM/AVS

Analyte	RL	MDL	Units	Method
Cadmium SEM	0.13	0.0041	mg/Kg	6010B
Cadmium SEM	0.0011	0.000036	umol/g	6010B
Copper SEM	0.63	0.056	mg/Kg	6010B
Copper SEM	0.0098	0.00088	umol/g	6010B
Lead SEM	0.25	0.050	mg/Kg	6010B
Lead SEM	0.0012	0.00024	umol/g	6010B
Nickel SEM	1.0	0.029	mg/Kg	6010B
Nickel SEM	0.017	0.00049	umol/g	6010B
Zinc SEM	2.5	0.18	mg/Kg	6010B
Zinc SEM	0.038	0.0028	umol/g	6010B

Method: 6020A - Metals (ICP/MS)

Analyte	RL	MDL	Units	Method
Aluminum	1.5	0.14	mg/Kg	6020A
Antimony	0.10	0.0013	mg/Kg	6020A
Arsenic	0.050	0.0091	mg/Kg	6020A
Barium	0.50	0.0054	mg/Kg	6020A
Beryllium	0.050	0.0038	mg/Kg	6020A
Cadmium	0.050	0.0035	mg/Kg	6020A
Calcium	25	0.66	mg/Kg	6020A
Chromium	0.10	0.0031	mg/Kg	6020A
Cobalt	0.025	0.00075	mg/Kg	6020A
Copper	0.10	0.017	mg/Kg	6020A
Iron	2.5	0.18	mg/Kg	6020A
Lead	0.050	0.0019	mg/Kg	6020A
Magnesium	25	0.094	mg/Kg	6020A
Manganese	0.25	0.0052	mg/Kg	6020A
Nickel	0.050	0.0057	mg/Kg	6020A
Potassium	25	0.68	mg/Kg	6020A
Selenium	0.25	0.025	mg/Kg	6020A
Silver	0.050	0.0020	mg/Kg	6020A
Sodium	25	0.68	mg/Kg	6020A
Thallium	0.050	0.0010	mg/Kg	6020A
Vanadium	0.050	0.0040	mg/Kg	6020A
Zinc	0.25	0.032	mg/Kg	6020A

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	RL	MDL	Units	Method
Mercury	0.017	0.0057	mg/Kg	7471B

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	RL	MDL	Units	Method
SEM/AVS Ratio	0.0010	0.0010	NONE	SEM

General Chemistry

Analyte	RL	MDL	Units	Method
Percent Moisture	0.10	0.10	%	2540G
Ammonia, distilled	5.0	3.2	mg/Kg	350.1

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43044-1

General Chemistry (Continued)

Analyte	RL	MDL	Units	Method
Cyanide, Total	0.25	0.082	mg/Kg	9014
Sulfide	30	6.0	mg/Kg	9034
Total Organic Carbon - Duplicates	1000	89	mg/Kg	Lloyd Kahn
Total Phosphorus as P	10	0.91	mg/Kg	SM4500 P E-1999
Nitrogen, Kjeldahl	150	51	mg/Kg	SM4500_NH3_E

General Chemistry - Soluble

Analyte	RL	MDL	Units	Method
Nitrate Nitrite as N	0.10	0.022	mg/Kg	353.2

General Chemistry - SEM/AVS

Analyte	RL	MDL	Units	Method
Acid Volatile Sulfides (AVS)	30	6.0	mg/Kg	9034
Acid Volatile Sulfides (AVS)	0.94	0.19	umol/g	9034

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43044-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(38-103)	(34-103)	(20-113)	(41-108)	(35-103)	(28-109)
180-43044-1	TS-3SB-SED	59	72	48	79	86	61
180-43044-2	TS-4MT-SED	64	77	52	87	92	59
180-43044-3	TS-4SB-SED	57	69	39	80	83	59
180-43044-4	TS-4NB-SED	53	65	44	75	80	53
180-43044-5	TS-4ST-SED	58	70	53	82	85	62
LCS 180-139097/2-A	Lab Control Sample	60	64	61	77	75	64
MB 180-139097/1-A	Method Blank	51	60	45	69	70	56

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(10-140)	(10-140)	(10-140)	(10-140)
180-43044-1	TS-3SB-SED	50	55	56	60
180-43044-2	TS-4MT-SED	49	57	61	59
180-43044-3	TS-4SB-SED	61	69	79	81
180-43044-4	TS-4NB-SED	54	60	62	62
180-43044-5	TS-4ST-SED	61	71	78	80
LCS 180-139146/2-B	Lab Control Sample	73	70	75	75
MB 180-139146/1-B	Method Blank	73	74	82	79

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
180-43044-1	TS-3SB-SED	61	61	73	72
180-43044-2	TS-4MT-SED	60	60	66	66
180-43044-3	TS-4SB-SED	60	59	70	76
180-43044-4	TS-4NB-SED	50	47	57	57
180-43044-4 MS	TS-4NB-SED	46	46	53	54
180-43044-4 MSD	TS-4NB-SED	46	47	55	61
180-43044-5	TS-4ST-SED	59	61	73	95
LCS 180-139502/2-C	Lab Control Sample	77	76	85	94
MB 180-139502/1-C	Method Blank	79	78	85	95

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(47-130)	(47-130)	(55-125)	(55-125)
180-43044-1	TS-3SB-SED	87	86	87	91
180-43044-2	TS-4MT-SED	88	85	90	91
180-43044-3	TS-4SB-SED	88	84	90	91
180-43044-3 MS	TS-4SB-SED	92	94	91	92
180-43044-3 MSD	TS-4SB-SED	65	66	62	65
180-43044-4	TS-4NB-SED	94	91	94	98
180-43044-5	TS-4ST-SED	74	70	72	76
LCS 180-138799/2-A	Lab Control Sample	120	122	123	125
MB 180-138799/1-A	Method Blank	94	90	111	116

Surrogate Legend

TBPH = Tributyl phosphate
TPP = Triphenylphosphate

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-139097/1-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		340	70	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,2-Dichlorobenzene	ND		17	1.7	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,3-Dichlorobenzene	ND		17	1.3	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,4-Dichlorobenzene	ND		17	1.2	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzoic acid	ND		85	6.9	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Bis(2-chloroethyl)ether	ND		3.4	0.45	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Bis(2-chloroethoxy)methane	ND		17	1.1	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Bis(2-ethylhexyl) phthalate	ND		33	2.7	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4-Bromophenyl phenyl ether	ND		17	1.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Butyl benzyl phthalate	ND		17	2.3	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4-Chloro-3-methylphenol	ND		17	1.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Chloronaphthalene	ND		3.4	0.35	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Chlorophenol	ND		17	1.4	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4-Chlorophenyl phenyl ether	ND		17	1.9	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Di-n-butyl phthalate	ND		17	2.1	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
3,3'-Dichlorobenzidine	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4-Dichlorophenol	ND		3.4	0.33	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Diethyl phthalate	3.29	J	17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4,6-Dinitro-2-methylphenol	ND		85	6.7	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4-Dimethylphenol	ND		17	2.6	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Dimethyl phthalate	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4-Dinitrophenol	ND		85	20	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4-Dinitrotoluene	ND		17	1.3	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,6-Dinitrotoluene	ND		17	1.7	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		17	2.1	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Di-n-octyl phthalate	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Hexachlorobenzene	ND		3.4	0.36	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Hexachlorobutadiene	ND		3.4	0.37	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Hexachloroethane	ND		17	1.2	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Hexachlorocyclopentadiene	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Isophorone	ND		17	1.3	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Methylphenol	ND		17	1.2	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Methylphenol, 3 & 4	ND		17	1.6	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Nitrobenzene	ND		33	1.4	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Nitrophenol	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4-Nitrophenol	ND		85	6.1	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
N-Nitrosodiphenylamine	ND		17	1.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
N-Nitrosodimethylamine	ND		17	1.4	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
N-Nitrosodi-n-propylamine	ND		3.4	0.39	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,2'-oxybis[1-chloropropane]	ND		3.4	0.36	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Pentachlorophenol	ND		17	1.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Phenol	ND		3.4	0.39	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,2,4-Trichlorobenzene	ND		17	0.92	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4,6-Trichlorophenol	ND		17	2.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Methylnaphthalene	ND		3.4	0.30	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1-Methylnaphthalene	ND		3.4	0.36	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Naphthalene	ND		3.4	0.29	ug/Kg		04/21/15 03:10	04/24/15 04:55	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-139097/1-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		3.4	0.38	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Acenaphthene	ND		3.4	0.32	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Fluorene	ND		3.4	0.44	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Phenanthrene	ND		3.4	0.53	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Anthracene	ND		3.4	0.33	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Fluoranthene	ND		3.4	0.36	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Pyrene	ND		3.4	0.34	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[a]anthracene	ND		3.4	0.42	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Chrysene	ND		3.4	0.40	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[b]fluoranthene	ND		3.4	0.52	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[k]fluoranthene	ND		3.4	0.67	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[a]pyrene	ND		3.4	0.33	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Indeno[1,2,3-cd]pyrene	ND		3.4	0.34	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Dibenz(a,h)anthracene	ND		3.4	0.37	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[g,h,i]perylene	ND		3.4	0.33	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzyl alcohol	ND		17	2.0	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Dibenzofuran	ND		17	1.6	ug/Kg		04/21/15 03:10	04/24/15 04:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*51*		*38 - 103*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
2-Fluorophenol (Surr)	*60*		*34 - 103*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
2,4,6-Tribromophenol (Surr)	*45*		*20 - 113*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
Nitrobenzene-d5 (Surr)	*69*		*41 - 108*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
Phenol-d5 (Surr)	*70*		*35 - 103*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*04/21/15 03:10*	*04/24/15 04:55*	*1*

Lab Sample ID: LCS 180-139097/2-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	333	ND		ug/Kg		18	10 - 101
1,2-Dichlorobenzene	333	206		ug/Kg		62	30 - 100
1,3-Dichlorobenzene	333	194		ug/Kg		58	30 - 100
1,4-Dichlorobenzene	333	201		ug/Kg		60	29 - 100
Benzoic acid	333	228		ug/Kg		68	10 - 131
Bis(2-chloroethyl)ether	333	225		ug/Kg		68	31 - 100
Bis(2-chloroethoxy)methane	333	230		ug/Kg		69	31 - 100
Bis(2-ethylhexyl) phthalate	333	236		ug/Kg		71	32 - 106
4-Bromophenyl phenyl ether	333	186		ug/Kg		56	33 - 100
Butyl benzyl phthalate	333	233		ug/Kg		70	33 - 105
4-Chloro-3-methylphenol	333	272		ug/Kg		82	37 - 100
2-Chloronaphthalene	333	175		ug/Kg		53	29 - 100
2-Chlorophenol	333	219		ug/Kg		66	31 - 100
4-Chlorophenyl phenyl ether	333	202		ug/Kg		61	35 - 100
Di-n-butyl phthalate	333	226		ug/Kg		68	36 - 102
3,3'-Dichlorobenzidine	333	177		ug/Kg		53	29 - 100
2,4-Dichlorophenol	333	214		ug/Kg		64	34 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139097/2-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diethyl phthalate	333	225		ug/Kg		68	36 - 103
4,6-Dinitro-2-methylphenol	667	468		ug/Kg		70	36 - 100
2,4-Dimethylphenol	333	244		ug/Kg		73	34 - 100
Dimethyl phthalate	333	221		ug/Kg		66	36 - 100
2,4-Dinitrophenol	667	541		ug/Kg		81	30 - 100
2,4-Dinitrotoluene	333	258		ug/Kg		77	36 - 102
2,6-Dinitrotoluene	333	236		ug/Kg		71	37 - 100
1,2-Diphenylhydrazine(as Azobenzene)	333	231		ug/Kg		69	29 - 103
Di-n-octyl phthalate	333	255		ug/Kg		76	26 - 112
Hexachlorobenzene	333	175		ug/Kg		52	30 - 104
Hexachlorobutadiene	333	173		ug/Kg		52	30 - 104
Hexachloroethane	333	210		ug/Kg		63	31 - 100
Hexachlorocyclopentadiene	333	176		ug/Kg		53	21 - 113
Isophorone	333	249		ug/Kg		75	34 - 100
2-Methylphenol	333	240		ug/Kg		72	33 - 100
Methylphenol, 3 & 4	333	254		ug/Kg		76	33 - 100
Nitrobenzene	333	235		ug/Kg		70	30 - 100
2-Nitrophenol	333	246		ug/Kg		74	33 - 100
4-Nitrophenol	667	550		ug/Kg		82	23 - 138
N-Nitrosodiphenylamine	667	393		ug/Kg		59	32 - 100
N-Nitrosodimethylamine	333	213		ug/Kg		64	23 - 102
N-Nitrosodi-n-propylamine	333	278		ug/Kg		83	33 - 100
2,2'-oxybis[1-chloropropane]	333	246		ug/Kg		74	29 - 100
Pentachlorophenol	667	381		ug/Kg		57	24 - 106
Phenol	333	235		ug/Kg		70	34 - 100
1,2,4-Trichlorobenzene	333	184		ug/Kg		55	31 - 100
2,4,6-Trichlorophenol	333	201		ug/Kg		60	34 - 103
2-Methylnaphthalene	333	225		ug/Kg		68	33 - 100
1-Methylnaphthalene	333	213		ug/Kg		64	31 - 100
Naphthalene	333	203		ug/Kg		61	32 - 100
Acenaphthylene	333	210		ug/Kg		63	34 - 100
Acenaphthene	333	205		ug/Kg		61	34 - 100
Fluorene	333	216		ug/Kg		65	35 - 100
Phenanthrene	333	209		ug/Kg		63	33 - 100
Anthracene	333	211		ug/Kg		63	35 - 100
Fluoranthene	333	215		ug/Kg		64	36 - 100
Pyrene	333	231		ug/Kg		69	32 - 100
Benzo[a]anthracene	333	212		ug/Kg		63	37 - 100
Chrysene	333	217		ug/Kg		65	37 - 100
Benzo[b]fluoranthene	333	226		ug/Kg		68	31 - 100
Benzo[k]fluoranthene	333	231		ug/Kg		69	34 - 100
Benzo[a]pyrene	333	218		ug/Kg		65	36 - 100
Indeno[1,2,3-cd]pyrene	333	189		ug/Kg		57	31 - 103
Dibenz(a,h)anthracene	333	194		ug/Kg		58	31 - 106
Benzo[g,h,i]perylene	333	189		ug/Kg		57	29 - 106
Benzyl alcohol	333	243		ug/Kg		73	30 - 100
Dibenzofuran	333	211		ug/Kg		63	35 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139097/2-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139097

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	60		38 - 103
2-Fluorophenol (Surr)	64		34 - 103
2,4,6-Tribromophenol (Surr)	61		20 - 113
Nitrobenzene-d5 (Surr)	77		41 - 108
Phenol-d5 (Surr)	75		35 - 103
Terphenyl-d14 (Surr)	64		28 - 109

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-139146/1-B
Matrix: Sediment
Analysis Batch: 140156

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139146

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.042	0.0075	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
alpha-BHC	ND		0.042	0.0068	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
beta-BHC	ND		0.042	0.011	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
delta-BHC	ND		0.042	0.0064	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
gamma-BHC (Lindane)	ND		0.042	0.0073	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Chlordane (technical)	ND		0.42	0.018	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Chlorobenside	ND		0.042	0.022	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
DCPA	ND		0.042	0.0064	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
4,4'-DDD	ND		0.042	0.0055	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
4,4'-DDE	ND		0.042	0.0063	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
4,4'-DDT	ND		0.042	0.0063	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Dieldrin	ND		0.042	0.0070	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Endosulfan I	ND		0.042	0.0079	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
2,4'-DDD	ND		0.042	0.0025	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Endosulfan II	ND		0.042	0.0074	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Endosulfan sulfate	ND		0.042	0.0044	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
2,4'-DDE	ND		0.042	0.0039	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Endrin	ND		0.042	0.0081	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Endrin aldehyde	ND		0.042	0.0081	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
2,4'-DDT	ND		0.042	0.0036	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Heptachlor	ND		0.042	0.0093	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Heptachlor epoxide	ND		0.042	0.0081	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Methoxychlor	ND		0.083	0.0087	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Mirex	ND		0.042	0.0039	ug/Kg		04/21/15 10:31	04/30/15 17:39	1
Toxaphene	ND		1.7	0.28	ug/Kg		04/21/15 10:31	04/30/15 17:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	73		10 - 140	04/21/15 10:31	04/30/15 17:39	1
Tetrachloro-m-xylene	74		10 - 140	04/21/15 10:31	04/30/15 17:39	1
DCB Decachlorobiphenyl (Surr)	82		10 - 140	04/21/15 10:31	04/30/15 17:39	1
DCB Decachlorobiphenyl (Surr)	79		10 - 140	04/21/15 10:31	04/30/15 17:39	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-139146/2-B
Matrix: Sediment
Analysis Batch: 140156

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139146

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aldrin			1.67	1.27		ug/Kg		76	10 - 150		
alpha-BHC			1.67	1.23		ug/Kg		74	10 - 150		
beta-BHC			1.67	1.29		ug/Kg		77	10 - 150		
delta-BHC			1.67	0.952		ug/Kg		57	20 - 124		
gamma-BHC (Lindane)			1.67	1.26		ug/Kg		75	10 - 150		
4,4'-DDD			1.67	1.30		ug/Kg		78	15 - 150		
4,4'-DDE			1.67	1.34		ug/Kg		80	10 - 150		
4,4'-DDT			1.67	1.51		ug/Kg		91	10 - 150		
Dieldrin			1.67	1.31		ug/Kg		79	20 - 150		
Endosulfan I			1.67	1.26		ug/Kg		76	20 - 150		
Endosulfan II			1.67	1.30		ug/Kg		78	10 - 150		
Endosulfan sulfate			1.67	1.24		ug/Kg		74	13 - 140		
Endrin			1.67	1.30		ug/Kg		78	10 - 150		
Endrin aldehyde			1.67	1.07		ug/Kg		64	10 - 150		
Heptachlor			1.67	1.34		ug/Kg		80	10 - 150		
Heptachlor epoxide			1.67	1.26		ug/Kg		75	10 - 150		
Methoxychlor			1.67	1.53		ug/Kg		92	10 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*73*		*10 - 140*
Tetrachloro-m-xylene	*70*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*75*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*75*		*10 - 140*

Method: 8082A - PCB Congeners (GC)

Lab Sample ID: MB 180-139502/1-C
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139502

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.50	0.16	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-18	ND		0.50	0.14	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-28	ND		0.50	0.071	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-44	ND		0.50	0.056	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-49	ND		0.50	0.10	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-52	ND		0.50	0.096	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-66	ND		0.50	0.045	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-77	ND		0.50	0.054	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-87	ND		0.50	0.051	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-101	ND		0.50	0.059	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-105	ND		0.50	0.041	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-118	ND		0.50	0.045	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-126	ND		0.50	0.17	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-128	ND		0.50	0.053	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-138	ND		0.50	0.042	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-153	ND		0.50	0.043	ug/Kg		04/24/15 04:41	05/01/15 17:40	1

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: MB 180-139502/1-C
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139502

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-156	ND		0.50	0.033	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-169	ND		0.50	0.032	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-170	ND		0.50	0.038	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-180	ND		0.50	0.043	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-183	ND		0.50	0.11	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-184	ND		0.50	0.045	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-187	ND		0.50	0.062	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-195	ND		0.50	0.099	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-206	ND		0.50	0.035	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
DCB Decachlorobiphenyl	ND		0.50	0.035	ug/Kg		04/24/15 04:41	05/01/15 17:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*79*		*35 - 140*	*04/24/15 04:41*	*05/01/15 17:40*	*1*
Tetrachloro-m-xylene (Surr)	*78*		*35 - 140*	*04/24/15 04:41*	*05/01/15 17:40*	*1*
PCB-205 (Surr)	*85*		*35 - 140*	*04/24/15 04:41*	*05/01/15 17:40*	*1*
PCB-205 (Surr)	*95*		*35 - 140*	*04/24/15 04:41*	*05/01/15 17:40*	*1*

Lab Sample ID: LCS 180-139502/2-C
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139502

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	10.0	9.84		ug/Kg		98	50 - 140
PCB-18	10.0	9.05		ug/Kg		91	50 - 140
PCB-28	10.0	8.93		ug/Kg		89	50 - 140
PCB-44	10.0	8.29		ug/Kg		83	50 - 140
PCB-49	10.0	8.59		ug/Kg		86	50 - 140
PCB-52	10.0	8.41		ug/Kg		84	50 - 140
PCB-66	10.0	9.85		ug/Kg		99	50 - 140
PCB-77	10.0	10.1		ug/Kg		101	50 - 140
PCB-87	10.0	10.6		ug/Kg		106	50 - 140
PCB-101	10.0	9.20		ug/Kg		92	50 - 140
PCB-105	10.0	9.26		ug/Kg		93	50 - 140
PCB-118	10.0	9.61		ug/Kg		96	50 - 140
PCB-126	10.0	8.67		ug/Kg		87	50 - 140
PCB-128	10.0	8.53		ug/Kg		85	50 - 140
PCB-138	10.0	8.64		ug/Kg		86	50 - 140
PCB-153	10.0	8.31		ug/Kg		83	50 - 140
PCB-156	10.0	8.93		ug/Kg		89	50 - 140
PCB-169	10.0	7.90		ug/Kg		79	50 - 140
PCB-170	10.0	8.26		ug/Kg		83	50 - 140
PCB-180	10.0	8.63		ug/Kg		86	50 - 140
PCB-183	10.0	7.87		ug/Kg		79	50 - 140
PCB-184	10.0	9.52		ug/Kg		95	50 - 140
PCB-187	10.0	8.12		ug/Kg		81	50 - 140
PCB-195	10.0	8.53		ug/Kg		85	50 - 140
PCB-206	10.0	7.84		ug/Kg		78	50 - 140
DCB Decachlorobiphenyl	10.0	8.64		ug/Kg		86	50 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene (Surr)	77		35 - 140
Tetrachloro-m-xylene (Surr)	76		35 - 140
PCB-205 (Surr)	85		35 - 140
PCB-205 (Surr)	94		35 - 140

Lab Sample ID: 180-43044-4 MS
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: TS-4NB-SED
Prep Type: Total/NA
Prep Batch: 139502

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	0.66	p	12.5	9.26		ug/Kg	☼	69	50 - 140
PCB-18	ND		12.5	8.22		ug/Kg	☼	66	50 - 140
PCB-28	ND		12.5	8.93		ug/Kg	☼	71	50 - 140
PCB-44	ND		12.5	7.06		ug/Kg	☼	56	50 - 140
PCB-49	ND		12.5	7.08		ug/Kg	☼	56	50 - 140
PCB-52	ND		12.5	7.00		ug/Kg	☼	56	50 - 140
PCB-66	ND		12.5	8.88		ug/Kg	☼	71	50 - 140
PCB-77	ND	F1 F2	12.5	2.28	F1	ug/Kg	☼	18	50 - 140
PCB-87	ND		12.5	8.53		ug/Kg	☼	68	50 - 140
PCB-101	ND		12.5	7.55		ug/Kg	☼	60	50 - 140
PCB-105	ND		12.5	7.46		ug/Kg	☼	59	50 - 140
PCB-118	ND		12.5	7.78		ug/Kg	☼	62	50 - 140
PCB-126	ND	F1	12.5	6.85		ug/Kg	☼	55	50 - 140
PCB-128	ND		12.5	6.88		ug/Kg	☼	55	50 - 140
PCB-138	ND		12.5	7.21		ug/Kg	☼	57	50 - 140
PCB-153	ND		12.5	6.52		ug/Kg	☼	52	50 - 140
PCB-156	ND		12.5	7.17		ug/Kg	☼	57	50 - 140
PCB-169	ND	F1	12.5	2.46	F1	ug/Kg	☼	20	50 - 140
PCB-170	ND		12.5	6.81		ug/Kg	☼	54	50 - 140
PCB-180	ND		12.5	7.19		ug/Kg	☼	57	50 - 140
PCB-183	ND		12.5	6.40		ug/Kg	☼	51	50 - 140
PCB-184	ND		12.5	7.83		ug/Kg	☼	62	50 - 140
PCB-187	ND		12.5	6.82		ug/Kg	☼	54	50 - 140
PCB-195	ND		12.5	6.71		ug/Kg	☼	54	50 - 140
PCB-206	0.078	J F1	12.5	6.12	F1	ug/Kg	☼	48	50 - 140
DCB Decachlorobiphenyl	ND		12.5	6.62		ug/Kg	☼	53	50 - 140

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene (Surr)	46		35 - 140
Tetrachloro-m-xylene (Surr)	46		35 - 140
PCB-205 (Surr)	53		35 - 140
PCB-205 (Surr)	54		35 - 140

Lab Sample ID: 180-43044-4 MSD
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: TS-4NB-SED
Prep Type: Total/NA
Prep Batch: 139502

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-8	0.66	p	12.4	9.44		ug/Kg	☼	71	50 - 140	2	40
PCB-18	ND		12.4	8.65		ug/Kg	☼	70	50 - 140	5	40
PCB-28	ND		12.4	9.30		ug/Kg	☼	75	50 - 140	4	40
PCB-44	ND		12.4	7.26		ug/Kg	☼	58	50 - 140	3	40
PCB-49	ND		12.4	7.37		ug/Kg	☼	59	50 - 140	4	40

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: 180-43044-4 MSD
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: TS-4NB-SED
Prep Type: Total/NA
Prep Batch: 139502

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-52	ND		12.4	7.25		ug/Kg	☼	58	50 - 140	3	40
PCB-66	ND		12.4	9.24		ug/Kg	☼	74	50 - 140	4	40
PCB-77	ND	F1 F2	12.4	1.73	p F1	ug/Kg	☼	14	50 - 140	27	40
PCB-87	ND		12.4	8.89		ug/Kg	☼	72	50 - 140	4	40
PCB-101	ND		12.4	7.92		ug/Kg	☼	64	50 - 140	5	40
PCB-105	ND		12.4	7.79		ug/Kg	☼	63	50 - 140	4	40
PCB-118	ND		12.4	8.17		ug/Kg	☼	66	50 - 140	5	40
PCB-126	ND	F1	12.4	5.75	F1	ug/Kg	☼	46	50 - 140	17	40
PCB-128	ND		12.4	7.15		ug/Kg	☼	58	50 - 140	4	40
PCB-138	ND		12.4	7.47		ug/Kg	☼	60	50 - 140	4	40
PCB-153	ND		12.4	6.71		ug/Kg	☼	54	50 - 140	3	40
PCB-156	ND		12.4	7.46		ug/Kg	☼	60	50 - 140	4	40
PCB-169	ND	F1	12.4	2.04	F1	ug/Kg	☼	16	50 - 140	19	40
PCB-170	ND		12.4	6.97		ug/Kg	☼	56	50 - 140	2	40
PCB-180	ND		12.4	7.19		ug/Kg	☼	58	50 - 140	0	40
PCB-183	ND		12.4	6.67		ug/Kg	☼	54	50 - 140	4	40
PCB-184	ND		12.4	8.19		ug/Kg	☼	66	50 - 140	5	40
PCB-187	ND		12.4	7.02		ug/Kg	☼	57	50 - 140	3	40
PCB-195	ND		12.4	6.98		ug/Kg	☼	56	50 - 140	4	40
PCB-206	0.078	J F1	12.4	6.22	F1	ug/Kg	☼	49	50 - 140	2	40
DCB Decachlorobiphenyl	ND		12.4	6.76		ug/Kg	☼	54	50 - 140	2	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*46*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*47*		*35 - 140*
PCB-205 (Surr)	*55*		*35 - 140*
PCB-205 (Surr)	*61*		*35 - 140*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Lab Sample ID: MB 180-138799/1-A
Matrix: Sediment
Analysis Batch: 138993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138799

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Demeton, Total	ND		33	3.0	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Malathion	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Methyl parathion	ND		17	1.5	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Parathion	ND		17	1.3	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Bolstar	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Chlorpyrifos	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Coumaphos	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Diazinon	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Dichlorvos	ND		17	1.5	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Dimethoate	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: MB 180-138799/1-A
Matrix: Sediment
Analysis Batch: 138993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138799

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		17	1.8	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
EPN	ND		17	1.4	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Mocap	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Famphur	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Fensulfothion	ND		17	1.3	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Fenthion	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Mevinphos	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Phorate	ND		17	1.7	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Ronnel	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Stirophos	ND		17	1.7	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Sulfotepp	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Thionazin	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Tokuthion	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Trichloronate	ND		17	1.9	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
O,O,O-Triethyl phosphorothioate	ND		17	3.2	ug/Kg		04/17/15 04:37	04/20/15 14:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*94*		*47 - 130*	*04/17/15 04:37*	*04/20/15 14:39*	*1*
Tributyl phosphate	*90*		*47 - 130*	*04/17/15 04:37*	*04/20/15 14:39*	*1*
Triphenylphosphate	*111*		*55 - 125*	*04/17/15 04:37*	*04/20/15 14:39*	*1*
Triphenylphosphate	*116*		*55 - 125*	*04/17/15 04:37*	*04/20/15 14:39*	*1*

Lab Sample ID: LCS 180-138799/2-A
Matrix: Sediment
Analysis Batch: 138993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138799

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	167	169		ug/Kg		101	40 - 150
Malathion	167	180		ug/Kg		108	50 - 135
Methyl parathion	167	171		ug/Kg		103	43 - 146
Parathion	167	176		ug/Kg		106	52 - 133
Bolstar	167	181		ug/Kg		109	10 - 150
Chlorpyrifos	167	182		ug/Kg		109	50 - 130
Coumaphos	167	179		ug/Kg		107	10 - 150
Diazinon	167	175		ug/Kg		105	50 - 150
Dichlorvos	167	198		ug/Kg		119	10 - 150
Dimethoate	167	162		ug/Kg		97	40 - 143
Disulfoton	167	178		ug/Kg		107	31 - 136
EPN	167	172		ug/Kg		103	10 - 150
Mocap	167	179		ug/Kg		107	10 - 150
Famphur	167	174		ug/Kg		104	54 - 137
Fensulfothion	167	163		ug/Kg		98	10 - 150
Fenthion	167	177		ug/Kg		106	10 - 150
Mevinphos	167	160		ug/Kg		96	10 - 150
Phorate	167	181		ug/Kg		109	41 - 143
Ronnel	167	172		ug/Kg		103	10 - 150
Stirophos	167	168		ug/Kg		101	10 - 150

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCS 180-138799/2-A
Matrix: Sediment
Analysis Batch: 138993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138799

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfotepp			167	181		ug/Kg		109	48 - 126		
Thionazin			167	179		ug/Kg		107	48 - 126		
Tokuthion			167	177		ug/Kg		106	10 - 150		
Trichloronate			167	180		ug/Kg		108	10 - 150		
O,O,O-Triethyl phosphorothioate			167	171		ug/Kg		103	45 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tributyl phosphate	*120*		*47 - 130*
Tributyl phosphate	*122*		*47 - 130*
Triphenylphosphate	*123*		*55 - 125*
Triphenylphosphate	*125*		*55 - 125*

Lab Sample ID: 180-43044-3 MS
Matrix: Sediment
Analysis Batch: 138993

Client Sample ID: TS-4SB-SED
Prep Type: Total/NA
Prep Batch: 138799

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Azinphos-methyl	ND	F2	212	183		ug/Kg	☼	86	40 - 150		
Malathion	ND	F2	212	194		ug/Kg	☼	91	50 - 150		
Methyl parathion	ND	F2	212	188		ug/Kg	☼	89	41 - 148		
Parathion	ND	F2	212	190		ug/Kg	☼	89	56 - 125		
Bolstar	ND	F2	212	188		ug/Kg	☼	89	50 - 150		
Chlorpyrifos	ND	F2	212	188		ug/Kg	☼	89	50 - 130		
Coumaphos	ND	F2	212	183		ug/Kg	☼	86	50 - 150		
Diazinon	ND	F2	212	190		ug/Kg	☼	90	50 - 150		
Dichlorvos	ND	F2	212	192		ug/Kg	☼	91	30 - 150		
Dimethoate	ND	F2	212	179		ug/Kg	☼	85	26 - 136		
Disulfoton	ND	F2	212	192		ug/Kg	☼	90	45 - 124		
EPN	ND	F2	212	184		ug/Kg	☼	87	50 - 150		
Mocap	ND	F2	212	195		ug/Kg	☼	92	40 - 150		
Famphur	ND	F2 F1	212	177		ug/Kg	☼	83	52 - 131		
Fensulfothion	ND	F2	212	190		ug/Kg	☼	90	38 - 150		
Fenthion	ND	F2	212	191		ug/Kg	☼	90	10 - 150		
Mevinphos	ND	F2	212	173		ug/Kg	☼	82	30 - 150		
Phorate	ND	F2	212	196		ug/Kg	☼	92	41 - 135		
Ronnel	ND	F2	212	186		ug/Kg	☼	88	50 - 150		
Stirophos	ND	F2	212	177		ug/Kg	☼	84	50 - 150		
Sulfotepp	ND	F2	212	195		ug/Kg	☼	92	56 - 128		
Thionazin	ND	F2	212	192		ug/Kg	☼	91	44 - 128		
Tokuthion	ND	F2	212	186		ug/Kg	☼	88	50 - 150		
Trichloronate	ND	F2	212	190		ug/Kg	☼	90	10 - 150		
O,O,O-Triethyl phosphorothioate	ND		212	181		ug/Kg	☼	85	31 - 131		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tributyl phosphate	*92*		*47 - 130*
Tributyl phosphate	*94*		*47 - 130*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: 180-43044-3 MS
Matrix: Sediment
Analysis Batch: 138993

Client Sample ID: TS-4SB-SED
Prep Type: Total/NA
Prep Batch: 138799

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Triphenylphosphate	*91*		*55 - 125*
Triphenylphosphate	*92*		*55 - 125*

Lab Sample ID: 180-43044-3 MSD
Matrix: Sediment
Analysis Batch: 138993

Client Sample ID: TS-4SB-SED
Prep Type: Total/NA
Prep Batch: 138799

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	ND	F2	211	121	F2	ug/Kg	☼	57	40 - 150	41	30
Malathion	ND	F2	211	137	F2	ug/Kg	☼	65	50 - 150	34	30
Methyl parathion	ND	F2	211	128	F2	ug/Kg	☼	61	41 - 148	38	30
Parathion	ND	F2	211	131	F2	ug/Kg	☼	62	56 - 125	37	21
Bolstar	ND	F2	211	133	F2	ug/Kg	☼	63	50 - 150	35	30
Chlorpyrifos	ND	F2	211	135	F2	ug/Kg	☼	64	50 - 130	33	25
Coumaphos	ND	F2	211	122	F2	ug/Kg	☼	58	50 - 150	40	30
Diazinon	ND	F2	211	131	F2	ug/Kg	☼	62	50 - 150	37	30
Dichlorvos	ND	F2	211	116	F2	ug/Kg	☼	55	30 - 150	49	30
Dimethoate	ND	F2	211	77.0	F2	ug/Kg	☼	36	26 - 136	80	22
Disulfoton	ND	F2	211	138	F2	ug/Kg	☼	65	45 - 124	33	30
EPN	ND	F2	211	127	F2	ug/Kg	☼	60	50 - 150	37	30
Mocap	ND	F2	211	135	F2	ug/Kg	☼	64	40 - 150	36	30
Famphur	ND	F2 F1	211	108	F1 F2	ug/Kg	☼	51	52 - 131	48	24
Fensulfothion	ND	F2	211	87.0	F2	ug/Kg	☼	41	38 - 150	74	30
Fenthion	ND	F2	211	134	F2	ug/Kg	☼	63	10 - 150	35	30
Mevinphos	ND	F2	211	90.0	F2	ug/Kg	☼	43	30 - 150	63	30
Phorate	ND	F2	211	142	F2	ug/Kg	☼	67	41 - 135	32	24
Ronnel	ND	F2	211	132	F2	ug/Kg	☼	63	50 - 150	34	30
Stirophos	ND	F2	211	118	F2	ug/Kg	☼	56	50 - 150	40	30
Sulfotepp	ND	F2	211	136	F2	ug/Kg	☼	64	56 - 128	36	23
Thionazin	ND	F2	211	137	F2	ug/Kg	☼	65	44 - 128	34	21
Tokuthion	ND	F2	211	133	F2	ug/Kg	☼	63	50 - 150	33	30
Trichloronate	ND	F2	211	135	F2	ug/Kg	☼	64	10 - 150	34	30
O,O,O-Triethyl phosphorothioate	ND		211	155		ug/Kg	☼	73	31 - 131	16	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tributyl phosphate	*65*		*47 - 130*
Tributyl phosphate	*66*		*47 - 130*
Triphenylphosphate	*62*		*55 - 125*
Triphenylphosphate	*65*		*55 - 125*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 180-139589/1-A
Matrix: Sediment
Analysis Batch: 139953

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 139589

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.13	0.0041	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Copper SEM	ND		0.63	0.056	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Lead SEM	ND		0.25	0.050	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Nickel SEM	ND		1.0	0.029	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Zinc SEM	1.15	J	2.5	0.18	mg/Kg		04/24/15 13:10	04/28/15 13:04	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.0011	0.000036	umol/g		04/24/15 13:10	04/28/15 13:04	1
Copper SEM	ND		0.0098	0.00088	umol/g		04/24/15 13:10	04/28/15 13:04	1
Lead SEM	ND		0.0012	0.00024	umol/g		04/24/15 13:10	04/28/15 13:04	1
Nickel SEM	ND		0.017	0.00049	umol/g		04/24/15 13:10	04/28/15 13:04	1
Zinc SEM	0.0176	J	0.038	0.0028	umol/g		04/24/15 13:10	04/28/15 13:04	1

Lab Sample ID: LCS 180-139589/2-A
Matrix: Sediment
Analysis Batch: 139953

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 139589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	1.25	1.25		mg/Kg		100	80 - 120
Copper SEM	6.25	6.20		mg/Kg		99	80 - 120
Lead SEM	12.5	12.0		mg/Kg		96	80 - 120
Nickel SEM	12.5	12.1		mg/Kg		97	80 - 120
Zinc SEM	12.5	13.6		mg/Kg		109	80 - 120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	0.011	0.0112		umol/g		100	80 - 120
Copper SEM	0.098	0.0975		umol/g		99	80 - 120
Lead SEM	0.060	0.0580		umol/g		96	80 - 120
Nickel SEM	0.21	0.206		umol/g		97	80 - 120
Zinc SEM	0.19	0.209		umol/g		109	80 - 120

Lab Sample ID: 180-43044-2 MS
Matrix: Sediment
Analysis Batch: 139953

Client Sample ID: TS-4MT-SED
Prep Type: SEM/AVS
Prep Batch: 139589

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	0.0083	J	1.59	1.28		mg/Kg	☼	80	75 - 125
Copper SEM	2.5	F1	7.96	7.87	F1	mg/Kg	☼	68	75 - 125
Lead SEM	2.7		15.9	17.6		mg/Kg	☼	93	75 - 125
Nickel SEM	5.3		15.9	20.2		mg/Kg	☼	93	75 - 125
Zinc SEM	16	F1 B	15.9	27.1	F1	mg/Kg	☼	70	75 - 125

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	0.000074	J	0.014	0.0114		umol/g	☼	80	75 - 125
Copper SEM	0.039	F1	0.13	0.124	F1	umol/g	☼	68	75 - 125
Lead SEM	0.013		0.077	0.0850		umol/g	☼	93	75 - 125
Nickel SEM	0.091		0.27	0.344		umol/g	☼	93	75 - 125
Zinc SEM	0.24	F1 B	0.24	0.414	F1	umol/g	☼	70	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 180-43044-2 MSD
Matrix: Sediment
Analysis Batch: 139953

Client Sample ID: TS-4MT-SED
Prep Type: SEM/AVS
Prep Batch: 139589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium SEM	0.0083	J	1.59	1.27		mg/Kg	☼	80	75 - 125	1	20
Copper SEM	2.5	F1	7.96	7.65	F1	mg/Kg	☼	65	75 - 125	3	20
Lead SEM	2.7		15.9	17.6		mg/Kg	☼	93	75 - 125	0	20
Nickel SEM	5.3		15.9	20.2		mg/Kg	☼	93	75 - 125	0	20
Zinc SEM	16	F1 B	15.9	27.6	F1	mg/Kg	☼	73	75 - 125	2	20

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium SEM	0.000074	J	0.014	0.0113		umol/g	☼	80	75 - 125	1	20
Copper SEM	0.039	F1	0.13	0.120	F1	umol/g	☼	65	75 - 125	3	20
Lead SEM	0.013		0.077	0.0847		umol/g	☼	93	75 - 125	0	20
Nickel SEM	0.091		0.27	0.344		umol/g	☼	93	75 - 125	0	20
Zinc SEM	0.24	F1 B	0.24	0.422	F1	umol/g	☼	73	75 - 125	2	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-139080/1-A
Matrix: Sediment
Analysis Batch: 139939

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139080

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.5	0.14	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Antimony	ND		0.10	0.0013	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Arsenic	ND		0.050	0.0090	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Barium	ND		0.50	0.0053	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Beryllium	ND		0.050	0.0037	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Cadmium	ND		0.050	0.0035	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Chromium	ND		0.10	0.0030	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Calcium	ND		25	0.66	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Cobalt	ND		0.025	0.00075	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Copper	ND		0.10	0.016	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Iron	ND		2.5	0.18	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Lead	ND		0.050	0.0019	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Nickel	ND		0.050	0.0056	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Potassium	ND		25	0.68	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Selenium	ND		0.25	0.025	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Magnesium	ND		25	0.093	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Silver	ND		0.050	0.0019	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Thallium	ND		0.050	0.0010	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Sodium	ND		25	0.68	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Zinc	ND		0.25	0.032	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Vanadium	ND		0.050	0.0039	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Manganese	ND		0.25	0.0051	mg/Kg		04/20/15 15:09	04/28/15 01:02	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-139080/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 139939 — **Prep Batch: 139080**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	100	90.2		mg/Kg		90	80 - 120
Antimony	25.0	23.9		mg/Kg		96	80 - 120
Arsenic	2.00	1.78		mg/Kg		89	80 - 120
Barium	100	96.9		mg/Kg		97	80 - 120
Beryllium	2.50	2.26		mg/Kg		90	80 - 120
Cadmium	2.50	2.43		mg/Kg		97	80 - 120
Chromium	10.0	9.94		mg/Kg		99	80 - 120
Calcium	2500	2600		mg/Kg		104	80 - 120
Cobalt	25.0	25.6		mg/Kg		103	80 - 120
Copper	12.5	11.9		mg/Kg		96	80 - 120
Iron	50.0	54.5		mg/Kg		109	80 - 120
Lead	1.00	1.08		mg/Kg		108	80 - 120
Nickel	25.0	23.6		mg/Kg		94	80 - 120
Potassium	2500	2460		mg/Kg		99	80 - 120
Selenium	0.500	0.439		mg/Kg		88	80 - 120
Magnesium	2500	2280		mg/Kg		91	80 - 120
Silver	2.50	2.43		mg/Kg		97	80 - 120
Thallium	2.50	2.67		mg/Kg		107	80 - 120
Sodium	2500	2290		mg/Kg		92	80 - 120
Zinc	25.0	23.1		mg/Kg		93	80 - 120
Vanadium	25.0	25.7		mg/Kg		103	80 - 120
Manganese	25.0	26.4		mg/Kg		106	80 - 120

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Lab Sample ID: MB 180-139859/1-A — **Client Sample ID: Method Blank**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 140049 — **Prep Batch: 139859**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.016	0.0055	mg/Kg		04/28/15 09:05	04/29/15 11:41	1

Lab Sample ID: LCS 180-139859/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 140049 — **Prep Batch: 139859**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.208	0.198		mg/Kg		95	80 - 120

Method: 2540G - SM 2540G

Lab Sample ID: 180-43044-3 DU — **Client Sample ID: TS-4SB-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 138886

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	21		22		%		2	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 180-140056/1-A
Matrix: Sediment
Analysis Batch: 140173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140056

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		4.9	3.1	mg/Kg		04/29/15 13:17	04/30/15 10:58	1

Lab Sample ID: LCS 180-140056/2-A
Matrix: Sediment
Analysis Batch: 140173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140056

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	97.1	96.8		mg/Kg		100	90 - 110

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: LB 180-140142/2-A
Matrix: Sediment
Analysis Batch: 140363

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.0	0.21	mg/Kg			05/02/15 10:10	1

Lab Sample ID: LCS 180-140142/1-A
Matrix: Sediment
Analysis Batch: 140363

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	39.8	43.2		mg/Kg		108	90 - 110

Method: 9014 - Cyanide

Lab Sample ID: MB 180-138541/4-A
Matrix: Sediment
Analysis Batch: 138612

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138541

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.25	0.082	mg/Kg		04/15/15 12:00	04/15/15 13:10	1

Lab Sample ID: HLCS 180-138541/2-A
Matrix: Sediment
Analysis Batch: 138612

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138541

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.252		mg/Kg		101	90 - 110

Lab Sample ID: LCS 180-138541/3-A
Matrix: Sediment
Analysis Batch: 138612

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138541

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	70.3	90.0		mg/Kg		128	38 - 162

Method: 9014 - Cyanide (Continued)

Lab Sample ID: LLCS 180-138541/1-A
Matrix: Sediment
Analysis Batch: 138612

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138541

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0500	0.0496		mg/Kg		99	90 - 110

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-138806/1-A
Matrix: Sediment
Analysis Batch: 138861

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138806

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		30	6.0	mg/Kg		04/17/15 06:30	04/17/15 10:47	1

Lab Sample ID: LCS 180-138806/2-A
Matrix: Sediment
Analysis Batch: 138861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138806

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	192	178		mg/Kg		93	85 - 115

Lab Sample ID: 180-43044-1 MS
Matrix: Sediment
Analysis Batch: 138861

Client Sample ID: TS-3SB-SED
Prep Type: Total/NA
Prep Batch: 138806

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	29	J	257	241		mg/Kg	☼	83	75 - 125

Lab Sample ID: 180-43044-1 MSD
Matrix: Sediment
Analysis Batch: 138861

Client Sample ID: TS-3SB-SED
Prep Type: Total/NA
Prep Batch: 138806

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	29	J	260	238		mg/Kg	☼	81	75 - 125	1	20

Lab Sample ID: MB 180-139590/1-A
Matrix: Sediment
Analysis Batch: 139629

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 139590

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		15	3.0	mg/Kg		04/24/15 13:10	04/24/15 19:37	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.47	0.094	umol/g		04/24/15 13:10	04/24/15 19:37	1

Lab Sample ID: LCS 180-139590/2-A
Matrix: Sediment
Analysis Batch: 139629

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 139590

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	96.1	87.5		mg/Kg		91	85 - 115

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acid Volatile Sulfides (AVS)			3.0	2.73		umol/g		91	85 - 115		

Lab Sample ID: 180-43044-2 MS — **Client Sample ID: TS-4MT-SED**
Matrix: Sediment — **Prep Type: SEM/AVS**
Analysis Batch: 139629 — **Prep Batch: 139590**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acid Volatile Sulfides (AVS)	ND		121	104		mg/Kg	☼	86	75 - 125		

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acid Volatile Sulfides (AVS)	ND		3.8	3.25		umol/g	☼	86	75 - 125		

Lab Sample ID: 180-43044-2 MSD — **Client Sample ID: TS-4MT-SED**
Matrix: Sediment — **Prep Type: SEM/AVS**
Analysis Batch: 139629 — **Prep Batch: 139590**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acid Volatile Sulfides (AVS)	ND		121	94.7		mg/Kg	☼	78	75 - 125	10	20

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acid Volatile Sulfides (AVS)	ND		3.8	2.95		umol/g	☼	78	75 - 125	10	20

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 180-139540/3 — **Client Sample ID: Method Blank**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 139540

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	89	mg/Kg			04/23/15 09:51	1

Lab Sample ID: LCS 180-139540/4 — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 139540

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates			35000	37300		mg/Kg		107	75 - 125		

Lab Sample ID: MB 180-139579/3 — **Client Sample ID: Method Blank**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 139579

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	89	mg/Kg			04/24/15 04:15	1

Lab Sample ID: LCS 180-139579/4 — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 139579

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates			35000	34300		mg/Kg		98	75 - 125		

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-177993/35-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 177993

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		9.6	0.88	mg/Kg		04/26/15 04:16	04/26/15 09:09	1

Lab Sample ID: LCS 240-177993/36-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 177993

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	16.9	16.0		mg/Kg		94	75 - 125

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total

Lab Sample ID: MB 240-178705/1-A
Matrix: Sediment
Analysis Batch: 178910

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 178705

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		150	50	mg/Kg		04/30/15 11:00	05/01/15 11:47	1

Lab Sample ID: LCS 240-178705/2-A
Matrix: Sediment
Analysis Batch: 178910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 178705

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	367	414		mg/Kg		113	70 - 133

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-43044-1

CBBT Thimble Shoal

Lot #: H5D160402

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TESTAMERICA LABORATORIES, INC.

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Bruce Wagner
Project Manager

April 27, 2015

ANALYTICAL METHODS SUMMARY

H5D160402

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B
Percent Moisture	MCAWW 160.3 MOD

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SAMPLE SUMMARY

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WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M6L05	001	TS-3SB-SED	04/10/15	13:30
M6L06	002	TS-4MT-SED	04/10/15	16:00
M6L07	003	TS-4SB-SED	04/13/15	11:30
M6L08	004	TS-4NB-SED	04/13/15	13:50
M6L09	005	TS-4ST-SED	04/13/15	15:30

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H5D160402

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

For solid and sediments samples, when percent moisture is included in the report header field, the sample results are reported on a dry weight basis. When percent moisture is not contained in the header field, sample results are reported on an as received or wet weight basis.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

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Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

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Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration

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W = amount of sample extracted (grams or liters)
S = percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: TS-3SB-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D160402 - 001	**Work Order #....:**	M6L051AA	**Matrix.....:**	SE
Date Sampled....:	04/10/15	**Date Received....:**	04/16/15	**Units....:**	pg/g
Prep Date....:	04/17/15			**Dilution Factor:**	1
Prep Batch # ....:	5107023			**Percent Moisture:**	31
Initial Wgt/Vol :	14.6 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/23/15	1	ND	1.0	0.079	1.0	0.079
1,2,3,7,8-PeCDD	**4/23/15**	**1**	**1.2 Q J**	**5.0**	**0.039**	**0.5**	**0.60**
1,2,3,4,7,8-HxCDD	**4/23/15**	**1**	**1.2 J**	**5.0**	**0.045**	**0.1**	**0.12**
1,2,3,6,7,8-HxCDD	**4/23/15**	**1**	**1.6 Q B J**	**5.0**	**0.047**	**0.1**	**0.16**
1,2,3,7,8,9-HxCDD	**4/23/15**	**1**	**4.9 C J**	**5.0**	**0.043**	**0.1**	**0.49**
1,2,3,4,6,7,8-HpCDD	**4/23/15**	**1**	**26 B**	**5.0**	**0.058**	**0.01**	**0.26**
OCDD	**4/23/15**	**1**	**170 B**	**10**	**0.060**	**0.001**	**0.17**
2,3,7,8-TCDF	4/23/15	1	ND	1.0	0.010	0.1	0.0010
1,2,3,7,8-PeCDF	**4/23/15**	**1**	**0.048 Q J**	**5.0**	**0.037**	**0.05**	**0.0024**
2,3,4,7,8-PeCDF	**4/23/15**	**1**	**0.087 Q J**	**5.0**	**0.035**	**0.5**	**0.043**
1,2,3,4,7,8-HxCDF	**4/23/15**	**1**	**0.27 Q B J**	**5.0**	**0.032**	**0.1**	**0.027**
1,2,3,6,7,8-HxCDF	**4/23/15**	**1**	**0.026 Q B J**	**5.0**	**0.029**	**0.1**	**0.0026**
2,3,4,6,7,8-HxCDF	4/23/15	1	ND	5.0	0.031	0.1	0.0031
1,2,3,7,8,9-HxCDF	**4/23/15**	**1**	**0.14 Q J**	**5.0**	**0.039**	**0.1**	**0.014**
1,2,3,4,6,7,8-HpCDF	4/23/15	1	ND	5.0	0.062	0.01	0.00062
1,2,3,4,7,8,9-HpCDF	4/23/15	1	ND	5.0	0.083	0.01	0.00083
OCDF	**4/23/15**	**1**	**3.2 Q B J**	**10**	**0.032**	**0.001**	**0.0032**
Total TEQ Concentration							**2.0**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	58	(25 - 164)
13C-1,2,3,7,8-PeCDD	71	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	64	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	69	(23 - 140)
13C-OCDD	66	(17 - 157)
13C-2,3,7,8-TCDF	53	(24 - 169)
13C-1,2,3,7,8-PeCDF	68	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	60	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	59	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	61	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	58	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	59	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	55	(26 - 138)
13C-OCDF	50	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-3SB-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	71	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-4MT-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D160402 - 002	**Work Order #....:**	M6L061AA	**Matrix.....:**	SE
Date Sampled....:	04/10/15	**Date Received....:**	04/16/15	**Units....:**	pg/g
Prep Date....:	04/17/15			**Dilution Factor:**	1
Prep Batch # ....:	5107023			**Percent Moisture:**	21
Initial Wgt/Vol :	13.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/23/15	1	ND	0.97	0.084	1.0	0.084
1,2,3,7,8-PeCDD	**4/23/15**	**1**	**0.22 Q J**	**4.9**	**0.031**	**0.5**	**0.11**
1,2,3,4,7,8-HxCDD	**4/23/15**	**1**	**0.11 Q J**	**4.9**	**0.027**	**0.1**	**0.011**
1,2,3,6,7,8-HxCDD	**4/23/15**	**1**	**0.17 B J**	**4.9**	**0.027**	**0.1**	**0.017**
1,2,3,7,8,9-HxCDD	**4/23/15**	**1**	**1.2 C J**	**4.9**	**0.025**	**0.1**	**0.12**
1,2,3,4,6,7,8-HpCDD	**4/23/15**	**1**	**6.6 B**	**4.9**	**0.052**	**0.01**	**0.066**
OCDD	**4/23/15**	**1**	**79 B**	**9.7**	**0.044**	**0.001**	**0.079**
2,3,7,8-TCDF	**4/23/15**	**1**	**0.032 Q J**	**0.97**	**0.0072**	**0.1**	**0.0032**
1,2,3,7,8-PeCDF	4/23/15	1	ND	4.9	0.037	0.05	0.0018
2,3,4,7,8-PeCDF	**4/23/15**	**1**	**0.11 Q J**	**4.9**	**0.034**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDF	**4/23/15**	**1**	**0.085 Q B J**	**4.9**	**0.028**	**0.1**	**0.0085**
1,2,3,6,7,8-HxCDF	4/23/15	1	ND	4.9	0.029	0.1	0.0029
2,3,4,6,7,8-HxCDF	4/23/15	1	ND	4.9	0.030	0.1	0.0030
1,2,3,7,8,9-HxCDF	4/23/15	1	ND	4.9	0.035	0.1	0.0035
1,2,3,4,6,7,8-HpCDF	4/23/15	1	ND	4.9	0.073	0.01	0.00073
1,2,3,4,7,8,9-HpCDF	4/23/15	1	ND	4.9	0.11	0.01	0.0011
OCDF	**4/23/15**	**1**	**0.99 B J**	**9.7**	**0.019**	**0.001**	**0.00099**
Total TEQ Concentration							**0.57**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	57	(25 - 164)
13C-1,2,3,7,8-PeCDD	71	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	76	(23 - 140)
13C-OCDD	69	(17 - 157)
13C-2,3,7,8-TCDF	49	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	59	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	62	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	65	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	60	(26 - 138)
13C-OCDF	56	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-4MT-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	69	(35 - 197)

NOTES:

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Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-4SB-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D160402 - 003	**Work Order #....:**	M6L071AA	**Matrix.....:**	SE
Date Sampled....:	04/13/15	**Date Received....:**	04/16/15	**Units....:**	pg/g
Prep Date....:	04/17/15			**Dilution Factor:**	1
Prep Batch # ....:	5107023			**Percent Moisture:**	26
Initial Wgt/Vol :	13.5 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/23/15	1	ND	1.0	0.085	1.0	0.085
1,2,3,7,8-PeCDD	**4/23/15**	**1**	**0.50 J**	**5.0**	**0.036**	**0.5**	**0.25**
1,2,3,4,7,8-HxCDD	**4/23/15**	**1**	**0.18 Q J**	**5.0**	**0.026**	**0.1**	**0.018**
1,2,3,6,7,8-HxCDD	**4/23/15**	**1**	**0.55 Q B J**	**5.0**	**0.027**	**0.1**	**0.055**
1,2,3,7,8,9-HxCDD	**4/23/15**	**1**	**1.8 C J**	**5.0**	**0.025**	**0.1**	**0.18**
1,2,3,4,6,7,8-HpCDD	**4/23/15**	**1**	**11 B**	**5.0**	**0.036**	**0.01**	**0.11**
OCDD	**4/23/15**	**1**	**92 B**	**10**	**0.035**	**0.001**	**0.092**
2,3,7,8-TCDF	4/23/15	1	ND	1.0	0.0053	0.1	0.00053
1,2,3,7,8-PeCDF	4/23/15	1	ND	5.0	0.0072	0.05	0.00036
2,3,4,7,8-PeCDF	4/23/15	1	ND	5.0	0.0074	0.5	0.0037
1,2,3,4,7,8-HxCDF	4/23/15	1	ND	5.0	0.016	0.1	0.0016
1,2,3,6,7,8-HxCDF	4/23/15	1	ND	5.0	0.015	0.1	0.0015
2,3,4,6,7,8-HxCDF	4/23/15	1	ND	5.0	0.016	0.1	0.0016
1,2,3,7,8,9-HxCDF	4/23/15	1	ND	5.0	0.020	0.1	0.0020
1,2,3,4,6,7,8-HpCDF	4/23/15	1	ND	5.0	0.054	0.01	0.00054
1,2,3,4,7,8,9-HpCDF	4/23/15	1	ND	5.0	0.074	0.01	0.00074
OCDF	**4/23/15**	**1**	**0.29 B J**	**10**	**0.014**	**0.001**	**0.00029**
Total TEQ Concentration							**0.80**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	69	(23 - 140)
13C-OCDD	63	(17 - 157)
13C-2,3,7,8-TCDF	54	(24 - 169)
13C-1,2,3,7,8-PeCDF	68	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	62	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	59	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	65	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	62	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	61	(26 - 138)
13C-OCDF	56	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-4SB-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	72	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-4NB-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D160402 - 004	**Work Order #....:**	M6L081AA	**Matrix.....:**	SE
Date Sampled....:	04/13/15	**Date Received....:**	04/16/15	**Units....:**	pg/g
Prep Date....:	04/17/15			**Dilution Factor:**	1
Prep Batch # ....:	5107023			**Percent Moisture:**	22
Initial Wgt/Vol :	13.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/23/15	1	ND	0.97	0.081	1.0	0.081
1,2,3,7,8-PeCDD	**4/23/15**	**1**	**0.26 Q J**	**4.9**	**0.030**	**0.5**	**0.13**
1,2,3,4,7,8-HxCDD	**4/23/15**	**1**	**0.11 Q J**	**4.9**	**0.026**	**0.1**	**0.011**
1,2,3,6,7,8-HxCDD	**4/23/15**	**1**	**0.18 Q B J**	**4.9**	**0.029**	**0.1**	**0.018**
1,2,3,7,8,9-HxCDD	**4/23/15**	**1**	**0.71 Q J**	**4.9**	**0.026**	**0.1**	**0.071**
1,2,3,4,6,7,8-HpCDD	**4/23/15**	**1**	**5.6 B**	**4.9**	**0.037**	**0.01**	**0.056**
OCDD	**4/23/15**	**1**	**44 B**	**9.7**	**0.029**	**0.001**	**0.044**
2,3,7,8-TCDF	4/23/15	1	ND	0.97	0.0047	0.1	0.00047
1,2,3,7,8-PeCDF	4/23/15	1	ND	4.9	0.0089	0.05	0.00044
2,3,4,7,8-PeCDF	4/23/15	1	ND	4.9	0.0084	0.5	0.0042
1,2,3,4,7,8-HxCDF	4/23/15	1	ND	4.9	0.013	0.1	0.0013
1,2,3,6,7,8-HxCDF	**4/23/15**	**1**	**0.063 Q B J**	**4.9**	**0.012**	**0.1**	**0.0063**
2,3,4,6,7,8-HxCDF	**4/23/15**	**1**	**0.051 Q B J**	**4.9**	**0.014**	**0.1**	**0.0051**
1,2,3,7,8,9-HxCDF	4/23/15	1	ND	4.9	0.016	0.1	0.0016
1,2,3,4,6,7,8-HpCDF	**4/23/15**	**1**	**0.017 Q B J**	**4.9**	**0.037**	**0.01**	**0.00017**
1,2,3,4,7,8,9-HpCDF	4/23/15	1	ND	4.9	0.044	0.01	0.00044
OCDF	**4/23/15**	**1**	**0.11 Q B J**	**9.7**	**0.012**	**0.001**	**0.00011**
Total TEQ Concentration							**0.43**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	71	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	64	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	73	(23 - 140)
13C-OCDD	64	(17 - 157)
13C-2,3,7,8-TCDF	58	(24 - 169)
13C-1,2,3,7,8-PeCDF	70	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	61	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	60	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	60	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	60	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	63	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	66	(26 - 138)
13C-OCDF	56	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-4NB-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	75	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-4ST-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D160402 - 005	**Work Order #....:**	M6L091AA	**Matrix.....:**	SE
Date Sampled....:	04/13/15	**Date Received....:**	04/16/15	**Units....:**	pg/g
Prep Date....:	04/17/15			**Dilution Factor:**	1
Prep Batch # ....:	5107023			**Percent Moisture:**	24
Initial Wgt/Vol :	13.7 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/23/15	1	ND	0.96	0.090	1.0	0.090
1,2,3,7,8-PeCDD	**4/23/15**	**1**	**0.30 Q J**	**4.8**	**0.026**	**0.5**	**0.15**
1,2,3,4,7,8-HxCDD	**4/23/15**	**1**	**0.10 Q J**	**4.8**	**0.021**	**0.1**	**0.010**
1,2,3,6,7,8-HxCDD	**4/23/15**	**1**	**0.46 B J**	**4.8**	**0.022**	**0.1**	**0.046**
1,2,3,7,8,9-HxCDD	**4/23/15**	**1**	**0.65 J**	**4.8**	**0.020**	**0.1**	**0.065**
1,2,3,4,6,7,8-HpCDD	**4/23/15**	**1**	**5.6 Q B**	**4.8**	**0.030**	**0.01**	**0.056**
OCDD	**4/23/15**	**1**	**79 B**	**9.6**	**0.039**	**0.001**	**0.079**
2,3,7,8-TCDF	4/23/15	1	ND	0.96	0.0053	0.1	0.00053
1,2,3,7,8-PeCDF	4/23/15	1	ND	4.8	0.0064	0.05	0.00032
2,3,4,7,8-PeCDF	**4/23/15**	**1**	**0.0092 Q J**	**4.8**	**0.0063**	**0.5**	**0.0046**
1,2,3,4,7,8-HxCDF	4/23/15	1	ND	4.8	0.010	0.1	0.0010
1,2,3,6,7,8-HxCDF	4/23/15	1	ND	4.8	0.0098	0.1	0.00098
2,3,4,6,7,8-HxCDF	4/23/15	1	ND	4.8	0.011	0.1	0.0011
1,2,3,7,8,9-HxCDF	4/23/15	1	ND	4.8	0.013	0.1	0.0013
1,2,3,4,6,7,8-HpCDF	4/23/15	1	ND	4.8	0.022	0.01	0.00022
1,2,3,4,7,8,9-HpCDF	4/23/15	1	ND	4.8	0.034	0.01	0.00034
OCDF	**4/23/15**	**1**	**0.081 Q B J**	**9.6**	**0.0054**	**0.001**	**0.000081**
Total TEQ Concentration							**0.51**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	70	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	69	(23 - 140)
13C-OCDD	64	(17 - 157)
13C-2,3,7,8-TCDF	56	(24 - 169)
13C-1,2,3,7,8-PeCDF	70	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	66	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	66	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	60	(26 - 138)
13C-OCDF	57	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-4ST-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	74	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H5D170000 - 023B **Work Order #....:** M6MCN1AA **Matrix....:** SOLID
Dilution Factor: 1
Prep Date....: 04/17/15 **Analysis Date....:** 04/23/15 **Percent Moisture:** 0.0
Prep Batch # ....: 5107023
Initial Wgt/Vol : 10 g **Instrument ID....:** D2A **Method:** EPA-5 1613B
Analyst ID....: Linda K. McWhirter

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.086	pg/g
1,2,3,7,8-PeCDD	ND		5.0	0.022	pg/g
1,2,3,4,7,8-HxCDD	ND		5.0	0.016	pg/g
1,2,3,6,7,8-HxCDD	**0.11**	**J**	**5.0**	**0.015**	**pg/g**
1,2,3,7,8,9-HxCDD	ND		5.0	0.015	pg/g
1,2,3,4,6,7,8-HpCDD	**0.27**	**Q J**	**5.0**	**0.016**	**pg/g**
OCDD	**1.2**	**Q J**	**10**	**0.0085**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.0074	pg/g
1,2,3,7,8-PeCDF	ND		5.0	0.012	pg/g
2,3,4,7,8-PeCDF	ND		5.0	0.012	pg/g
1,2,3,4,7,8-HxCDF	**0.055**	**Q J**	**5.0**	**0.012**	**pg/g**
1,2,3,6,7,8-HxCDF	**0.042**	**Q J**	**5.0**	**0.012**	**pg/g**
2,3,4,6,7,8-HxCDF	**0.039**	**Q J**	**5.0**	**0.011**	**pg/g**
1,2,3,7,8,9-HxCDF	ND		5.0	0.014	pg/g
1,2,3,4,6,7,8-HpCDF	**0.096**	**Q J**	**5.0**	**0.018**	**pg/g**
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.025	pg/g
OCDF	**0.67**	**Q J**	**10**	**0.0043**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	55	25 - 164
13C-1,2,3,7,8-PeCDD	69	25 - 181
13C-1,2,3,4,7,8-HxCDD	61	32 - 141
13C-1,2,3,6,7,8-HxCDD	62	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	68	23 - 140
13C-OCDD	52	17 - 157
13C-2,3,7,8-TCDF	55	24 - 169
13C-1,2,3,7,8-PeCDF	62	24 - 185
13C-2,3,4,7,8-PeCDF	59	21 - 178
13C-1,2,3,4,7,8-HxCDF	55	26 - 152
13C-1,2,3,6,7,8-HxCDF	53	26 - 123
13C-2,3,4,6,7,8-HxCDF	59	28 - 136
13C-1,2,3,7,8,9-HxCDF	55	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	59	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	56	26 - 138
13C-OCDF	47	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D170000 - 023B	**Work Order #....:**	M6MCN1AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	04/17/15	**Analysis Date....:**	04/23/15	**Percent Moisture:**	0.0
Prep Batch # ....:	5107023				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	71	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H5D160402 **Work Order # ...:** M6MCN1AC-LCS **Matrix .....:** SOLID
LCS Lot-Sample# : H5D170000 - 023
Prep Date .....: 04/17/15 **Analysis Date ..:** 04/23/15
Prep Batch # ...: 5107023
Dilution Factor : 1
Analyst ID.....: Linda K. McWhirter **Instrument ID..:** D2A **Method.....:** EPA-5 1613B
Initial Wgt/Vol: 10 g

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**20.7**	**pg/g**	**104**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**97.8**	**pg/g**	**98**		**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**95.1**	**pg/g**	**95**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**96.5**	**pg/g**	**97**	**B**	**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**105**	**pg/g**	**105**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**88.6**	**pg/g**	**89**	**B**	**(70 - 140)**
OCDD	**200**	**179**	**pg/g**	**90**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**20.2**	**pg/g**	**101**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**89.8**	**pg/g**	**90**		**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**110**	**pg/g**	**110**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**95.3**	**pg/g**	**95**	**B**	**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**91.0**	**pg/g**	**91**	**B**	**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**92.9**	**pg/g**	**93**	**B**	**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**95.7**	**pg/g**	**96**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**90.3**	**pg/g**	**90**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**95.3**	**pg/g**	**95**		**(78 - 138)**
OCDF	**200**	**179**	**pg/g**	**90**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	55	(20 - 175)
13C-1,2,3,7,8-PeCDD	67	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	69	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	61	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	77	(26 - 166)
13C-OCDD	62	(13 - 199)
13C-2,3,7,8-TCDF	51	(22 - 152)
13C-1,2,3,7,8-PeCDF	65	(21 - 192)
13C-2,3,4,7,8-PeCDF	56	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	64	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	62	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	61	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	59	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	67	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	59	(20 - 186)
13C-OCDF	53	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	71	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

H5D60402

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195764.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43044-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/6/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
TS-3SB-SED (180-43044-1)	4/10/15	13:30 Eastern		Sediment			X	1	
TS-4MT-SED (180-43044-2)	4/10/15	16:00 Eastern		Sediment			X	1	
TS-4SB-SED (180-43044-3)	4/13/15	11:30 Eastern		Sediment			X	1	
TS-4NB-SED (180-43044-4)	4/13/15	13:50 Eastern		Sediment			X	1	
TS-4ST-SED (180-43044-5)	4/13/15	15:30 Eastern		Sediment			X	1	

CUSTODY SEALS INTACT
RECEIVED AT RT1.8/CT1.8°C
DKD 4-16-15
COOLER FED X # 568237255119

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	TCO 4/15/15	TAP	[signature]	4-16-15 09:40	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: 140160402

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC57 Correction factor: 0.0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?	✓			☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		✓		☐ **19a** Other

Comments/Actions Taken

Labeling Verified by: _____ **Date:** _____

pH test strip lot number: _____

Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:	
Lot Number:	
Exp Date:	
Analyst:	
Date:	
Time:	

Quote #: 92814 PM Instructions: _____

Sample Receiving Associate: _____ Date: 4-16-15

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): 15204.01, 0009

Page 1 of 1

Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Semivolatiles and PAHs SW846 8270C	Metals SW846 6020	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon Lloyd Kahn	AVS/SEM EPA Draft 1991	Remarks
4/10/15	1330		X	TS-3SB-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SEE PROJECT SPECIFIC ANALYTE LIST
4/10/15	1400		X	TS-4MT-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/13/15	1130		X	TS-4SB-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/13/15	1350		X	TS-4NB-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/13/15	1530		X	TS-4ST-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
	4/13/15 1615		
Relinquished by: (Signature)	**Date/Time**	**Received by Laboratory: (Signature)**	**Date/Time**
	4/13/15 1700		4/14/15 0930

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

OCEAN SEDIMENT
Parallel Thimble Shoal Tunnel

TN 4/14/15

https://www.campusship.ups.com/cship/create?ActionOriginPair=default___PrintWindow... 4/13/2015

TEST AMERICA PITTSBURGH
301 ALPHA DR

PITTSBURGH PA 15238

P: PURPLE S: MR I: 63

BLAW – 1334 8613 1030

1Z288682019017

UCC9GGH PABEA135 APR 14 05:52:33 2015
US 1522 HIP 15.3.3 OKILE810

MARTHA MCCAULEY 60
4105847000
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

SHIP TO:
CARRIE GAMBER
TESTAMERICA - PITTSBURGH
301 ALPHA DRIVE
PITTSBURGH PA 15238-2907

PA 152 9-22

UPS NEXT DAY AIR **1**

TRACKING #: 1Z 288 682 01 9017 8613

Uncorrected temp 2.2 °C
Thermometer ID 6
CF 0 Initials
PT-WI-SR-001 effective:7/26/13

BILLING: P/P

Department Code: 2123
Project Phase AND Task: 1520401, 0007
GS 17.1.04. WNINV50 60.0A 01/2015

180-43044 Waybill

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43044-1

Login Number: 43044
List Number: 1
Creator: Neri, Tom

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

3.0 | 3.5

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195769.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43044-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 5/6/2015			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

C023

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_P_E/365_Prep Total Phosphorus as P	SM4500Norg_C/SM4500Norg_C_P Nitrogen-Total Kjeldahl	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
TS-3SB-SED (180-43044-1)	4/10/15	13:30 Eastern		Sediment			X	X	1	1X100
TS-4MT-SED (180-43044-2)	4/10/15	16:00 Eastern		Sediment			X	X	1	1
TS-4SB-SED (180-43044-3)	4/13/15	11:30 Eastern		Sediment			X	X	1	
TS-4NB-SED (180-43044-4)	4/13/15	13:50 Eastern		Sediment			X	X	1	
TS-4ST-SED (180-43044-5)	4/13/15	15:30 Eastern		Sediment			X	X	1	

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/15/15			4/16/15 9:20	TAL Canton
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative Login # :
Canton Facility

Client TA Pitt Site Name

Cooler Received on 4/16/15 Opened on 4/16/15

Cooler unpacked by:

FedEx: 1st Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # Foam Box (Client Cooler) Box Other

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

~~IR GUN# A (CF +4.0 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. 3.0 °C Corrected Cooler Temp. 3.5 °C ☐ See Multiple Cooler Form

~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity Yes (No)
   -Were custody seals on the outside of the cooler(s) signed & dated? Yes No (NA)
   -Were custody seals on the bottle(s)? Yes (No)
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the sampler(s) clearly identified on the COC? (Yes) No
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels be reconciled with the COC? (Yes) No
9. Were correct bottle(s) used for the test(s) indicated? (Yes) No
10. Sufficient quantity received to perform indicated analyses? (Yes) No
11. Were sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# HC425511
12. Were VOAs on the COC? Yes (No)
13. Were air bubbles >6 mm in any VOA vials? Yes No (NA)
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # Yes (No)

Contacted PM Date by via Verbal Voice Mail Other

Concerning

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

15. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

Ref: SOP NC-SC-0005, Sample Receiving
X:\Document Control\SOPs\Work Instructions\Word Version Work Instructions\WI-NC-099P-020915 Cooler Receipt Form.doc djl

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-43114-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/10/2015 4:15 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/10/2015
Revision: 2

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
B	Compound was found in the blank and sample.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-43114-1 REVISED 1

NOTE: This report has been revised to include Manganese per EA Engineering's request.

NOTE: This report has been revised to correct the reporting units for nitrate/nitrite as a di leach to mg/kg. The results have also been updated to reflect this correction.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/15/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.3 C.

SEMIVOLATILES
Diethyl phthalate was detected in method blank MB 180-139097/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

PESTICIDES
Several analytes were detected in method blank MB 180-139823/1-B at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

PCB CONGENERS
The continuing calibration verification (CCV) associated with batch 140217 recovered above the upper control limit for BZ-8, 126, 28, 66, and 77. The samples associated with this CCV were non-detects or had estimated values for the affected analytes; therefore, the data have been reported.

ORGANOPHOSPHORUS PESTICIDES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

AVS/SEM
Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample: TS-3NB-SED-FD (180-43114-2). All analytes referencing the indium internal standard required dilution due to the indium counts being low and outside the 70%-130% control limits.

Zinc SEM was detected in method blank MB 180-139589/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

METALS
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GENERAL CHEMISTRY
Samples TS-3NB-SED (180-43114-1) and TS-3NB-SED-FD (180-43114-2) required dilution prior to analysis for total phosphorus. The reporting limits have been adjusted accordingly.

Cyanide, Total failed the recovery criteria low for the MS/MSD of sample TS-3NB-SED (180-43114-1) in batch 180-139911.

The reporting limit for Lloyd Kahn TOC analysis is a nominal value and does not reflect adjustments in sample mass processed on an individual basis.

SUBCONTRACT WORK

Method 1613 B Dioxins/Furans + TEQs (EA criteria): This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43114-1

Client Sample ID: TS-3NB-SED

Lab Sample ID: 180-43114-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	36	J	45	3.7	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	4.0	J	22	3.1	ug/Kg	1	☼	8270D LL	Total/NA
Methylphenol, 3 & 4	2.3	J	22	2.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	10		4.5	0.41	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	5.8		4.5	0.48	ug/Kg	1	☼	8270D LL	Total/NA
Naphthalene	29		4.5	0.39	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthylene	1.0	J	4.5	0.52	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthene	0.80	J	4.5	0.43	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	0.75	J	4.5	0.72	ug/Kg	1	☼	8270D LL	Total/NA
Dieldrin	0.026	J B	0.056	0.0094	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan II	0.17	B	0.056	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.037	J p B	0.056	0.011	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin aldehyde	0.011	J p	0.056	0.011	ug/Kg	1	☼	8081B_LL	Total/NA
Methoxychlor	0.033	J p B	0.11	0.012	ug/Kg	1	☼	8081B_LL	Total/NA
Mirex	0.0087	J p	0.056	0.0052	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDT - RA	0.025	J p B	0.056	0.0085	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-8	0.53	J p	0.68	0.22	ug/Kg	1	☼	8082A	Total/NA
PCB-44	0.22	J	0.68	0.077	ug/Kg	1	☼	8082A	Total/NA
DCB Decachlorobiphenyl	0.060	J p	0.68	0.047	ug/Kg	1	☼	8082A	Total/NA
Cadmium SEM	0.023	J	0.17	0.0056	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	1.5		0.85	0.076	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	3.3		0.34	0.067	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	7.2		1.4	0.039	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	21	B	3.4	0.25	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	6500		2.0	0.19	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.055	J	0.14	0.0018	mg/Kg	1	☼	6020A	Total/NA
Arsenic	5.1		0.068	0.012	mg/Kg	1	☼	6020A	Total/NA
Barium	14		0.68	0.0073	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.38		0.068	0.0051	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.19		0.068	0.0048	mg/Kg	1	☼	6020A	Total/NA
Chromium	21		0.14	0.0041	mg/Kg	1	☼	6020A	Total/NA
Calcium	58000		34	0.90	mg/Kg	1	☼	6020A	Total/NA
Cobalt	3.6		0.034	0.0010	mg/Kg	1	☼	6020A	Total/NA
Copper	3.1		0.14	0.022	mg/Kg	1	☼	6020A	Total/NA
Iron	18000		3.4	0.24	mg/Kg	1	☼	6020A	Total/NA
Lead	7.4		0.068	0.0026	mg/Kg	1	☼	6020A	Total/NA
Nickel	7.2		0.068	0.0077	mg/Kg	1	☼	6020A	Total/NA
Potassium	2800		34	0.92	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.049	J	0.34	0.034	mg/Kg	1	☼	6020A	Total/NA
Magnesium	3600		34	0.13	mg/Kg	1	☼	6020A	Total/NA
Silver	0.022	J	0.068	0.0026	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.10		0.068	0.0014	mg/Kg	1	☼	6020A	Total/NA
Sodium	2000		34	0.93	mg/Kg	1	☼	6020A	Total/NA
Zinc	23		0.34	0.044	mg/Kg	1	☼	6020A	Total/NA
Vanadium	19		0.068	0.0054	mg/Kg	1	☼	6020A	Total/NA
Manganese	110		0.34	0.0070	mg/Kg	1	☼	6020A	Total/NA
Mercury	0.0077	J	0.021	0.0073	mg/Kg	1	☼	7471B	Total/NA
SEM/AVS Ratio	NC		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ammonia, distilled	14		7.0	4.5	mg/Kg	1	☼	350.1	Total/NA
Sulfide	23	J	41	8.1	mg/Kg	1	☼	9034	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-3NB-SED (Continued)

Lab Sample ID: 180-43114-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon - Duplicates	4200		1400	120	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	280		130	12	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	420		210	71	mg/Kg	1	☼	SM4500_NH3_E	Total/NA
Nitrate Nitrite as N	1.7		1.4	0.29	mg/Kg	1	☼	353.2	Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00021	J	0.0015	0.000050	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.023		0.013	0.0012	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.016		0.0016	0.00033	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.12		0.023	0.00067	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.33	B	0.052	0.0038	umol/g	1	☼	6010B	SEM/AVS

Client Sample ID: TS-3NB-SED-FD

Lab Sample ID: 180-43114-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	30	J	45	3.6	ug/Kg	1	☼	8270D LL	Total/NA
Butyl benzyl phthalate	4.6	J	22	3.1	ug/Kg	1	☼	8270D LL	Total/NA
Diethyl phthalate	6.2	J B	22	2.5	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	6.1		4.5	0.53	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	11		4.5	0.40	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	6.1		4.5	0.48	ug/Kg	1	☼	8270D LL	Total/NA
Naphthalene	31		4.5	0.39	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthylene	1.0	J	4.5	0.51	ug/Kg	1	☼	8270D LL	Total/NA
Acenaphthene	0.76	J	4.5	0.43	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	0.74	J	4.5	0.72	ug/Kg	1	☼	8270D LL	Total/NA
Dieldrin	0.026	J B	0.056	0.0093	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan II	0.16	B	0.056	0.0099	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin aldehyde	0.027	J	0.056	0.011	ug/Kg	1	☼	8081B_LL	Total/NA
Methoxychlor	0.052	J B	0.11	0.012	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-8	0.64	J p	0.67	0.22	ug/Kg	1	☼	8082A	Total/NA
PCB-44	0.11	J p	0.67	0.076	ug/Kg	1	☼	8082A	Total/NA
PCB-101	0.21	J	0.67	0.079	ug/Kg	1	☼	8082A	Total/NA
Cadmium SEM	0.014	J	0.17	0.0055	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	1.7		0.84	0.075	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	3.0		0.67	0.13	mg/Kg	2	☼	6010B	SEM/AVS
Nickel SEM	6.6		2.7	0.077	mg/Kg	2	☼	6010B	SEM/AVS
Zinc SEM	19	B	3.4	0.25	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	6600		2.0	0.19	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.055	J	0.13	0.0017	mg/Kg	1	☼	6020A	Total/NA
Arsenic	4.5		0.067	0.012	mg/Kg	1	☼	6020A	Total/NA
Barium	13		0.67	0.0071	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.36		0.067	0.0050	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.17		0.067	0.0047	mg/Kg	1	☼	6020A	Total/NA
Chromium	19		0.13	0.0041	mg/Kg	1	☼	6020A	Total/NA
Calcium	37000		33	0.88	mg/Kg	1	☼	6020A	Total/NA
Cobalt	4.0		0.033	0.0010	mg/Kg	1	☼	6020A	Total/NA
Copper	3.8		0.13	0.022	mg/Kg	1	☼	6020A	Total/NA
Iron	17000		3.3	0.24	mg/Kg	1	☼	6020A	Total/NA
Lead	8.3		0.067	0.0025	mg/Kg	1	☼	6020A	Total/NA
Nickel	9.0		0.067	0.0075	mg/Kg	1	☼	6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-3NB-SED-FD (Continued)

Lab Sample ID: 180-43114-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	2600		33	0.91	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.077	J	0.33	0.033	mg/Kg	1	☼	6020A	Total/NA
Magnesium	3400		33	0.12	mg/Kg	1	☼	6020A	Total/NA
Silver	0.023	J	0.067	0.0026	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.10		0.067	0.0013	mg/Kg	1	☼	6020A	Total/NA
Sodium	2000		33	0.91	mg/Kg	1	☼	6020A	Total/NA
Zinc	25		0.33	0.043	mg/Kg	1	☼	6020A	Total/NA
Vanadium	17		0.067	0.0053	mg/Kg	1	☼	6020A	Total/NA
Manganese	110		0.33	0.0069	mg/Kg	1	☼	6020A	Total/NA
SEM/AVS Ratio	NC		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ammonia, distilled	13		6.5	4.2	mg/Kg	1	☼	350.1	Total/NA
Sulfide	16	J	40	8.1	mg/Kg	1	☼	9034	Total/NA
Total Organic Carbon - Duplicates	10000		1300	120	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	320		130	12	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	790		190	64	mg/Kg	1	☼	SM4500_NH3_E	Total/NA
Nitrate Nitrite as N	1.4		1.3	0.29	mg/Kg	1	☼	353.2	Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00012	J	0.0015	0.000049	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.027		0.013	0.0012	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.015		0.0032	0.00064	umol/g	2	☼	6010B	SEM/AVS
Nickel SEM	0.11		0.046	0.0013	umol/g	2	☼	6010B	SEM/AVS
Zinc SEM	0.29	B	0.051	0.0038	umol/g	1	☼	6010B	SEM/AVS

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-3NB-SED
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-1
Matrix: Sediment
Percent Solids: 73.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		450	95	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
1,2-Dichlorobenzene	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
1,3-Dichlorobenzene	ND		22	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
1,4-Dichlorobenzene	ND		22	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Benzoic acid	ND		120	9.4	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Bis(2-chloroethyl)ether	ND		4.5	0.61	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Bis(2-chloroethoxy)methane	ND		22	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Bis(2-ethylhexyl) phthalate	**36**	**J**	45	3.7	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
4-Bromophenyl phenyl ether	ND		22	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Butyl benzyl phthalate	**4.0**	**J**	22	3.1	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
4-Chloro-3-methylphenol	ND		22	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
2-Chloronaphthalene	ND		4.5	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
2-Chlorophenol	ND		22	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
4-Chlorophenyl phenyl ether	ND		22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Di-n-butyl phthalate	ND		22	2.8	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
3,3'-Dichlorobenzidine	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
2,4-Dichlorophenol	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Diethyl phthalate	ND		22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
4,6-Dinitro-2-methylphenol	ND		120	9.1	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
2,4-Dimethylphenol	ND		22	3.5	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Dimethyl phthalate	ND		22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
2,4-Dinitrophenol	ND		120	27	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
2,4-Dinitrotoluene	ND		22	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
2,6-Dinitrotoluene	ND		22	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		22	2.9	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Di-n-octyl phthalate	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Hexachlorobenzene	ND		4.5	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Hexachlorobutadiene	ND		4.5	0.51	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Hexachloroethane	ND		22	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Hexachlorocyclopentadiene	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Isophorone	ND		22	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
2-Methylphenol	ND		22	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Methylphenol, 3 & 4	**2.3**	**J**	22	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Nitrobenzene	ND		45	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
2-Nitrophenol	ND		22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
4-Nitrophenol	ND		120	8.2	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
N-Nitrosodiphenylamine	ND		22	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
N-Nitrosodimethylamine	ND		22	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
N-Nitrosodi-n-propylamine	ND		4.5	0.53	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
2,2'-oxybis[1-chloropropane]	ND		4.5	0.49	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Pentachlorophenol	ND		22	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Phenol	ND		4.5	0.53	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
1,2,4-Trichlorobenzene	ND		22	1.3	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
2,4,6-Trichlorophenol	ND		22	3.4	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
2-Methylnaphthalene	**10**		4.5	0.41	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
1-Methylnaphthalene	**5.8**		4.5	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Naphthalene	**29**		4.5	0.39	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Acenaphthylene	**1.0**	**J**	4.5	0.52	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-3NB-SED
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-1
Matrix: Sediment
Percent Solids: 73.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.80**	**J**	4.5	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Fluorene	ND		4.5	0.60	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Phenanthrene	**0.75**	**J**	4.5	0.72	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Anthracene	ND		4.5	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Fluoranthene	ND		4.5	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Pyrene	ND		4.5	0.46	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Benzo[a]anthracene	ND		4.5	0.57	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Chrysene	ND		4.5	0.54	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Benzo[b]fluoranthene	ND		4.5	0.71	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Benzo[k]fluoranthene	ND		4.5	0.91	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Benzo[a]pyrene	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Indeno[1,2,3-cd]pyrene	ND		4.5	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Dibenz(a,h)anthracene	ND		4.5	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Benzo[g,h,i]perylene	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Benzyl alcohol	ND		22	2.7	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1
Dibenzofuran	ND		22	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*38 - 103*	*04/21/15 03:10*	*04/24/15 12:32*	*1*
2-Fluorophenol (Surr)	*64*		*34 - 103*	*04/21/15 03:10*	*04/24/15 12:32*	*1*
2,4,6-Tribromophenol (Surr)	*46*		*20 - 113*	*04/21/15 03:10*	*04/24/15 12:32*	*1*
Nitrobenzene-d5 (Surr)	*71*		*41 - 108*	*04/21/15 03:10*	*04/24/15 12:32*	*1*
Phenol-d5 (Surr)	*77*		*35 - 103*	*04/21/15 03:10*	*04/24/15 12:32*	*1*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*04/21/15 03:10*	*04/24/15 12:32*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-3NB-SED-FD
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-2
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		450	94	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
1,2-Dichlorobenzene	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
1,3-Dichlorobenzene	ND		22	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
1,4-Dichlorobenzene	ND		22	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Benzoic acid	ND		110	9.3	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Bis(2-chloroethyl)ether	ND		4.5	0.60	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Bis(2-chloroethoxy)methane	ND		22	1.5	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Bis(2-ethylhexyl) phthalate	**30**	**J**	45	3.6	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
4-Bromophenyl phenyl ether	ND		22	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Butyl benzyl phthalate	**4.6**	**J**	22	3.1	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
4-Chloro-3-methylphenol	ND		22	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
2-Chloronaphthalene	ND		4.5	0.47	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
2-Chlorophenol	ND		22	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
4-Chlorophenyl phenyl ether	ND		22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Di-n-butyl phthalate	ND		22	2.8	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
3,3'-Dichlorobenzidine	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
2,4-Dichlorophenol	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Diethyl phthalate	**6.2**	**J B**	22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
4,6-Dinitro-2-methylphenol	ND		110	9.0	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
2,4-Dimethylphenol	ND		22	3.5	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Dimethyl phthalate	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
2,4-Dinitrophenol	ND		110	27	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
2,4-Dinitrotoluene	ND		22	1.8	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
2,6-Dinitrotoluene	ND		22	2.3	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		22	2.9	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Di-n-octyl phthalate	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Hexachlorobenzene	ND		4.5	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Hexachlorobutadiene	ND		4.5	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Hexachloroethane	ND		22	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Hexachlorocyclopentadiene	ND		22	2.4	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Isophorone	ND		22	1.7	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
2-Methylphenol	ND		22	1.6	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Methylphenol, 3 & 4	ND		22	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Nitrobenzene	ND		45	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
2-Nitrophenol	ND		22	2.5	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
4-Nitrophenol	ND		110	8.2	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
N-Nitrosodiphenylamine	ND		22	2.1	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
N-Nitrosodimethylamine	ND		22	1.9	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
N-Nitrosodi-n-propylamine	ND		4.5	0.53	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
2,2'-oxybis[1-chloropropane]	ND		4.5	0.49	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Pentachlorophenol	ND		22	2.0	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Phenol	**6.1**		4.5	0.53	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
1,2,4-Trichlorobenzene	ND		22	1.2	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
2,4,6-Trichlorophenol	ND		22	3.4	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
2-Methylnaphthalene	**11**		4.5	0.40	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
1-Methylnaphthalene	**6.1**		4.5	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Naphthalene	**31**		4.5	0.39	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Acenaphthylene	**1.0**	**J**	4.5	0.51	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Acenaphthene	**0.76**	**J**	4.5	0.43	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-3NB-SED-FD
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-2
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		4.5	0.59	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Phenanthrene	**0.74**	**J**	4.5	0.72	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Anthracene	ND		4.5	0.44	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Fluoranthene	ND		4.5	0.48	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Pyrene	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Benzo[a]anthracene	ND		4.5	0.56	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Chrysene	ND		4.5	0.54	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Benzo[b]fluoranthene	ND		4.5	0.71	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Benzo[k]fluoranthene	ND		4.5	0.91	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Benzo[a]pyrene	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Indeno[1,2,3-cd]pyrene	ND		4.5	0.46	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Dibenz(a,h)anthracene	ND		4.5	0.50	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Benzo[g,h,i]perylene	ND		4.5	0.45	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Benzyl alcohol	ND		22	2.7	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1
Dibenzofuran	ND		22	2.2	ug/Kg	☼	04/21/15 03:10	04/24/15 13:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*38 - 103*	*04/21/15 03:10*	*04/24/15 13:01*	*1*
2-Fluorophenol (Surr)	*65*		*34 - 103*	*04/21/15 03:10*	*04/24/15 13:01*	*1*
2,4,6-Tribromophenol (Surr)	*42*		*20 - 113*	*04/21/15 03:10*	*04/24/15 13:01*	*1*
Nitrobenzene-d5 (Surr)	*75*		*41 - 108*	*04/21/15 03:10*	*04/24/15 13:01*	*1*
Phenol-d5 (Surr)	*79*		*35 - 103*	*04/21/15 03:10*	*04/24/15 13:01*	*1*
Terphenyl-d14 (Surr)	*55*		*28 - 109*	*04/21/15 03:10*	*04/24/15 13:01*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-3NB-SED
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-1
Matrix: Sediment
Percent Solids: 73.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.056	0.010	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
alpha-BHC	ND		0.056	0.0092	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
beta-BHC	ND		0.056	0.015	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
delta-BHC	ND		0.056	0.0087	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
gamma-BHC (Lindane)	ND		0.056	0.0099	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
Chlordane (technical)	ND		0.56	0.025	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
Chlorobenside	ND		0.056	0.029	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
DCPA	ND		0.056	0.0086	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
4,4'-DDD	ND		0.056	0.0074	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
4,4'-DDE	ND		0.056	0.0085	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
Dieldrin	**0.026**	**J B**	0.056	0.0094	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
Endosulfan I	ND		0.056	0.011	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
2,4'-DDD	ND		0.056	0.0034	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
Endosulfan II	**0.17**	**B**	0.056	0.010	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
Endosulfan sulfate	ND		0.056	0.0059	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
2,4'-DDE	ND		0.056	0.0052	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
Endrin	**0.037**	**J p B**	0.056	0.011	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
Endrin aldehyde	**0.011**	**J p**	0.056	0.011	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
2,4'-DDT	ND		0.056	0.0049	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
Heptachlor	ND		0.056	0.013	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
Heptachlor epoxide	ND		0.056	0.011	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
Methoxychlor	**0.033**	**J p B**	0.11	0.012	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
Mirex	**0.0087**	**J p**	0.056	0.0052	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1
Toxaphene	ND		2.3	0.38	ug/Kg	☼	04/28/15 03:30	05/05/15 01:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*53*		*10 - 140*	*04/28/15 03:30*	*05/05/15 01:38*	*1*
Tetrachloro-m-xylene	*63*		*10 - 140*	*04/28/15 03:30*	*05/05/15 01:38*	*1*
DCB Decachlorobiphenyl (Surr)	*64*		*10 - 140*	*04/28/15 03:30*	*05/05/15 01:38*	*1*
DCB Decachlorobiphenyl (Surr)	*62*		*10 - 140*	*04/28/15 03:30*	*05/05/15 01:38*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-3NB-SED-FD
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-2
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.056	0.010	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
alpha-BHC	ND		0.056	0.0091	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
beta-BHC	ND		0.056	0.015	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
delta-BHC	ND		0.056	0.0086	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
gamma-BHC (Lindane)	ND		0.056	0.0098	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
Chlordane (technical)	ND		0.56	0.025	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
Chlorobenside	ND		0.056	0.029	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
DCPA	ND		0.056	0.0085	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
4,4'-DDD	ND		0.056	0.0073	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
4,4'-DDE	ND		0.056	0.0085	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
Dieldrin	**0.026**	**J B**	0.056	0.0093	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
Endosulfan I	ND		0.056	0.011	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
2,4'-DDD	ND		0.056	0.0034	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
Endosulfan II	**0.16**	**B**	0.056	0.0099	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
Endosulfan sulfate	ND		0.056	0.0058	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
2,4'-DDE	ND		0.056	0.0052	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
Endrin	ND		0.056	0.011	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
Endrin aldehyde	**0.027**	**J**	0.056	0.011	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
2,4'-DDT	ND		0.056	0.0048	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
Heptachlor	ND		0.056	0.012	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
Heptachlor epoxide	ND		0.056	0.011	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
Methoxychlor	**0.052**	**J B**	0.11	0.012	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
Mirex	ND		0.056	0.0052	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1
Toxaphene	ND		2.2	0.37	ug/Kg	☼	04/28/15 05:28	05/05/15 01:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*46*		*10 - 140*	*04/28/15 05:28*	*05/05/15 01:54*	*1*
Tetrachloro-m-xylene	*53*		*10 - 140*	*04/28/15 05:28*	*05/05/15 01:54*	*1*
DCB Decachlorobiphenyl (Surr)	*55*		*10 - 140*	*04/28/15 05:28*	*05/05/15 01:54*	*1*
DCB Decachlorobiphenyl (Surr)	*54*		*10 - 140*	*04/28/15 05:28*	*05/05/15 01:54*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: TS-3NB-SED
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-1
Matrix: Sediment
Percent Solids: 73.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	**0.025**	**J p B**	0.056	0.0085	ug/Kg	☼	04/28/15 03:30	05/06/15 09:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*61*		*10 - 140*	*04/28/15 03:30*	*05/06/15 09:32*	*1*
Tetrachloro-m-xylene	*74*		*10 - 140*	*04/28/15 03:30*	*05/06/15 09:32*	*1*
DCB Decachlorobiphenyl (Surr)	*71*		*10 - 140*	*04/28/15 03:30*	*05/06/15 09:32*	*1*
DCB Decachlorobiphenyl (Surr)	*75*		*10 - 140*	*04/28/15 03:30*	*05/06/15 09:32*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: TS-3NB-SED-FD
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-2
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.056	0.0084	ug/Kg	☼	04/28/15 05:28	05/06/15 09:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*54*		*10 - 140*	*04/28/15 05:28*	*05/06/15 09:48*	*1*
Tetrachloro-m-xylene	*60*		*10 - 140*	*04/28/15 05:28*	*05/06/15 09:48*	*1*
DCB Decachlorobiphenyl (Surr)	*61*		*10 - 140*	*04/28/15 05:28*	*05/06/15 09:48*	*1*
DCB Decachlorobiphenyl (Surr)	*62*		*10 - 140*	*04/28/15 05:28*	*05/06/15 09:48*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-3NB-SED
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-1
Matrix: Sediment
Percent Solids: 73.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	**0.53**	**J p**	0.68	0.22	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-18	ND		0.68	0.19	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-28	ND		0.68	0.097	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-44	**0.22**	**J**	0.68	0.077	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-49	ND		0.68	0.14	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-52	ND		0.68	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-66	ND		0.68	0.062	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-77	ND		0.68	0.073	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-87	ND		0.68	0.069	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-101	ND		0.68	0.080	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-105	ND		0.68	0.056	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-118	ND		0.68	0.061	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-126	ND		0.68	0.23	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-128	ND		0.68	0.073	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-138	ND		0.68	0.057	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-153	ND		0.68	0.059	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-156	ND		0.68	0.046	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-169	ND		0.68	0.044	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-170	ND		0.68	0.052	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-180	ND		0.68	0.059	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-183	ND		0.68	0.15	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-184	ND		0.68	0.061	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-187	ND		0.68	0.084	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-195	ND		0.68	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
PCB-206	ND		0.68	0.047	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1
DCB Decachlorobiphenyl	**0.060**	**J p**	0.68	0.047	ug/Kg	☼	04/24/15 04:41	05/01/15 21:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*59*		*35 - 140*	*04/24/15 04:41*	*05/01/15 21:53*	*1*
Tetrachloro-m-xylene (Surr)	*60*		*35 - 140*	*04/24/15 04:41*	*05/01/15 21:53*	*1*
PCB-205 (Surr)	*72*		*35 - 140*	*04/24/15 04:41*	*05/01/15 21:53*	*1*
PCB-205 (Surr)	*83*		*35 - 140*	*04/24/15 04:41*	*05/01/15 21:53*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-3NB-SED-FD
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-2
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	**0.64**	**J p**	0.67	0.22	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-18	ND		0.67	0.19	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-28	ND		0.67	0.096	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-44	**0.11**	**J p**	0.67	0.076	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-49	ND		0.67	0.14	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-52	ND		0.67	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-66	ND		0.67	0.061	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-77	ND		0.67	0.072	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-87	ND		0.67	0.068	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-101	**0.21**	**J**	0.67	0.079	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-105	ND		0.67	0.055	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-118	ND		0.67	0.061	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-126	ND		0.67	0.23	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-128	ND		0.67	0.072	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-138	ND		0.67	0.056	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-153	ND		0.67	0.058	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-156	ND		0.67	0.045	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-169	ND		0.67	0.043	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-170	ND		0.67	0.051	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-180	ND		0.67	0.058	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-183	ND		0.67	0.14	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-184	ND		0.67	0.061	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-187	ND		0.67	0.083	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-195	ND		0.67	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
PCB-206	ND		0.67	0.047	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1
DCB Decachlorobiphenyl	ND		0.67	0.047	ug/Kg	☼	04/24/15 04:41	05/01/15 22:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*61*		*35 - 140*	*04/24/15 04:41*	*05/01/15 22:23*	*1*
Tetrachloro-m-xylene (Surr)	*63*		*35 - 140*	*04/24/15 04:41*	*05/01/15 22:23*	*1*
PCB-205 (Surr)	*75*		*35 - 140*	*04/24/15 04:41*	*05/01/15 22:23*	*1*
PCB-205 (Surr)	*77*		*35 - 140*	*04/24/15 04:41*	*05/01/15 22:23*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-3NB-SED
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-1
Matrix: Sediment
Percent Solids: 73.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Demeton, Total	ND		45	4.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Malathion	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Methyl parathion	ND		22	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Parathion	ND		22	1.8	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Bolstar	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Chlorpyrifos	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Coumaphos	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Diazinon	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Dichlorvos	ND		22	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Dimethoate	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Disulfoton	ND		22	2.4	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
EPN	ND		22	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Mocap	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Famphur	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Fensulfothion	ND		22	1.7	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Fenthion	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Mevinphos	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Phorate	ND		22	2.3	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Ronnel	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Stirophos	ND		22	2.3	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Sulfotepp	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Thionazin	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Tokuthion	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
Trichloronate	ND		22	2.6	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1
O,O,O-Triethyl phosphorothioate	ND		22	4.3	ug/Kg	☼	04/17/15 04:37	04/20/15 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*88*		*47 - 130*	*04/17/15 04:37*	*04/20/15 19:10*	*1*
Tributyl phosphate	*84*		*47 - 130*	*04/17/15 04:37*	*04/20/15 19:10*	*1*
Triphenylphosphate	*86*		*55 - 125*	*04/17/15 04:37*	*04/20/15 19:10*	*1*
Triphenylphosphate	*88*		*55 - 125*	*04/17/15 04:37*	*04/20/15 19:10*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-3NB-SED-FD
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-2
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Demeton, Total	ND		44	4.0	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Malathion	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Methyl parathion	ND		22	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Parathion	ND		22	1.8	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Bolstar	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Chlorpyrifos	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Coumaphos	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Diazinon	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Dichlorvos	ND		22	2.0	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Dimethoate	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Disulfoton	ND		22	2.4	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
EPN	ND		22	1.9	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Mocap	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Famphur	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Fensulfothion	ND		22	1.7	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Fenthion	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Mevinphos	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Phorate	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Ronnel	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Stirophos	ND		22	2.3	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Sulfotepp	ND		22	2.1	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Thionazin	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Tokuthion	ND		22	2.2	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
Trichloronate	ND		22	2.6	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1
O,O,O-Triethyl phosphorothioate	ND		22	4.3	ug/Kg	☼	04/17/15 04:37	04/20/15 19:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*74*		*47 - 130*	*04/17/15 04:37*	*04/20/15 19:44*	*1*
Tributyl phosphate	*71*		*47 - 130*	*04/17/15 04:37*	*04/20/15 19:44*	*1*
Triphenylphosphate	*66*		*55 - 125*	*04/17/15 04:37*	*04/20/15 19:44*	*1*
Triphenylphosphate	*68*		*55 - 125*	*04/17/15 04:37*	*04/20/15 19:44*	*1*

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-3NB-SED
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-1
Matrix: Sediment
Percent Solids: 73.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.023	J	0.17	0.0056	mg/Kg	☼	04/24/15 13:10	04/28/15 14:05	1
Copper SEM	1.5		0.85	0.076	mg/Kg	☼	04/24/15 13:10	04/28/15 14:05	1
Lead SEM	3.3		0.34	0.067	mg/Kg	☼	04/24/15 13:10	04/28/15 14:05	1
Nickel SEM	7.2		1.4	0.039	mg/Kg	☼	04/24/15 13:10	04/28/15 14:05	1
Zinc SEM	21	B	3.4	0.25	mg/Kg	☼	04/24/15 13:10	04/28/15 14:05	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00021	J	0.0015	0.000050	umol/g	☼	04/24/15 13:10	04/28/15 14:05	1
Copper SEM	0.023		0.013	0.0012	umol/g	☼	04/24/15 13:10	04/28/15 14:05	1
Lead SEM	0.016		0.0016	0.00033	umol/g	☼	04/24/15 13:10	04/28/15 14:05	1
Nickel SEM	0.12		0.023	0.00067	umol/g	☼	04/24/15 13:10	04/28/15 14:05	1
Zinc SEM	0.33	B	0.052	0.0038	umol/g	☼	04/24/15 13:10	04/28/15 14:05	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: TS-3NB-SED-FD
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-2
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.014	J	0.17	0.0055	mg/Kg	☼	04/24/15 13:10	04/28/15 14:10	1
Copper SEM	1.7		0.84	0.075	mg/Kg	☼	04/24/15 13:10	04/28/15 14:10	1
Lead SEM	3.0		0.67	0.13	mg/Kg	☼	04/24/15 13:10	04/29/15 06:42	2
Nickel SEM	6.6		2.7	0.077	mg/Kg	☼	04/24/15 13:10	04/29/15 06:42	2
Zinc SEM	19	B	3.4	0.25	mg/Kg	☼	04/24/15 13:10	04/28/15 14:10	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00012	J	0.0015	0.000049	umol/g	☼	04/24/15 13:10	04/28/15 14:10	1
Copper SEM	0.027		0.013	0.0012	umol/g	☼	04/24/15 13:10	04/28/15 14:10	1
Lead SEM	0.015		0.0032	0.00064	umol/g	☼	04/24/15 13:10	04/29/15 06:42	2
Nickel SEM	0.11		0.046	0.0013	umol/g	☼	04/24/15 13:10	04/29/15 06:42	2
Zinc SEM	0.29	B	0.051	0.0038	umol/g	☼	04/24/15 13:10	04/28/15 14:10	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-3NB-SED
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-1
Matrix: Sediment
Percent Solids: 73.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	6500		2.0	0.19	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Antimony	0.055	J	0.14	0.0018	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Arsenic	5.1		0.068	0.012	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Barium	14		0.68	0.0073	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Beryllium	0.38		0.068	0.0051	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Cadmium	0.19		0.068	0.0048	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Chromium	21		0.14	0.0041	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Calcium	58000		34	0.90	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Cobalt	3.6		0.034	0.0010	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Copper	3.1		0.14	0.022	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Iron	18000		3.4	0.24	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Lead	7.4		0.068	0.0026	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Nickel	7.2		0.068	0.0077	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Potassium	2800		34	0.92	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Selenium	0.049	J	0.34	0.034	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Magnesium	3600		34	0.13	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Silver	0.022	J	0.068	0.0026	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Thallium	0.10		0.068	0.0014	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Sodium	2000		34	0.93	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Zinc	23		0.34	0.044	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Vanadium	19		0.068	0.0054	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1
Manganese	110		0.34	0.0070	mg/Kg	☼	04/20/15 15:09	04/28/15 02:42	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: TS-3NB-SED-FD
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-2
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	6600		2.0	0.19	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Antimony	0.055	J	0.13	0.0017	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Arsenic	4.5		0.067	0.012	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Barium	13		0.67	0.0071	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Beryllium	0.36		0.067	0.0050	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Cadmium	0.17		0.067	0.0047	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Chromium	19		0.13	0.0041	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Calcium	37000		33	0.88	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Cobalt	4.0		0.033	0.0010	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Copper	3.8		0.13	0.022	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Iron	17000		3.3	0.24	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Lead	8.3		0.067	0.0025	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Nickel	9.0		0.067	0.0075	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Potassium	2600		33	0.91	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Selenium	0.077	J	0.33	0.033	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Magnesium	3400		33	0.12	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Silver	0.023	J	0.067	0.0026	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Thallium	0.10		0.067	0.0013	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Sodium	2000		33	0.91	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Zinc	25		0.33	0.043	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Vanadium	17		0.067	0.0053	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1
Manganese	110		0.33	0.0069	mg/Kg	☼	04/20/15 15:09	04/28/15 02:46	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-3NB-SED
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-1
Matrix: Sediment
Percent Solids: 73.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0077	J	0.021	0.0073	mg/Kg	☼	04/28/15 09:05	04/29/15 12:27	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: TS-3NB-SED-FD
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-2
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.021	0.0073	mg/Kg	☼	04/28/15 09:05	04/29/15 12:29	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-3NB-SED
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	0.0010	NONE			04/29/15 12:12	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: TS-3NB-SED-FD
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	0.0010	NONE			04/29/15 12:12	1

General Chemistry

Client Sample ID: TS-3NB-SED
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**27**		0.10	0.10	%			04/18/15 07:16	1
Ammonia, distilled	**14**		7.0	4.5	mg/Kg	☼	04/29/15 13:17	04/30/15 11:00	1
Cyanide, Total	ND	F1	0.35	0.11	mg/Kg	☼	04/28/15 08:30	04/28/15 11:16	1
Sulfide	**23**	**J**	41	8.1	mg/Kg	☼	04/17/15 06:30	04/17/15 11:01	1
Total Organic Carbon - Duplicates	**4200**		1400	120	mg/Kg	☼		04/24/15 05:45	1
Total Phosphorus as P	**280**		130	12	mg/Kg	☼	04/26/15 04:14	04/26/15 09:23	10
Nitrogen, Kjeldahl	**420**		210	71	mg/Kg	☼	04/30/15 11:00	05/01/15 12:08	1

General Chemistry

Client Sample ID: TS-3NB-SED-FD
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**26**		0.10	0.10	%			04/18/15 07:16	1
Ammonia, distilled	**13**		6.5	4.2	mg/Kg	☼	04/29/15 13:17	04/30/15 11:05	1
Cyanide, Total	ND		0.34	0.11	mg/Kg	☼	04/28/15 08:30	04/28/15 11:23	1
Sulfide	**16**	**J**	40	8.1	mg/Kg	☼	04/17/15 06:30	04/17/15 11:05	1
Total Organic Carbon - Duplicates	**10000**		1300	120	mg/Kg	☼		04/24/15 06:12	1
Total Phosphorus as P	**320**		130	12	mg/Kg	☼	04/26/15 04:15	04/26/15 09:25	10
Nitrogen, Kjeldahl	**790**		190	64	mg/Kg	☼	04/30/15 11:00	05/01/15 12:10	1

General Chemistry - Soluble

Client Sample ID: TS-3NB-SED
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-1
Matrix: Sediment
Percent Solids: 73.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.7		1.4	0.29	mg/Kg	☼		05/02/15 10:33	1

General Chemistry - Soluble

Client Sample ID: TS-3NB-SED-FD
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-2
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.4		1.3	0.29	mg/Kg	☼		05/02/15 10:35	1

General Chemistry - SEM/AVS

Client Sample ID: TS-3NB-SED
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-1
Matrix: Sediment
Percent Solids: 73.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		20	4.1	mg/Kg	☼	04/24/15 13:10	04/24/15 19:46	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.64	0.13	umol/g	☼	04/24/15 13:10	04/24/15 19:46	1

General Chemistry - SEM/AVS

Client Sample ID: TS-3NB-SED-FD
Date Collected: 04/14/15 11:30
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43114-2
Matrix: Sediment
Percent Solids: 74.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		20	4.0	mg/Kg	☼	04/24/15 13:10	04/24/15 19:49	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.63	0.13	umol/g	☼	04/24/15 13:10	04/24/15 19:49	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
1,2,4-Trichlorobenzene	17	0.92	ug/Kg	8270D LL
1,2-Dichlorobenzene	17	1.7	ug/Kg	8270D LL
1,2-Diphenylhydrazine(as Azobenzene)	17	2.1	ug/Kg	8270D LL
1,3-Dichlorobenzene	17	1.3	ug/Kg	8270D LL
1,4-Dichlorobenzene	17	1.2	ug/Kg	8270D LL
1-Methylnaphthalene	3.4	0.36	ug/Kg	8270D LL
2,2'-oxybis[1-chloropropane]	3.4	0.36	ug/Kg	8270D LL
2,4,6-Trichlorophenol	17	2.5	ug/Kg	8270D LL
2,4-Dichlorophenol	3.4	0.33	ug/Kg	8270D LL
2,4-Dimethylphenol	17	2.6	ug/Kg	8270D LL
2,4-Dinitrophenol	85	20	ug/Kg	8270D LL
2,4-Dinitrotoluene	17	1.3	ug/Kg	8270D LL
2,6-Dinitrotoluene	17	1.7	ug/Kg	8270D LL
2-Chloronaphthalene	3.4	0.35	ug/Kg	8270D LL
2-Chlorophenol	17	1.4	ug/Kg	8270D LL
2-Methylnaphthalene	3.4	0.30	ug/Kg	8270D LL
2-Methylphenol	17	1.2	ug/Kg	8270D LL
2-Nitrophenol	17	1.8	ug/Kg	8270D LL
3,3'-Dichlorobenzidine	17	1.8	ug/Kg	8270D LL
4,6-Dinitro-2-methylphenol	85	6.7	ug/Kg	8270D LL
4-Bromophenyl phenyl ether	17	1.5	ug/Kg	8270D LL
4-Chloro-3-methylphenol	17	1.5	ug/Kg	8270D LL
4-Chlorophenyl phenyl ether	17	1.9	ug/Kg	8270D LL
4-Nitrophenol	85	6.1	ug/Kg	8270D LL
Acenaphthene	3.4	0.32	ug/Kg	8270D LL
Acenaphthylene	3.4	0.38	ug/Kg	8270D LL
Anthracene	3.4	0.33	ug/Kg	8270D LL
Benzidine	340	70	ug/Kg	8270D LL
Benzo[a]anthracene	3.4	0.42	ug/Kg	8270D LL
Benzo[a]pyrene	3.4	0.33	ug/Kg	8270D LL
Benzo[b]fluoranthene	3.4	0.52	ug/Kg	8270D LL
Benzo[g,h,i]perylene	3.4	0.33	ug/Kg	8270D LL
Benzo[k]fluoranthene	3.4	0.67	ug/Kg	8270D LL
Benzoic acid	85	6.9	ug/Kg	8270D LL
Benzyl alcohol	17	2.0	ug/Kg	8270D LL
Bis(2-chloroethoxy)methane	17	1.1	ug/Kg	8270D LL
Bis(2-chloroethyl)ether	3.4	0.45	ug/Kg	8270D LL
Bis(2-ethylhexyl) phthalate	33	2.7	ug/Kg	8270D LL
Butyl benzyl phthalate	17	2.3	ug/Kg	8270D LL
Chrysene	3.4	0.40	ug/Kg	8270D LL
Dibenz(a,h)anthracene	3.4	0.37	ug/Kg	8270D LL
Dibenzofuran	17	1.6	ug/Kg	8270D LL
Diethyl phthalate	17	1.8	ug/Kg	8270D LL
Dimethyl phthalate	17	1.8	ug/Kg	8270D LL
Di-n-butyl phthalate	17	2.1	ug/Kg	8270D LL
Di-n-octyl phthalate	17	1.8	ug/Kg	8270D LL
Fluoranthene	3.4	0.36	ug/Kg	8270D LL
Fluorene	3.4	0.44	ug/Kg	8270D LL
Hexachlorobenzene	3.4	0.36	ug/Kg	8270D LL
Hexachlorobutadiene	3.4	0.37	ug/Kg	8270D LL
Hexachlorocyclopentadiene	17	1.8	ug/Kg	8270D LL
Hexachloroethane	17	1.2	ug/Kg	8270D LL

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	RL	MDL	Units	Method
Indeno[1,2,3-cd]pyrene	3.4	0.34	ug/Kg	8270D LL
Isophorone	17	1.3	ug/Kg	8270D LL
Methylphenol, 3 & 4	17	1.6	ug/Kg	8270D LL
Naphthalene	3.4	0.29	ug/Kg	8270D LL
Nitrobenzene	33	1.4	ug/Kg	8270D LL
N-Nitrosodimethylamine	17	1.4	ug/Kg	8270D LL
N-Nitrosodi-n-propylamine	3.4	0.39	ug/Kg	8270D LL
N-Nitrosodiphenylamine	17	1.5	ug/Kg	8270D LL
Pentachlorophenol	17	1.5	ug/Kg	8270D LL
Phenanthrene	3.4	0.53	ug/Kg	8270D LL
Phenol	3.4	0.39	ug/Kg	8270D LL
Pyrene	3.4	0.34	ug/Kg	8270D LL

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.042	0.0025	ug/Kg	8081B_LL
2,4'-DDE	0.042	0.0039	ug/Kg	8081B_LL
2,4'-DDT	0.042	0.0036	ug/Kg	8081B_LL
4,4'-DDD	0.042	0.0055	ug/Kg	8081B_LL
4,4'-DDE	0.042	0.0063	ug/Kg	8081B_LL
4,4'-DDT	0.042	0.0063	ug/Kg	8081B_LL
Aldrin	0.042	0.0075	ug/Kg	8081B_LL
alpha-BHC	0.042	0.0068	ug/Kg	8081B_LL
beta-BHC	0.042	0.011	ug/Kg	8081B_LL
Chlordane (technical)	0.42	0.018	ug/Kg	8081B_LL
Chlorobenside	0.042	0.022	ug/Kg	8081B_LL
DCPA	0.042	0.0064	ug/Kg	8081B_LL
delta-BHC	0.042	0.0064	ug/Kg	8081B_LL
Dieldrin	0.042	0.0070	ug/Kg	8081B_LL
Endosulfan I	0.042	0.0079	ug/Kg	8081B_LL
Endosulfan II	0.042	0.0074	ug/Kg	8081B_LL
Endosulfan sulfate	0.042	0.0044	ug/Kg	8081B_LL
Endrin	0.042	0.0081	ug/Kg	8081B_LL
Endrin aldehyde	0.042	0.0081	ug/Kg	8081B_LL
gamma-BHC (Lindane)	0.042	0.0073	ug/Kg	8081B_LL
Heptachlor	0.042	0.0093	ug/Kg	8081B_LL
Heptachlor epoxide	0.042	0.0081	ug/Kg	8081B_LL
Methoxychlor	0.083	0.0087	ug/Kg	8081B_LL
Mirex	0.042	0.0039	ug/Kg	8081B_LL
Toxaphene	1.7	0.28	ug/Kg	8081B_LL

Method: 8082A - PCB Congeners (GC)

Analyte	RL	MDL	Units	Method
DCB Decachlorobiphenyl	1.0	0.070	ug/Kg	8082A
PCB-101	1.0	0.12	ug/Kg	8082A
PCB-105	1.0	0.082	ug/Kg	8082A
PCB-118	1.0	0.090	ug/Kg	8082A
PCB-126	1.0	0.33	ug/Kg	8082A
PCB-128	1.0	0.11	ug/Kg	8082A
PCB-138	1.0	0.084	ug/Kg	8082A

Method: 8082A - PCB Congeners (GC) (Continued)

Analyte	RL	MDL	Units	Method
PCB-153	1.0	0.086	ug/Kg	8082A
PCB-156	1.0	0.067	ug/Kg	8082A
PCB-169	1.0	0.064	ug/Kg	8082A
PCB-170	1.0	0.076	ug/Kg	8082A
PCB-18	1.0	0.28	ug/Kg	8082A
PCB-180	1.0	0.086	ug/Kg	8082A
PCB-183	1.0	0.22	ug/Kg	8082A
PCB-184	1.0	0.090	ug/Kg	8082A
PCB-187	1.0	0.12	ug/Kg	8082A
PCB-195	1.0	0.20	ug/Kg	8082A
PCB-206	1.0	0.070	ug/Kg	8082A
PCB-28	1.0	0.14	ug/Kg	8082A
PCB-44	1.0	0.11	ug/Kg	8082A
PCB-49	1.0	0.21	ug/Kg	8082A
PCB-52	1.0	0.19	ug/Kg	8082A
PCB-66	1.0	0.090	ug/Kg	8082A
PCB-77	1.0	0.11	ug/Kg	8082A
PCB-8	1.0	0.33	ug/Kg	8082A
PCB-87	1.0	0.10	ug/Kg	8082A

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
Azinphos-methyl	17	1.6	ug/Kg	8141B
Bolstar	17	1.6	ug/Kg	8141B
Chlorpyrifos	17	1.6	ug/Kg	8141B
Coumaphos	17	1.6	ug/Kg	8141B
Demeton, Total	33	3.0	ug/Kg	8141B
Diazinon	17	1.6	ug/Kg	8141B
Dichlorvos	17	1.5	ug/Kg	8141B
Dimethoate	17	1.6	ug/Kg	8141B
Disulfoton	17	1.8	ug/Kg	8141B
EPN	17	1.4	ug/Kg	8141B
Famphur	17	1.6	ug/Kg	8141B
Fensulfothion	17	1.3	ug/Kg	8141B
Fenthion	17	1.6	ug/Kg	8141B
Malathion	17	1.6	ug/Kg	8141B
Methyl parathion	17	1.5	ug/Kg	8141B
Mevinphos	17	1.6	ug/Kg	8141B
Mocap	17	1.6	ug/Kg	8141B
O,O,O-Triethyl phosphorothioate	17	3.2	ug/Kg	8141B
Parathion	17	1.3	ug/Kg	8141B
Phorate	17	1.7	ug/Kg	8141B
Ronnel	17	1.6	ug/Kg	8141B
Stirophos	17	1.7	ug/Kg	8141B
Sulfotepp	17	1.6	ug/Kg	8141B
Thionazin	17	1.6	ug/Kg	8141B
Tokuthion	17	1.6	ug/Kg	8141B
Trichloronate	17	1.9	ug/Kg	8141B

Method: 6010B - Metals (ICP) - SEM/AVS

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43114-1

Method: 6010B - Metals (ICP) - SEM/AVS

Analyte	RL	MDL	Units	Method
Cadmium SEM	0.13	0.0041	mg/Kg	6010B
Cadmium SEM	0.0011	0.000036	umol/g	6010B
Copper SEM	0.63	0.056	mg/Kg	6010B
Copper SEM	0.0098	0.00088	umol/g	6010B
Lead SEM	0.25	0.050	mg/Kg	6010B
Lead SEM	0.0012	0.00024	umol/g	6010B
Nickel SEM	1.0	0.029	mg/Kg	6010B
Nickel SEM	0.017	0.00049	umol/g	6010B
Zinc SEM	2.5	0.18	mg/Kg	6010B
Zinc SEM	0.038	0.0028	umol/g	6010B

Method: 6020A - Metals (ICP/MS)

Analyte	RL	MDL	Units	Method
Aluminum	1.5	0.14	mg/Kg	6020A
Antimony	0.10	0.0013	mg/Kg	6020A
Arsenic	0.050	0.0091	mg/Kg	6020A
Barium	0.50	0.0054	mg/Kg	6020A
Beryllium	0.050	0.0038	mg/Kg	6020A
Cadmium	0.050	0.0035	mg/Kg	6020A
Calcium	25	0.66	mg/Kg	6020A
Chromium	0.10	0.0031	mg/Kg	6020A
Cobalt	0.025	0.00075	mg/Kg	6020A
Copper	0.10	0.017	mg/Kg	6020A
Iron	2.5	0.18	mg/Kg	6020A
Lead	0.050	0.0019	mg/Kg	6020A
Magnesium	25	0.094	mg/Kg	6020A
Manganese	0.25	0.0052	mg/Kg	6020A
Nickel	0.050	0.0057	mg/Kg	6020A
Potassium	25	0.68	mg/Kg	6020A
Selenium	0.25	0.025	mg/Kg	6020A
Silver	0.050	0.0020	mg/Kg	6020A
Sodium	25	0.68	mg/Kg	6020A
Thallium	0.050	0.0010	mg/Kg	6020A
Vanadium	0.050	0.0040	mg/Kg	6020A
Zinc	0.25	0.032	mg/Kg	6020A

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	RL	MDL	Units	Method
Mercury	0.017	0.0057	mg/Kg	7471B

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	RL	MDL	Units	Method
SEM/AVS Ratio	0.0010	0.0010	NONE	SEM

General Chemistry

Analyte	RL	MDL	Units	Method
Percent Moisture	0.10	0.10	%	2540G
Ammonia, distilled	5.0	3.2	mg/Kg	350.1

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43114-1

General Chemistry (Continued)

Analyte	RL	MDL	Units	Method
Cyanide, Total	0.25	0.082	mg/Kg	9014
Sulfide	30	6.0	mg/Kg	9034
Total Organic Carbon - Duplicates	1000	89	mg/Kg	Lloyd Kahn
Total Phosphorus as P	10	0.91	mg/Kg	SM4500 P E-1999
Nitrogen, Kjeldahl	150	51	mg/Kg	SM4500_NH3_E

General Chemistry - Soluble

Analyte	RL	MDL	Units	Method
Nitrate Nitrite as N	0.10	0.022	mg/Kg	353.2

General Chemistry - SEM/AVS

Analyte	RL	MDL	Units	Method
Acid Volatile Sulfides (AVS)	30	6.0	mg/Kg	9034
Acid Volatile Sulfides (AVS)	0.94	0.19	umol/g	9034

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43114-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(38-103)	(34-103)	(20-113)	(41-108)	(35-103)	(28-109)
180-43114-1	TS-3NB-SED	52	64	46	71	77	56
180-43114-2	TS-3NB-SED-FD	54	65	42	75	79	55
LCS 180-139097/2-A	Lab Control Sample	60	64	61	77	75	64
MB 180-139097/1-A	Method Blank	51	60	45	69	70	56

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(10-140)	(10-140)	(10-140)	(10-140)
180-43114-1	TS-3NB-SED	53	63	64	62
180-43114-1 - RA	TS-3NB-SED	61	74	71	75
180-43114-2	TS-3NB-SED-FD	46	53	55	54
180-43114-2 - RA	TS-3NB-SED-FD	54	60	61	62
LCS 180-139823/2-B	Lab Control Sample	59	71	63	60
MB 180-139823/1-B	Method Blank	81	80	94	89

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
180-43114-1	TS-3NB-SED	59	60	72	83
180-43114-2	TS-3NB-SED-FD	61	63	75	77
LCS 180-139502/2-C	Lab Control Sample	77	76	85	94
MB 180-139502/1-C	Method Blank	79	78	85	95

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43114-1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(47-130)	(47-130)	(55-125)	(55-125)
180-43114-1	TS-3NB-SED	88	84	86	88
180-43114-2	TS-3NB-SED-FD	74	71	66	68
LCS 180-138799/2-A	Lab Control Sample	120	122	123	125
MB 180-138799/1-A	Method Blank	94	90	111	116

Surrogate Legend

TBPH = Tributyl phosphate

TPP = Triphenylphosphate

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-139097/1-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		340	70	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,2-Dichlorobenzene	ND		17	1.7	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,3-Dichlorobenzene	ND		17	1.3	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,4-Dichlorobenzene	ND		17	1.2	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzoic acid	ND		85	6.9	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Bis(2-chloroethyl)ether	ND		3.4	0.45	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Bis(2-chloroethoxy)methane	ND		17	1.1	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Bis(2-ethylhexyl) phthalate	ND		33	2.7	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4-Bromophenyl phenyl ether	ND		17	1.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Butyl benzyl phthalate	ND		17	2.3	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4-Chloro-3-methylphenol	ND		17	1.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Chloronaphthalene	ND		3.4	0.35	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Chlorophenol	ND		17	1.4	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4-Chlorophenyl phenyl ether	ND		17	1.9	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Di-n-butyl phthalate	ND		17	2.1	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
3,3'-Dichlorobenzidine	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4-Dichlorophenol	ND		3.4	0.33	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Diethyl phthalate	3.29	J	17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4,6-Dinitro-2-methylphenol	ND		85	6.7	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4-Dimethylphenol	ND		17	2.6	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Dimethyl phthalate	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4-Dinitrophenol	ND		85	20	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4-Dinitrotoluene	ND		17	1.3	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,6-Dinitrotoluene	ND		17	1.7	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		17	2.1	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Di-n-octyl phthalate	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Hexachlorobenzene	ND		3.4	0.36	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Hexachlorobutadiene	ND		3.4	0.37	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Hexachloroethane	ND		17	1.2	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Hexachlorocyclopentadiene	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Isophorone	ND		17	1.3	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Methylphenol	ND		17	1.2	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Methylphenol, 3 & 4	ND		17	1.6	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Nitrobenzene	ND		33	1.4	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Nitrophenol	ND		17	1.8	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
4-Nitrophenol	ND		85	6.1	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
N-Nitrosodiphenylamine	ND		17	1.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
N-Nitrosodimethylamine	ND		17	1.4	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
N-Nitrosodi-n-propylamine	ND		3.4	0.39	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,2'-oxybis[1-chloropropane]	ND		3.4	0.36	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Pentachlorophenol	ND		17	1.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Phenol	ND		3.4	0.39	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1,2,4-Trichlorobenzene	ND		17	0.92	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2,4,6-Trichlorophenol	ND		17	2.5	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
2-Methylnaphthalene	ND		3.4	0.30	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
1-Methylnaphthalene	ND		3.4	0.36	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Naphthalene	ND		3.4	0.29	ug/Kg		04/21/15 03:10	04/24/15 04:55	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-139097/1-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		3.4	0.38	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Acenaphthene	ND		3.4	0.32	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Fluorene	ND		3.4	0.44	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Phenanthrene	ND		3.4	0.53	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Anthracene	ND		3.4	0.33	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Fluoranthene	ND		3.4	0.36	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Pyrene	ND		3.4	0.34	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[a]anthracene	ND		3.4	0.42	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Chrysene	ND		3.4	0.40	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[b]fluoranthene	ND		3.4	0.52	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[k]fluoranthene	ND		3.4	0.67	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[a]pyrene	ND		3.4	0.33	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Indeno[1,2,3-cd]pyrene	ND		3.4	0.34	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Dibenz(a,h)anthracene	ND		3.4	0.37	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzo[g,h,i]perylene	ND		3.4	0.33	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Benzyl alcohol	ND		17	2.0	ug/Kg		04/21/15 03:10	04/24/15 04:55	1
Dibenzofuran	ND		17	1.6	ug/Kg		04/21/15 03:10	04/24/15 04:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*51*		*38 - 103*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
2-Fluorophenol (Surr)	*60*		*34 - 103*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
2,4,6-Tribromophenol (Surr)	*45*		*20 - 113*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
Nitrobenzene-d5 (Surr)	*69*		*41 - 108*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
Phenol-d5 (Surr)	*70*		*35 - 103*	*04/21/15 03:10*	*04/24/15 04:55*	*1*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*04/21/15 03:10*	*04/24/15 04:55*	*1*

Lab Sample ID: LCS 180-139097/2-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	333	ND		ug/Kg		18	10 - 101
1,2-Dichlorobenzene	333	206		ug/Kg		62	30 - 100
1,3-Dichlorobenzene	333	194		ug/Kg		58	30 - 100
1,4-Dichlorobenzene	333	201		ug/Kg		60	29 - 100
Benzoic acid	333	228		ug/Kg		68	10 - 131
Bis(2-chloroethyl)ether	333	225		ug/Kg		68	31 - 100
Bis(2-chloroethoxy)methane	333	230		ug/Kg		69	31 - 100
Bis(2-ethylhexyl) phthalate	333	236		ug/Kg		71	32 - 106
4-Bromophenyl phenyl ether	333	186		ug/Kg		56	33 - 100
Butyl benzyl phthalate	333	233		ug/Kg		70	33 - 105
4-Chloro-3-methylphenol	333	272		ug/Kg		82	37 - 100
2-Chloronaphthalene	333	175		ug/Kg		53	29 - 100
2-Chlorophenol	333	219		ug/Kg		66	31 - 100
4-Chlorophenyl phenyl ether	333	202		ug/Kg		61	35 - 100
Di-n-butyl phthalate	333	226		ug/Kg		68	36 - 102
3,3'-Dichlorobenzidine	333	177		ug/Kg		53	29 - 100
2,4-Dichlorophenol	333	214		ug/Kg		64	34 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139097/2-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diethyl phthalate	333	225		ug/Kg		68	36 - 103
4,6-Dinitro-2-methylphenol	667	468		ug/Kg		70	36 - 100
2,4-Dimethylphenol	333	244		ug/Kg		73	34 - 100
Dimethyl phthalate	333	221		ug/Kg		66	36 - 100
2,4-Dinitrophenol	667	541		ug/Kg		81	30 - 100
2,4-Dinitrotoluene	333	258		ug/Kg		77	36 - 102
2,6-Dinitrotoluene	333	236		ug/Kg		71	37 - 100
1,2-Diphenylhydrazine(as Azobenzene)	333	231		ug/Kg		69	29 - 103
Di-n-octyl phthalate	333	255		ug/Kg		76	26 - 112
Hexachlorobenzene	333	175		ug/Kg		52	30 - 104
Hexachlorobutadiene	333	173		ug/Kg		52	30 - 104
Hexachloroethane	333	210		ug/Kg		63	31 - 100
Hexachlorocyclopentadiene	333	176		ug/Kg		53	21 - 113
Isophorone	333	249		ug/Kg		75	34 - 100
2-Methylphenol	333	240		ug/Kg		72	33 - 100
Methylphenol, 3 & 4	333	254		ug/Kg		76	33 - 100
Nitrobenzene	333	235		ug/Kg		70	30 - 100
2-Nitrophenol	333	246		ug/Kg		74	33 - 100
4-Nitrophenol	667	550		ug/Kg		82	23 - 138
N-Nitrosodiphenylamine	667	393		ug/Kg		59	32 - 100
N-Nitrosodimethylamine	333	213		ug/Kg		64	23 - 102
N-Nitrosodi-n-propylamine	333	278		ug/Kg		83	33 - 100
2,2'-oxybis[1-chloropropane]	333	246		ug/Kg		74	29 - 100
Pentachlorophenol	667	381		ug/Kg		57	24 - 106
Phenol	333	235		ug/Kg		70	34 - 100
1,2,4-Trichlorobenzene	333	184		ug/Kg		55	31 - 100
2,4,6-Trichlorophenol	333	201		ug/Kg		60	34 - 103
2-Methylnaphthalene	333	225		ug/Kg		68	33 - 100
1-Methylnaphthalene	333	213		ug/Kg		64	31 - 100
Naphthalene	333	203		ug/Kg		61	32 - 100
Acenaphthylene	333	210		ug/Kg		63	34 - 100
Acenaphthene	333	205		ug/Kg		61	34 - 100
Fluorene	333	216		ug/Kg		65	35 - 100
Phenanthrene	333	209		ug/Kg		63	33 - 100
Anthracene	333	211		ug/Kg		63	35 - 100
Fluoranthene	333	215		ug/Kg		64	36 - 100
Pyrene	333	231		ug/Kg		69	32 - 100
Benzo[a]anthracene	333	212		ug/Kg		63	37 - 100
Chrysene	333	217		ug/Kg		65	37 - 100
Benzo[b]fluoranthene	333	226		ug/Kg		68	31 - 100
Benzo[k]fluoranthene	333	231		ug/Kg		69	34 - 100
Benzo[a]pyrene	333	218		ug/Kg		65	36 - 100
Indeno[1,2,3-cd]pyrene	333	189		ug/Kg		57	31 - 103
Dibenz(a,h)anthracene	333	194		ug/Kg		58	31 - 106
Benzo[g,h,i]perylene	333	189		ug/Kg		57	29 - 106
Benzyl alcohol	333	243		ug/Kg		73	30 - 100
Dibenzofuran	333	211		ug/Kg		63	35 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139097/2-A
Matrix: Sediment
Analysis Batch: 139497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139097

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	60		38 - 103
2-Fluorophenol (Surr)	64		34 - 103
2,4,6-Tribromophenol (Surr)	61		20 - 113
Nitrobenzene-d5 (Surr)	77		41 - 108
Phenol-d5 (Surr)	75		35 - 103
Terphenyl-d14 (Surr)	64		28 - 109

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-139823/1-B
Matrix: Sediment
Analysis Batch: 140438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139823

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.042	0.0075	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
alpha-BHC	ND		0.042	0.0068	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
beta-BHC	0.0224	J p	0.042	0.011	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
delta-BHC	ND		0.042	0.0064	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
gamma-BHC (Lindane)	ND		0.042	0.0073	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Chlordane (technical)	ND		0.42	0.018	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Chlorobenside	ND		0.042	0.022	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
DCPA	0.0138	J p	0.042	0.0064	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
4,4'-DDD	0.00684	J p	0.042	0.0055	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
4,4'-DDE	ND		0.042	0.0063	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
4,4'-DDT	0.0115	J	0.042	0.0063	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Dieldrin	0.0101	J p	0.042	0.0070	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endosulfan I	ND		0.042	0.0079	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
2,4'-DDD	0.0195	J p	0.042	0.0025	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endosulfan II	0.0227	J p	0.042	0.0074	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endosulfan sulfate	ND		0.042	0.0044	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
2,4'-DDE	ND		0.042	0.0039	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endrin	0.0302	J p	0.042	0.0081	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endrin aldehyde	ND		0.042	0.0081	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
2,4'-DDT	ND		0.042	0.0036	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Heptachlor	ND		0.042	0.0093	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Heptachlor epoxide	0.0126	J p	0.042	0.0081	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Methoxychlor	0.0301	J	0.083	0.0087	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Mirex	ND		0.042	0.0039	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Toxaphene	ND		1.7	0.28	ug/Kg		04/28/15 03:30	05/04/15 19:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	81		10 - 140	04/28/15 03:30	05/04/15 19:58	1
Tetrachloro-m-xylene	80		10 - 140	04/28/15 03:30	05/04/15 19:58	1
DCB Decachlorobiphenyl (Surr)	94		10 - 140	04/28/15 03:30	05/04/15 19:58	1
DCB Decachlorobiphenyl (Surr)	89		10 - 140	04/28/15 03:30	05/04/15 19:58	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-139823/2-B
Matrix: Sediment
Analysis Batch: 140438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139823

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aldrin			1.67	0.916		ug/Kg		55	10 - 150		
alpha-BHC			1.67	0.874		ug/Kg		52	10 - 150		
beta-BHC			1.67	0.918		ug/Kg		55	10 - 150		
delta-BHC			1.67	0.668		ug/Kg		40	20 - 124		
gamma-BHC (Lindane)			1.67	0.975		ug/Kg		59	10 - 150		
4,4'-DDD			1.67	0.909		ug/Kg		55	15 - 150		
4,4'-DDE			1.67	0.906		ug/Kg		54	10 - 150		
4,4'-DDT			1.67	0.987		ug/Kg		59	10 - 150		
Dieldrin			1.67	0.901		ug/Kg		54	20 - 150		
Endosulfan I			1.67	0.881		ug/Kg		53	20 - 150		
Endosulfan II			1.67	0.872		ug/Kg		52	10 - 150		
Endosulfan sulfate			1.67	0.841		ug/Kg		50	13 - 140		
Endrin			1.67	0.930		ug/Kg		56	10 - 150		
Endrin aldehyde			1.67	0.860		ug/Kg		52	10 - 150		
Heptachlor			1.67	0.993		ug/Kg		60	10 - 150		
Heptachlor epoxide			1.67	0.877		ug/Kg		53	10 - 150		
Methoxychlor			1.67	1.33		ug/Kg		80	10 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*59*		*10 - 140*
Tetrachloro-m-xylene	*71*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*63*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*60*		*10 - 140*

Method: 8082A - PCB Congeners (GC)

Lab Sample ID: MB 180-139502/1-C
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139502

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.50	0.16	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-18	ND		0.50	0.14	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-28	ND		0.50	0.071	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-44	ND		0.50	0.056	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-49	ND		0.50	0.10	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-52	ND		0.50	0.096	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-66	ND		0.50	0.045	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-77	ND		0.50	0.054	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-87	ND		0.50	0.051	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-101	ND		0.50	0.059	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-105	ND		0.50	0.041	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-118	ND		0.50	0.045	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-126	ND		0.50	0.17	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-128	ND		0.50	0.053	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-138	ND		0.50	0.042	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-153	ND		0.50	0.043	ug/Kg		04/24/15 04:41	05/01/15 17:40	1

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: MB 180-139502/1-C
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139502

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-156	ND		0.50	0.033	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-169	ND		0.50	0.032	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-170	ND		0.50	0.038	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-180	ND		0.50	0.043	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-183	ND		0.50	0.11	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-184	ND		0.50	0.045	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-187	ND		0.50	0.062	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-195	ND		0.50	0.099	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-206	ND		0.50	0.035	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
DCB Decachlorobiphenyl	ND		0.50	0.035	ug/Kg		04/24/15 04:41	05/01/15 17:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*79*		*35 - 140*	*04/24/15 04:41*	*05/01/15 17:40*	*1*
Tetrachloro-m-xylene (Surr)	*78*		*35 - 140*	*04/24/15 04:41*	*05/01/15 17:40*	*1*
PCB-205 (Surr)	*85*		*35 - 140*	*04/24/15 04:41*	*05/01/15 17:40*	*1*
PCB-205 (Surr)	*95*		*35 - 140*	*04/24/15 04:41*	*05/01/15 17:40*	*1*

Lab Sample ID: LCS 180-139502/2-C
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139502

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	10.0	9.84		ug/Kg		98	50 - 140
PCB-18	10.0	9.05		ug/Kg		91	50 - 140
PCB-28	10.0	8.93		ug/Kg		89	50 - 140
PCB-44	10.0	8.29		ug/Kg		83	50 - 140
PCB-49	10.0	8.59		ug/Kg		86	50 - 140
PCB-52	10.0	8.41		ug/Kg		84	50 - 140
PCB-66	10.0	9.85		ug/Kg		99	50 - 140
PCB-77	10.0	10.1		ug/Kg		101	50 - 140
PCB-87	10.0	10.6		ug/Kg		106	50 - 140
PCB-101	10.0	9.20		ug/Kg		92	50 - 140
PCB-105	10.0	9.26		ug/Kg		93	50 - 140
PCB-118	10.0	9.61		ug/Kg		96	50 - 140
PCB-126	10.0	8.67		ug/Kg		87	50 - 140
PCB-128	10.0	8.53		ug/Kg		85	50 - 140
PCB-138	10.0	8.64		ug/Kg		86	50 - 140
PCB-153	10.0	8.31		ug/Kg		83	50 - 140
PCB-156	10.0	8.93		ug/Kg		89	50 - 140
PCB-169	10.0	7.90		ug/Kg		79	50 - 140
PCB-170	10.0	8.26		ug/Kg		83	50 - 140
PCB-180	10.0	8.63		ug/Kg		86	50 - 140
PCB-183	10.0	7.87		ug/Kg		79	50 - 140
PCB-184	10.0	9.52		ug/Kg		95	50 - 140
PCB-187	10.0	8.12		ug/Kg		81	50 - 140
PCB-195	10.0	8.53		ug/Kg		85	50 - 140
PCB-206	10.0	7.84		ug/Kg		78	50 - 140
DCB Decachlorobiphenyl	10.0	8.64		ug/Kg		86	50 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene (Surr)	77		35 - 140
Tetrachloro-m-xylene (Surr)	76		35 - 140
PCB-205 (Surr)	85		35 - 140
PCB-205 (Surr)	94		35 - 140

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Lab Sample ID: MB 180-138799/1-A
Matrix: Sediment
Analysis Batch: 138993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138799

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Demeton, Total	ND		33	3.0	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Malathion	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Methyl parathion	ND		17	1.5	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Parathion	ND		17	1.3	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Bolstar	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Chlorpyrifos	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Coumaphos	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Diazinon	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Dichlorvos	ND		17	1.5	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Dimethoate	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Disulfoton	ND		17	1.8	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
EPN	ND		17	1.4	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Mocap	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Famphur	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Fensulfothion	ND		17	1.3	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Fenthion	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Mevinphos	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Phorate	ND		17	1.7	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Ronnel	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Stirophos	ND		17	1.7	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Sulfotepp	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Thionazin	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Tokuthion	ND		17	1.6	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
Trichloronate	ND		17	1.9	ug/Kg		04/17/15 04:37	04/20/15 14:39	1
O,O,O-Triethyl phosphorothioate	ND		17	3.2	ug/Kg		04/17/15 04:37	04/20/15 14:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	94		47 - 130	04/17/15 04:37	04/20/15 14:39	1
Tributyl phosphate	90		47 - 130	04/17/15 04:37	04/20/15 14:39	1
Triphenylphosphate	111		55 - 125	04/17/15 04:37	04/20/15 14:39	1
Triphenylphosphate	116		55 - 125	04/17/15 04:37	04/20/15 14:39	1

Lab Sample ID: LCS 180-138799/2-A
Matrix: Sediment
Analysis Batch: 138993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138799

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	167	169		ug/Kg		101	40 - 150
Malathion	167	180		ug/Kg		108	50 - 135

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCS 180-138799/2-A
Matrix: Sediment
Analysis Batch: 138993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138799

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl parathion	167	171		ug/Kg		103	43 - 146
Parathion	167	176		ug/Kg		106	52 - 133
Bolstar	167	181		ug/Kg		109	10 - 150
Chlorpyrifos	167	182		ug/Kg		109	50 - 130
Coumaphos	167	179		ug/Kg		107	10 - 150
Diazinon	167	175		ug/Kg		105	50 - 150
Dichlorvos	167	198		ug/Kg		119	10 - 150
Dimethoate	167	162		ug/Kg		97	40 - 143
Disulfoton	167	178		ug/Kg		107	31 - 136
EPN	167	172		ug/Kg		103	10 - 150
Mocap	167	179		ug/Kg		107	10 - 150
Famphur	167	174		ug/Kg		104	54 - 137
Fensulfothion	167	163		ug/Kg		98	10 - 150
Fenthion	167	177		ug/Kg		106	10 - 150
Mevinphos	167	160		ug/Kg		96	10 - 150
Phorate	167	181		ug/Kg		109	41 - 143
Ronnel	167	172		ug/Kg		103	10 - 150
Stirophos	167	168		ug/Kg		101	10 - 150
Sulfotepp	167	181		ug/Kg		109	48 - 126
Thionazin	167	179		ug/Kg		107	48 - 126
Tokuthion	167	177		ug/Kg		106	10 - 150
Trichloronate	167	180		ug/Kg		108	10 - 150
O,O,O-Triethyl phosphorothioate	167	171		ug/Kg		103	45 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tributyl phosphate	*120*		*47 - 130*
Tributyl phosphate	*122*		*47 - 130*
Triphenylphosphate	*123*		*55 - 125*
Triphenylphosphate	*125*		*55 - 125*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 180-139589/1-A
Matrix: Sediment
Analysis Batch: 139953

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 139589

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.13	0.0041	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Copper SEM	ND		0.63	0.056	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Lead SEM	ND		0.25	0.050	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Nickel SEM	ND		1.0	0.029	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Zinc SEM	1.15	J	2.5	0.18	mg/Kg		04/24/15 13:10	04/28/15 13:04	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.0011	0.000036	umol/g		04/24/15 13:10	04/28/15 13:04	1
Copper SEM	ND		0.0098	0.00088	umol/g		04/24/15 13:10	04/28/15 13:04	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 180-139589/1-A
Matrix: Sediment
Analysis Batch: 139953

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 139589

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead SEM	ND		0.0012	0.00024	umol/g		04/24/15 13:10	04/28/15 13:04	1
Nickel SEM	ND		0.017	0.00049	umol/g		04/24/15 13:10	04/28/15 13:04	1
Zinc SEM	0.0176	J	0.038	0.0028	umol/g		04/24/15 13:10	04/28/15 13:04	1

Lab Sample ID: LCS 180-139589/2-A
Matrix: Sediment
Analysis Batch: 139953

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 139589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	1.25	1.25		mg/Kg		100	80 - 120
Copper SEM	6.25	6.20		mg/Kg		99	80 - 120
Lead SEM	12.5	12.0		mg/Kg		96	80 - 120
Nickel SEM	12.5	12.1		mg/Kg		97	80 - 120
Zinc SEM	12.5	13.6		mg/Kg		109	80 - 120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	0.011	0.0112		umol/g		100	80 - 120
Copper SEM	0.098	0.0975		umol/g		99	80 - 120
Lead SEM	0.060	0.0580		umol/g		96	80 - 120
Nickel SEM	0.21	0.206		umol/g		97	80 - 120
Zinc SEM	0.19	0.209		umol/g		109	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-139080/1-A
Matrix: Sediment
Analysis Batch: 139939

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139080

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.5	0.14	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Antimony	ND		0.10	0.0013	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Arsenic	ND		0.050	0.0090	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Barium	ND		0.50	0.0053	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Beryllium	ND		0.050	0.0037	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Cadmium	ND		0.050	0.0035	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Chromium	ND		0.10	0.0030	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Calcium	ND		25	0.66	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Cobalt	ND		0.025	0.00075	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Copper	ND		0.10	0.016	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Iron	ND		2.5	0.18	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Lead	ND		0.050	0.0019	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Nickel	ND		0.050	0.0056	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Potassium	ND		25	0.68	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Selenium	ND		0.25	0.025	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Magnesium	ND		25	0.093	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Silver	ND		0.050	0.0019	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Thallium	ND		0.050	0.0010	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Sodium	ND		25	0.68	mg/Kg		04/20/15 15:09	04/28/15 01:02	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-139080/1-A
Matrix: Sediment
Analysis Batch: 139939

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139080

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		0.25	0.032	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Vanadium	ND		0.050	0.0039	mg/Kg		04/20/15 15:09	04/28/15 01:02	1
Manganese	ND		0.25	0.0051	mg/Kg		04/20/15 15:09	04/28/15 01:02	1

Lab Sample ID: LCS 180-139080/2-A
Matrix: Sediment
Analysis Batch: 139939

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139080

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	100	90.2		mg/Kg		90	80 - 120
Antimony	25.0	23.9		mg/Kg		96	80 - 120
Arsenic	2.00	1.78		mg/Kg		89	80 - 120
Barium	100	96.9		mg/Kg		97	80 - 120
Beryllium	2.50	2.26		mg/Kg		90	80 - 120
Cadmium	2.50	2.43		mg/Kg		97	80 - 120
Chromium	10.0	9.94		mg/Kg		99	80 - 120
Calcium	2500	2600		mg/Kg		104	80 - 120
Cobalt	25.0	25.6		mg/Kg		103	80 - 120
Copper	12.5	11.9		mg/Kg		96	80 - 120
Iron	50.0	54.5		mg/Kg		109	80 - 120
Lead	1.00	1.08		mg/Kg		108	80 - 120
Nickel	25.0	23.6		mg/Kg		94	80 - 120
Potassium	2500	2460		mg/Kg		99	80 - 120
Selenium	0.500	0.439		mg/Kg		88	80 - 120
Magnesium	2500	2280		mg/Kg		91	80 - 120
Silver	2.50	2.43		mg/Kg		97	80 - 120
Thallium	2.50	2.67		mg/Kg		107	80 - 120
Sodium	2500	2290		mg/Kg		92	80 - 120
Zinc	25.0	23.1		mg/Kg		93	80 - 120
Vanadium	25.0	25.7		mg/Kg		103	80 - 120
Manganese	25.0	26.4		mg/Kg		106	80 - 120

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Lab Sample ID: MB 180-139859/1-A
Matrix: Sediment
Analysis Batch: 140049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139859

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.016	0.0055	mg/Kg		04/28/15 09:05	04/29/15 11:41	1

Lab Sample ID: LCS 180-139859/2-A
Matrix: Sediment
Analysis Batch: 140049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139859

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.208	0.198		mg/Kg		95	80 - 120

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 180-140056/1-A
Matrix: Sediment
Analysis Batch: 140173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140056

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		4.9	3.1	mg/Kg		04/29/15 13:17	04/30/15 10:58	1

Lab Sample ID: LCS 180-140056/2-A
Matrix: Sediment
Analysis Batch: 140173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140056

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	97.1	96.8		mg/Kg		100	90 - 110

Lab Sample ID: 180-43114-1 MS
Matrix: Sediment
Analysis Batch: 140173

Client Sample ID: TS-3NB-SED
Prep Type: Total/NA
Prep Batch: 140056

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	14		130	135		mg/Kg	☼	93	90 - 110

Lab Sample ID: 180-43114-1 MSD
Matrix: Sediment
Analysis Batch: 140173

Client Sample ID: TS-3NB-SED
Prep Type: Total/NA
Prep Batch: 140056

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia, distilled	14		131	137		mg/Kg	☼	94	90 - 110	1	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: LB 180-140142/2-A
Matrix: Sediment
Analysis Batch: 140363

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.0	0.21	mg/Kg			05/02/15 10:10	1

Lab Sample ID: LCS 180-140142/1-A
Matrix: Sediment
Analysis Batch: 140363

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	39.8	43.2		mg/Kg		108	90 - 110

Method: 9014 - Cyanide

Lab Sample ID: MB 180-139851/4-A
Matrix: Sediment
Analysis Batch: 139911

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139851

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.25	0.082	mg/Kg		04/28/15 08:30	04/28/15 12:22	1

Method: 9014 - Cyanide (Continued)

Lab Sample ID: HLCS 180-139851/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 139911 — **Prep Batch: 139851**

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.256		mg/Kg		103	90 - 110

Lab Sample ID: LCS 180-139851/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 139911 — **Prep Batch: 139851**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	70.3	77.0		mg/Kg		110	38 - 162

Lab Sample ID: LLCS 180-139851/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 139911 — **Prep Batch: 139851**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0500	0.0496		mg/Kg		99	90 - 110

Lab Sample ID: 180-43114-1 MS — **Client Sample ID: TS-3NB-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 139911 — **Prep Batch: 139851**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND	F1	6.76	3.53	F1	mg/Kg	☼	52	75 - 125

Lab Sample ID: 180-43114-1 MSD — **Client Sample ID: TS-3NB-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 139911 — **Prep Batch: 139851**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND	F1	6.79	4.00	F1	mg/Kg	☼	59	75 - 125	13	20

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-138806/1-A — **Client Sample ID: Method Blank**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 138861 — **Prep Batch: 138806**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		30	6.0	mg/Kg		04/17/15 06:30	04/17/15 10:47	1

Lab Sample ID: LCS 180-138806/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 138861 — **Prep Batch: 138806**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	192	178		mg/Kg		93	85 - 115

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric) (Continued)

Lab Sample ID: MB 180-139590/1-A
Matrix: Sediment
Analysis Batch: 139629

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 139590

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		15	3.0	mg/Kg		04/24/15 13:10	04/24/15 19:37	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.47	0.094	umol/g		04/24/15 13:10	04/24/15 19:37	1

Lab Sample ID: LCS 180-139590/2-A
Matrix: Sediment
Analysis Batch: 139629

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 139590

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	96.1	87.5		mg/Kg		91	85 - 115

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	3.0	2.73		umol/g		91	85 - 115

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 180-139579/3
Matrix: Sediment
Analysis Batch: 139579

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	89	mg/Kg			04/24/15 04:15	1

Lab Sample ID: LCS 180-139579/4
Matrix: Sediment
Analysis Batch: 139579

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	35000	34300		mg/Kg		98	75 - 125

Lab Sample ID: 180-43114-2 MS
Matrix: Sediment
Analysis Batch: 139579

Client Sample ID: TS-3NB-SED-FD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	10000		25100	35800		mg/Kg	☼	103	75 - 125

Lab Sample ID: 180-43114-2 MSD
Matrix: Sediment
Analysis Batch: 139579

Client Sample ID: TS-3NB-SED-FD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	10000		25200	36000		mg/Kg	☼	103	75 - 125	0	20

Method: Lloyd Kahn - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 180-43114-2 DU
Matrix: Sediment
Analysis Batch: 139579

Client Sample ID: TS-3NB-SED-FD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon - Duplicates	10000		10800		mg/Kg	☼	7	20

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-177993/35-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 177993

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		9.6	0.88	mg/Kg		04/26/15 04:16	04/26/15 09:09	1

Lab Sample ID: LCS 240-177993/36-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 177993

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	16.9	16.0		mg/Kg		94	75 - 125

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total

Lab Sample ID: MB 240-178705/1-A
Matrix: Sediment
Analysis Batch: 178910

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 178705

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		150	50	mg/Kg		04/30/15 11:00	05/01/15 11:47	1

Lab Sample ID: LCS 240-178705/2-A
Matrix: Sediment
Analysis Batch: 178910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 178705

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	367	414		mg/Kg		113	70 - 133

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-43114-1

CBBT Thimble Shoal

Lot #: H5D170406

Carrie Gamber

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.

Bruce Wagner
Project Manager

April 28, 2015

ANALYTICAL METHODS SUMMARY

H5D170406

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B
Percent Moisture	MCAWW 160.3 MOD

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SAMPLE SUMMARY

H5D170406

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M6L92	001	TS-3NB-SED	04/14/15	11:30
M6L93	002	TS-3NB-SED-FD	04/14/15	11:30

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H5D170406

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

For solid and sediments samples, when percent moisture is included in the report header field, the sample results are reported on a dry weight basis. When percent moisture is not contained in the header field, sample results are reported on an as received or wet weight basis.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

PROJECT NARRATIVE
H5D170406

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

PROJECT NARRATIVE
H5D170406

Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration

PROJECT NARRATIVE
H5D170406

W = amount of sample extracted (grams or liters)
S = percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: TS-3NB-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D170406 - 001	**Work Order #....:**	M6L921AA	**Matrix.....:**	SE
Date Sampled....:	04/14/15	**Date Received....:**	04/17/15	**Units....:**	pg/g
Prep Date....:	04/17/15			**Dilution Factor:**	1
Prep Batch # ....:	5107023			**Percent Moisture:**	25
Initial Wgt/Vol :	20 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/23/15	1	ND	0.67	0.078	1.0	0.078
1,2,3,7,8-PeCDD	**4/23/15**	**1**	**0.49 J**	**3.3**	**0.033**	**0.5**	**0.24**
1,2,3,4,7,8-HxCDD	**4/23/15**	**1**	**0.66 J**	**3.3**	**0.032**	**0.1**	**0.066**
1,2,3,6,7,8-HxCDD	**4/23/15**	**1**	**0.75 Q B J**	**3.3**	**0.030**	**0.1**	**0.075**
1,2,3,7,8,9-HxCDD	**4/23/15**	**1**	**2.8 C J**	**3.3**	**0.029**	**0.1**	**0.28**
1,2,3,4,6,7,8-HpCDD	**4/23/15**	**1**	**17 B**	**3.3**	**0.053**	**0.01**	**0.17**
OCDD	**4/23/15**	**1**	**130 B**	**6.7**	**0.045**	**0.001**	**0.13**
2,3,7,8-TCDF	4/23/15	1	ND	0.67	0.012	0.1	0.0012
1,2,3,7,8-PeCDF	**4/23/15**	**1**	**0.011 Q J**	**3.3**	**0.0066**	**0.05**	**0.00055**
2,3,4,7,8-PeCDF	**4/23/15**	**1**	**0.0077 Q J**	**3.3**	**0.0063**	**0.5**	**0.0038**
1,2,3,4,7,8-HxCDF	**4/23/15**	**1**	**0.031 Q B J**	**3.3**	**0.0069**	**0.1**	**0.0031**
1,2,3,6,7,8-HxCDF	**4/23/15**	**1**	**0.046 Q B J**	**3.3**	**0.0065**	**0.1**	**0.0046**
2,3,4,6,7,8-HxCDF	4/23/15	1	ND	3.3	0.0076	0.1	0.00076
1,2,3,7,8,9-HxCDF	4/23/15	1	ND	3.3	0.0096	0.1	0.00096
1,2,3,4,6,7,8-HpCDF	**4/23/15**	**1**	**0.016 Q B J**	**3.3**	**0.0056**	**0.01**	**0.00016**
1,2,3,4,7,8,9-HpCDF	4/23/15	1	ND	3.3	0.0079	0.01	0.000079
OCDF	**4/23/15**	**1**	**0.17 Q B J**	**6.7**	**0.0052**	**0.001**	**0.00017**
Total TEQ Concentration							**1.1**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	71	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	65	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
13C-1,2,3,7,8-PeCDF	68	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	73	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	66	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	72	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	66	(26 - 138)
13C-OCDF	56	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-3NB-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	75	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-3NB-SED-FD

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D170406 - 002	**Work Order #....:**	M6L931AA	**Matrix.....:**	SE
Date Sampled....:	04/14/15	**Date Received....:**	04/17/15	**Units....:**	pg/g
Prep Date....:	04/17/15			**Dilution Factor:**	1
Prep Batch # ....:	5107023			**Percent Moisture:**	32
Initial Wgt/Vol :	20.4 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**4/23/15**	**1**	**0.072 Q J**	**0.72**	**0.068**	**1.0**	**0.072**
1,2,3,7,8-PeCDD	**4/23/15**	**1**	**0.85 Q J**	**3.6**	**0.033**	**0.5**	**0.42**
1,2,3,4,7,8-HxCDD	**4/23/15**	**1**	**0.73 J**	**3.6**	**0.031**	**0.1**	**0.073**
1,2,3,6,7,8-HxCDD	**4/23/15**	**1**	**1.5 Q B J**	**3.6**	**0.035**	**0.1**	**0.15**
1,2,3,7,8,9-HxCDD	**4/23/15**	**1**	**4.5 C**	**3.6**	**0.031**	**0.1**	**0.45**
1,2,3,4,6,7,8-HpCDD	**4/23/15**	**1**	**24 B**	**3.6**	**0.048**	**0.01**	**0.24**
OCDD	**4/23/15**	**1**	**160 B**	**7.2**	**0.036**	**0.001**	**0.16**
2,3,7,8-TCDF	4/23/15	1	ND	0.72	0.010	0.1	0.0010
1,2,3,7,8-PeCDF	4/23/15	1	ND	3.6	0.0087	0.05	0.00044
2,3,4,7,8-PeCDF	4/23/15	1	ND	3.6	0.0084	0.5	0.0042
1,2,3,4,7,8-HxCDF	**4/23/15**	**1**	**0.032 Q B J**	**3.6**	**0.0063**	**0.1**	**0.0032**
1,2,3,6,7,8-HxCDF	**4/23/15**	**1**	**0.025 Q B J**	**3.6**	**0.0060**	**0.1**	**0.0025**
2,3,4,6,7,8-HxCDF	4/23/15	1	ND	3.6	0.0064	0.1	0.00064
1,2,3,7,8,9-HxCDF	4/23/15	1	ND	3.6	0.0084	0.1	0.00084
1,2,3,4,6,7,8-HpCDF	4/23/15	1	ND	3.6	0.0093	0.01	0.000093
1,2,3,4,7,8,9-HpCDF	4/23/15	1	ND	3.6	0.014	0.01	0.00014
OCDF	**4/23/15**	**1**	**0.086 Q B J**	**7.2**	**0.0056**	**0.001**	**0.000086**
Total TEQ Concentration							**1.6**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	73	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	65	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	62	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	68	(23 - 140)
13C-OCDD	62	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	65	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	59	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	65	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	61	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	58	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	55	(26 - 138)
13C-OCDF	48	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-3NB-SED-FD

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D170000 - 023B	**Work Order #....:**	M6MCN1AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	04/17/15	**Analysis Date....:**	04/23/15	**Percent Moisture:**	0.0
Prep Batch # ....:	5107023				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.086	pg/g
1,2,3,7,8-PeCDD	ND		5.0	0.022	pg/g
1,2,3,4,7,8-HxCDD	ND		5.0	0.016	pg/g
1,2,3,6,7,8-HxCDD	**0.11**	**J**	**5.0**	**0.015**	**pg/g**
1,2,3,7,8,9-HxCDD	ND		5.0	0.015	pg/g
1,2,3,4,6,7,8-HpCDD	**0.27**	**Q J**	**5.0**	**0.016**	**pg/g**
OCDD	**1.2**	**Q J**	**10**	**0.0085**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.0074	pg/g
1,2,3,7,8-PeCDF	ND		5.0	0.012	pg/g
2,3,4,7,8-PeCDF	ND		5.0	0.012	pg/g
1,2,3,4,7,8-HxCDF	**0.055**	**Q J**	**5.0**	**0.012**	**pg/g**
1,2,3,6,7,8-HxCDF	**0.042**	**Q J**	**5.0**	**0.012**	**pg/g**
2,3,4,6,7,8-HxCDF	**0.039**	**Q J**	**5.0**	**0.011**	**pg/g**
1,2,3,7,8,9-HxCDF	ND		5.0	0.014	pg/g
1,2,3,4,6,7,8-HpCDF	**0.096**	**Q J**	**5.0**	**0.018**	**pg/g**
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.025	pg/g
OCDF	**0.67**	**Q J**	**10**	**0.0043**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	55	25 - 164
13C-1,2,3,7,8-PeCDD	69	25 - 181
13C-1,2,3,4,7,8-HxCDD	61	32 - 141
13C-1,2,3,6,7,8-HxCDD	62	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	68	23 - 140
13C-OCDD	52	17 - 157
13C-2,3,7,8-TCDF	55	24 - 169
13C-1,2,3,7,8-PeCDF	62	24 - 185
13C-2,3,4,7,8-PeCDF	59	21 - 178
13C-1,2,3,4,7,8-HxCDF	55	26 - 152
13C-1,2,3,6,7,8-HxCDF	53	26 - 123
13C-2,3,4,6,7,8-HxCDF	59	28 - 136
13C-1,2,3,7,8,9-HxCDF	55	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	59	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	56	26 - 138
13C-OCDF	47	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D170000 - 023B	**Work Order #....:**	M6MCN1AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	04/17/15	**Analysis Date....:**	04/23/15	**Percent Moisture:**	0.0
Prep Batch # ....:	5107023				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	71	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D170406	**Work Order # ...:**	M6MCN1AC-LCS	**Matrix .....:**	SOLID
LCS Lot-Sample# :	H5D170000 - 023				
Prep Date .....:	04/17/15	**Analysis Date ..:**	04/23/15		
Prep Batch # ...:	5107023				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**20.7**	**pg/g**	**104**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**97.8**	**pg/g**	**98**		**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**95.1**	**pg/g**	**95**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**96.5**	**pg/g**	**97**	**B**	**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**105**	**pg/g**	**105**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**88.6**	**pg/g**	**89**	**B**	**(70 - 140)**
OCDD	**200**	**179**	**pg/g**	**90**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**20.2**	**pg/g**	**101**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**89.8**	**pg/g**	**90**		**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**110**	**pg/g**	**110**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**95.3**	**pg/g**	**95**	**B**	**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**91.0**	**pg/g**	**91**	**B**	**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**92.9**	**pg/g**	**93**	**B**	**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**95.7**	**pg/g**	**96**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**90.3**	**pg/g**	**90**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**95.3**	**pg/g**	**95**		**(78 - 138)**
OCDF	**200**	**179**	**pg/g**	**90**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	55	(20 - 175)
13C-1,2,3,7,8-PeCDD	67	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	69	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	61	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	77	(26 - 166)
13C-OCDD	62	(13 - 199)
13C-2,3,7,8-TCDF	51	(22 - 152)
13C-1,2,3,7,8-PeCDF	65	(21 - 192)
13C-2,3,4,7,8-PeCDF	56	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	64	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	62	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	61	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	59	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	67	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	59	(20 - 186)
13C-OCDF	53	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	71	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSD170406

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195909.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43114-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/7/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
TS-3NB-SED (180-43114-1)	4/14/15	11:30 Eastern		Sediment			X	1	
TS-3NB-SED-FD (180-43114-2)	4/14/15	11:30 Eastern		Sediment			X	1	

CUSTODY SEALS INTACT
RECEIVED AT RT 0.6, 0.7 / CT 0.6, 0.7°C
BKD 4-17-15
2 COOLER'S FED X# 568237255277 M

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Ryan Bush	4/16/15 1700	TAP	[signature]	4-17-15 09:30	TA KNOX

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSP170406

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC57 Correction factor: 0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?			✓	☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: _____			✓	☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		✓		☐ **19a** Other

Comments/Actions Taken

Labeling Verified by: _____ **Date:** _____

pH test strip lot number: _____

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: NA

Sample Receiving Associate: Ryan Henry Date: 4/17/15

QA026R29.doc, 041115

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): 15204.01, 0009

Page 1 of 1

Date	Time	Water	Sediment	Sediment Samples: Sample Identification	No. of Containers	Semivolatiles and PAHs SW846 8270C	Metals SW846 6020	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon Lloyd Kahn	AVS/SEM EPA Draft 1991	Remarks
4/14/15	1130		X	TS-3NB-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SEE PROJECT SPECIFIC ANALYTE LIST
4/14/15	1130		X	TS-3NB-SED-FD	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
	4/14/15 1535		
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time
	4/14/15 1700		4/15/15 0940

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

OCEAN SEDIMENT
Parallel Thimble Shoal Tunnel

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

180-43114 Waybill

FOLD HERE

MARTHA MCCAULEY
4105847000
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

60 LBS 1 OF 1

SHIP TO:
CARRIE GAMBER
TESTAMERICA - PITTSBURGH
301 ALPHA DRIVE
PITTSBURGH PA 15238-2907

PA 152 9-22

UPS NEXT DAY AIR 1

TRACKING #: 1Z 288 682 01 9259 2297

Uncorrected temp 1.3 °C
Thermometer ID 16
CF 0 Initials MB

BILLING: P/

PT-WI-SR-001 effective 7/26/13

Department Code: 2123
Project Phase AND Task: 1520401 0007

WNTN950 60.0A 01/2015

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43114-1

Login Number: 43114
List Number: 1
Creator: Neri, Tom

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 180-195908.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43114-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 5/7/2015			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

C012

Special Instructions/Note:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_P_E/365_Prep Total Phosphorus as P	SM4500Norg_C/SM4500Norg_C_P Nitrogen-Total Kjeldahl	Total Number of Containers	Special Instructions/Note:
			Preservation Code:							
TS-3NB-SED (180-43114-1)	4/14/15	11:30 Eastern		Sediment			X	X	1	1 X 100mL
TS-3NB-SED-FD (180-43114-2)	4/14/15	11:30 Eastern		Sediment			X	X	1	1

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Ryan Butler	4/14/15 1700	TAP		4/17/15 10:00	TAL Canton
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative Login # : _____
Canton Facility

Client TK-PiT Site Name _____ Cooler unpacked by:

Cooler Received on 4/17/15 Opened on 4/17/15

FedEx: 1st Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ Foam Box (Client Cooler) Box Other _____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

~~IR GUN# A (CF +4.0 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C~~

IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. 4.4 °C Corrected Cooler Temp. 4.9 °C ☐ See Multiple Cooler Form

~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C~~

IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity _____ Yes (No)
   -Were custody seals on the outside of the cooler(s) signed & dated? Yes No (NA)
   -Were custody seals on the bottle(s)? Yes (No)
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the sampler(s) clearly identified on the COC? (Yes) No
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels be reconciled with the COC? (Yes) No
9. Were correct bottle(s) used for the test(s) indicated? (Yes) No
10. Sufficient quantity received to perform indicated analyses? (Yes) No
11. Were sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# HC425511
12. Were VOAs on the COC? Yes (No)
13. Were air bubbles >6 mm in any VOA vials? Yes No (NA)
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes (No)

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

15. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-43225-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/10/2015 4:33 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/10/2015
Revision: 2

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-43225-1 REVISED 1

NOTE: This report has been revised to include Manganese per EA Engineering's request.

NOTE: This report has been revised to correct the reporting units for nitrate/nitrite as a di leach to mg/kg. The results have also been updated to reflect this correction.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/18/2015; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.7º C and 3.8º C.

SEMIVOALTILES
The following samples was diluted due to the nature of the sample matrix: WBREF-T-SED (180-43225-1) and CBCON-SED (180-43225-2). As such, surrogate recoveries will be considered as estimated and elevated reporting limits (RLs) are provided.

Surrogate recovery for the following samples was outside control limits: WBREF-T-SED (180-43225-1) and CBCON-SED (180-43225-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

PESTICIDES
Several analytes were detected in method blank MB 180-139823/1-B at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

PCB CONGENERS
The continuing calibration verification (CCV) associated with batch 140217 recovered above the upper control limit for BZ-8, 126, 28, 66, and 77. The samples associated with this CCV were non-detects or had estimated values for the affected analytes; therefore, the data have been reported.

ORGANOPHOSPHORUS PESTICIDES
The continuing calibration verification (CCV) associated with batch 139370 recovered above the upper control limit for Dichlorvos. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

AVS/SEM
Zinc SEM was detected in method blank MB 180-139589/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

METALS
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GENERAL CHEMISTYRY
Samples WBREF-T-SED (180-43225-1) and CBCON-SED (180-43225-2) required dilution prior to analysis for phosphorus. The reporting limits have been adjusted accordingly.

Total Phosphorus as P failed the recovery criteria high for the MSD of sample WBREF-T-SED (180-43225-1) in batch 240-177999. Total Phosphorus as P exceeded the RPD limit.

The reporting limit for Lloyd Kahn TOC analysis is a nominal value and does not reflect adjustments in sample mass processed on an

individual basis.

SUBCONTRACT WORK

Method 1613 B Dioxins/Furans + TEQs (EA criteria): This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43225-1

Client Sample ID: WBREF-T-SED

Lab Sample ID: 180-43225-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	26	J	110	16	ug/Kg	5	☼	8270D LL	Total/NA
Phenanthrene	11	J	23	3.7	ug/Kg	5	☼	8270D LL	Total/NA
Anthracene	3.5	J	23	2.3	ug/Kg	5	☼	8270D LL	Total/NA
Fluoranthene	25		23	2.5	ug/Kg	5	☼	8270D LL	Total/NA
Pyrene	18	J	23	2.3	ug/Kg	5	☼	8270D LL	Total/NA
Benzo[a]anthracene	12	J	23	2.9	ug/Kg	5	☼	8270D LL	Total/NA
Chrysene	13	J	23	2.7	ug/Kg	5	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	15	J	23	3.6	ug/Kg	5	☼	8270D LL	Total/NA
Benzo[k]fluoranthene	6.7	J	23	4.7	ug/Kg	5	☼	8270D LL	Total/NA
Benzo[a]pyrene	13	J	23	2.3	ug/Kg	5	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	9.9	J	23	2.4	ug/Kg	5	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	11	J	23	2.3	ug/Kg	5	☼	8270D LL	Total/NA
alpha-BHC	0.017	J	0.058	0.0094	ug/Kg	1	☼	8081B_LL	Total/NA
beta-BHC	0.015	J p B	0.058	0.015	ug/Kg	1	☼	8081B_LL	Total/NA
gamma-BHC (Lindane)	0.011	J p	0.058	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
Chlorobenside	0.054	J p	0.058	0.030	ug/Kg	1	☼	8081B_LL	Total/NA
DCPA	0.030	J B	0.058	0.0088	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDD	0.039	J p B	0.058	0.0075	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDE	0.052	J	0.058	0.0087	ug/Kg	1	☼	8081B_LL	Total/NA
Dieldrin	0.037	J p B	0.058	0.0096	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan II	0.13	p B	0.058	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
2,4'-DDE	0.018	J p	0.058	0.0053	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.041	J p B	0.058	0.011	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin aldehyde	0.049	J p	0.058	0.011	ug/Kg	1	☼	8081B_LL	Total/NA
Heptachlor	0.013	J p	0.058	0.013	ug/Kg	1	☼	8081B_LL	Total/NA
Heptachlor epoxide	0.061	p B	0.058	0.011	ug/Kg	1	☼	8081B_LL	Total/NA
Methoxychlor	0.14	B	0.12	0.012	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDT - RA	0.11	B	0.058	0.0086	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-8	1.8	p	0.69	0.23	ug/Kg	1	☼	8082A	Total/NA
PCB-101	0.16	J p	0.69	0.081	ug/Kg	1	☼	8082A	Total/NA
DCB Decachlorobiphenyl	0.19	J	0.69	0.048	ug/Kg	1	☼	8082A	Total/NA
Cadmium SEM	0.058	J	0.17	0.0057	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	2.6		0.87	0.078	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	6.7		0.35	0.069	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	3.5		1.4	0.040	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	27	B	3.5	0.26	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	4100		2.1	0.20	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.033	J	0.14	0.0018	mg/Kg	1	☼	6020A	Total/NA
Arsenic	3.0		0.070	0.013	mg/Kg	1	☼	6020A	Total/NA
Barium	9.1		0.70	0.0075	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.25		0.070	0.0052	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.074		0.070	0.0049	mg/Kg	1	☼	6020A	Total/NA
Chromium	9.1		0.14	0.0042	mg/Kg	1	☼	6020A	Total/NA
Calcium	6300		35	0.92	mg/Kg	1	☼	6020A	Total/NA
Cobalt	2.8		0.035	0.0010	mg/Kg	1	☼	6020A	Total/NA
Copper	4.1		0.14	0.023	mg/Kg	1	☼	6020A	Total/NA
Iron	7900		3.5	0.25	mg/Kg	1	☼	6020A	Total/NA
Lead	7.0		0.070	0.0026	mg/Kg	1	☼	6020A	Total/NA
Nickel	5.4		0.070	0.0079	mg/Kg	1	☼	6020A	Total/NA
Potassium	1000		35	0.95	mg/Kg	1	☼	6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43225-1

Client Sample ID: WBREF-T-SED (Continued)

Lab Sample ID: 180-43225-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.14	J	0.35	0.035	mg/Kg	1	☼	6020A	Total/NA
Magnesium	2100		35	0.13	mg/Kg	1	☼	6020A	Total/NA
Silver	0.025	J	0.070	0.0027	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.065	J	0.070	0.0014	mg/Kg	1	☼	6020A	Total/NA
Sodium	2500		35	0.95	mg/Kg	1	☼	6020A	Total/NA
Zinc	29		0.35	0.045	mg/Kg	1	☼	6020A	Total/NA
Vanadium	11		0.070	0.0055	mg/Kg	1	☼	6020A	Total/NA
Manganese	93		0.35	0.0072	mg/Kg	1	☼	6020A	Total/NA
Mercury	0.037		0.022	0.0076	mg/Kg	1	☼	7471B	Total/NA
SEM/AVS Ratio	0.56		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ammonia, distilled	14		6.8	4.4	mg/Kg	1	☼	350.1	Total/NA
Sulfide	65		42	8.3	mg/Kg	1	☼	9034	Total/NA
Total Organic Carbon - Duplicates	4900		1400	120	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	250	F1 F2	140	13	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	400		200	67	mg/Kg	1	☼	SM4500_NH3_E	Total/NA
Nitrate Nitrite as N	3.0		1.4	0.30	mg/Kg	1	☼	353.2	Soluble
Acid Volatile Sulfides (AVS)	31		21	4.2	mg/Kg	1	☼	9034	SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00052	J	0.0016	0.000051	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.041		0.014	0.0012	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.033		0.0017	0.00033	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.059		0.024	0.00068	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.42	B	0.053	0.0040	umol/g	1	☼	6010B	SEM/AVS
Acid Volatile Sulfides (AVS)	0.98		0.65	0.13	umol/g	1	☼	9034	SEM/AVS

Client Sample ID: CBCON-SED

Lab Sample ID: 180-43225-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	26		25	3.0	ug/Kg	5	☼	8270D LL	Total/NA
Fluoranthene	12	J	25	2.7	ug/Kg	5	☼	8270D LL	Total/NA
Pyrene	7.2	J	25	2.5	ug/Kg	5	☼	8270D LL	Total/NA
Benzo[a]pyrene	12	J	25	2.5	ug/Kg	5	☼	8270D LL	Total/NA
alpha-BHC	0.016	J p	0.063	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
beta-BHC	0.021	J B	0.063	0.016	ug/Kg	1	☼	8081B_LL	Total/NA
gamma-BHC (Lindane)	0.063		0.063	0.011	ug/Kg	1	☼	8081B_LL	Total/NA
Chlorobenside	0.037	J p	0.063	0.033	ug/Kg	1	☼	8081B_LL	Total/NA
DCPA	0.019	J p B	0.063	0.0096	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDD	0.080	B	0.063	0.0082	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDE	0.087		0.063	0.0095	ug/Kg	1	☼	8081B_LL	Total/NA
Dieldrin	0.039	J p B	0.063	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan II	0.076	p B	0.063	0.011	ug/Kg	1	☼	8081B_LL	Total/NA
Endosulfan sulfate	0.0093	J p	0.063	0.0066	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin	0.023	J p B	0.063	0.012	ug/Kg	1	☼	8081B_LL	Total/NA
Endrin aldehyde	0.030	J p	0.063	0.012	ug/Kg	1	☼	8081B_LL	Total/NA
Heptachlor	0.016	J p	0.063	0.014	ug/Kg	1	☼	8081B_LL	Total/NA
Mirex	0.0099	J p	0.063	0.0058	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDT - RA	0.057	J p B	0.063	0.0094	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-44	0.36	J	0.75	0.084	ug/Kg	1	☼	8082A	Total/NA
PCB-101	0.098	J	0.75	0.088	ug/Kg	1	☼	8082A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CBCON-SED (Continued)

Lab Sample ID: 180-43225-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.060	J	0.19	0.0062	mg/Kg	1	☼	6010B	SEM/AVS
Copper SEM	2.8		0.95	0.085	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	5.4		0.38	0.075	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	6.7		1.5	0.044	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	25	B	3.8	0.28	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	6600		2.2	0.21	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.027	J	0.15	0.0019	mg/Kg	1	☼	6020A	Total/NA
Arsenic	3.7		0.074	0.013	mg/Kg	1	☼	6020A	Total/NA
Barium	13		0.74	0.0079	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.31		0.074	0.0056	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.078		0.074	0.0052	mg/Kg	1	☼	6020A	Total/NA
Chromium	14		0.15	0.0045	mg/Kg	1	☼	6020A	Total/NA
Calcium	4500		37	0.98	mg/Kg	1	☼	6020A	Total/NA
Cobalt	3.7		0.037	0.0011	mg/Kg	1	☼	6020A	Total/NA
Copper	6.1		0.15	0.024	mg/Kg	1	☼	6020A	Total/NA
Iron	11000		3.7	0.26	mg/Kg	1	☼	6020A	Total/NA
Lead	6.4		0.074	0.0028	mg/Kg	1	☼	6020A	Total/NA
Nickel	9.4		0.074	0.0084	mg/Kg	1	☼	6020A	Total/NA
Potassium	1400		37	1.0	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.21	J	0.37	0.037	mg/Kg	1	☼	6020A	Total/NA
Magnesium	4100		37	0.14	mg/Kg	1	☼	6020A	Total/NA
Silver	0.039	J	0.074	0.0029	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.093		0.074	0.0015	mg/Kg	1	☼	6020A	Total/NA
Sodium	3700		37	1.0	mg/Kg	1	☼	6020A	Total/NA
Zinc	30		0.37	0.048	mg/Kg	1	☼	6020A	Total/NA
Vanadium	17		0.074	0.0059	mg/Kg	1	☼	6020A	Total/NA
Manganese	110		0.37	0.0076	mg/Kg	1	☼	6020A	Total/NA
Mercury	0.027		0.023	0.0080	mg/Kg	1	☼	7471B	Total/NA
SEM/AVS Ratio	0.47		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ammonia, distilled	49		7.3	4.7	mg/Kg	1	☼	350.1	Total/NA
Sulfide	88		45	9.0	mg/Kg	1	☼	9034	Total/NA
Total Organic Carbon - Duplicates	6000		1500	130	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	500		150	13	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	680		230	79	mg/Kg	1	☼	SM4500_NH3_E	Total/NA
Nitrate Nitrite as N	2.1		1.5	0.32	mg/Kg	1	☼	353.2	Soluble
Acid Volatile Sulfides (AVS)	39		23	4.6	mg/Kg	1	☼	9034	SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium SEM	0.00054	J	0.0017	0.000055	umol/g	1	☼	6010B	SEM/AVS
Copper SEM	0.044		0.015	0.0013	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.026		0.0018	0.00036	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.11		0.026	0.00074	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.39	B	0.058	0.0043	umol/g	1	☼	6010B	SEM/AVS
Acid Volatile Sulfides (AVS)	1.2		0.71	0.14	umol/g	1	☼	9034	SEM/AVS

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: WBREF-T-SED
Date Collected: 04/16/15 11:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-1
Matrix: Sediment
Percent Solids: 71.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		2300	480	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
1,2-Dichlorobenzene	ND		110	12	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
1,3-Dichlorobenzene	ND		110	9.0	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
1,4-Dichlorobenzene	ND		110	8.3	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Benzoic acid	ND		590	48	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Bis(2-chloroethyl)ether	ND		23	3.1	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Bis(2-chloroethoxy)methane	ND		110	7.6	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Bis(2-ethylhexyl) phthalate	ND		230	19	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
4-Bromophenyl phenyl ether	ND		110	10	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Butyl benzyl phthalate	**26**	**J**	110	16	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
4-Chloro-3-methylphenol	ND		110	11	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
2-Chloronaphthalene	ND		23	2.4	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
2-Chlorophenol	ND		110	9.4	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
4-Chlorophenyl phenyl ether	ND		110	13	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Di-n-butyl phthalate	ND		110	14	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
3,3'-Dichlorobenzidine	ND		110	12	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
2,4-Dichlorophenol	ND		23	2.3	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Diethyl phthalate	ND		110	13	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
4,6-Dinitro-2-methylphenol	ND		590	46	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
2,4-Dimethylphenol	ND		110	18	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Dimethyl phthalate	ND		110	13	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
2,4-Dinitrophenol	ND		590	140	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
2,4-Dinitrotoluene	ND		110	9.3	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
2,6-Dinitrotoluene	ND		110	12	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
1,2-Diphenylhydrazine(as Azobenzene)	ND		110	15	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Di-n-octyl phthalate	ND		110	12	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Hexachlorobenzene	ND		23	2.5	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Hexachlorobutadiene	ND		23	2.6	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Hexachloroethane	ND		110	8.3	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Hexachlorocyclopentadiene	ND		110	12	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Isophorone	ND		110	8.7	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
2-Methylphenol	ND		110	8.1	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Methylphenol, 3 & 4	ND		110	11	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Nitrobenzene	ND		230	9.6	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
2-Nitrophenol	ND		110	13	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
4-Nitrophenol	ND		590	42	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
N-Nitrosodiphenylamine	ND		110	11	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
N-Nitrosodimethylamine	ND		110	9.9	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
N-Nitrosodi-n-propylamine	ND		23	2.7	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
2,2'-oxybis[1-chloropropane]	ND		23	2.5	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Pentachlorophenol	ND		110	10	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Phenol	ND		23	2.7	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
1,2,4-Trichlorobenzene	ND		110	6.4	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
2,4,6-Trichlorophenol	ND		110	17	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
2-Methylnaphthalene	ND		23	2.1	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
1-Methylnaphthalene	ND		23	2.5	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Naphthalene	ND		23	2.0	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Acenaphthylene	ND		23	2.6	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: WBREF-T-SED
Date Collected: 04/16/15 11:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-1
Matrix: Sediment
Percent Solids: 71.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		23	2.2	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Fluorene	ND		23	3.0	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Phenanthrene	**11**	**J**	23	3.7	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Anthracene	**3.5**	**J**	23	2.3	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Fluoranthene	**25**		23	2.5	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Pyrene	**18**	**J**	23	2.3	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Benzo[a]anthracene	**12**	**J**	23	2.9	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Chrysene	**13**	**J**	23	2.7	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Benzo[b]fluoranthene	**15**	**J**	23	3.6	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Benzo[k]fluoranthene	**6.7**	**J**	23	4.7	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Benzo[a]pyrene	**13**	**J**	23	2.3	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Indeno[1,2,3-cd]pyrene	**9.9**	**J**	23	2.4	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Dibenz(a,h)anthracene	ND		23	2.6	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Benzo[g,h,i]perylene	**11**	**J**	23	2.3	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Benzyl alcohol	ND		110	14	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5
Dibenzofuran	ND		110	11	ug/Kg	☼	04/28/15 03:00	04/30/15 16:44	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*38 - 103*	*04/28/15 03:00*	*04/30/15 16:44*	*5*
2-Fluorophenol (Surr)	*67*		*34 - 103*	*04/28/15 03:00*	*04/30/15 16:44*	*5*
2,4,6-Tribromophenol (Surr)	*5*	*X*	*20 - 113*	*04/28/15 03:00*	*04/30/15 16:44*	*5*
Nitrobenzene-d5 (Surr)	*61*		*41 - 108*	*04/28/15 03:00*	*04/30/15 16:44*	*5*
Phenol-d5 (Surr)	*73*		*35 - 103*	*04/28/15 03:00*	*04/30/15 16:44*	*5*
Terphenyl-d14 (Surr)	*57*		*28 - 109*	*04/28/15 03:00*	*04/30/15 16:44*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: CBCON-SED
Date Collected: 04/16/15 14:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-2
Matrix: Sediment
Percent Solids: 66.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		2500	530	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
1,2-Dichlorobenzene	ND		120	13	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
1,3-Dichlorobenzene	ND		120	9.8	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
1,4-Dichlorobenzene	ND		120	9.0	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Benzoic acid	ND		640	52	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Bis(2-chloroethyl)ether	ND		25	3.4	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Bis(2-chloroethoxy)methane	ND		120	8.3	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Bis(2-ethylhexyl) phthalate	ND		250	20	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
4-Bromophenyl phenyl ether	ND		120	11	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Butyl benzyl phthalate	ND		120	17	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
4-Chloro-3-methylphenol	ND		120	12	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
2-Chloronaphthalene	ND		25	2.6	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
2-Chlorophenol	ND		120	10	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
4-Chlorophenyl phenyl ether	ND		120	14	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Di-n-butyl phthalate	ND		120	16	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
3,3'-Dichlorobenzidine	ND		120	13	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
2,4-Dichlorophenol	ND		25	2.5	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Diethyl phthalate	ND		120	14	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
4,6-Dinitro-2-methylphenol	ND		640	51	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
2,4-Dimethylphenol	ND		120	20	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Dimethyl phthalate	ND		120	14	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
2,4-Dinitrophenol	ND		640	150	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
2,4-Dinitrotoluene	ND		120	10	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
2,6-Dinitrotoluene	ND		120	13	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
1,2-Diphenylhydrazine(as Azobenzene)	ND		120	16	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Di-n-octyl phthalate	ND		120	13	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Hexachlorobenzene	ND		25	2.7	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Hexachlorobutadiene	ND		25	2.8	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Hexachloroethane	ND		120	9.0	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Hexachlorocyclopentadiene	ND		120	14	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Isophorone	ND		120	9.5	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
2-Methylphenol	ND		120	8.8	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Methylphenol, 3 & 4	ND		120	12	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Nitrobenzene	ND		250	10	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
2-Nitrophenol	ND		120	14	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
4-Nitrophenol	ND		640	46	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
N-Nitrosodiphenylamine	ND		120	12	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
N-Nitrosodimethylamine	ND		120	11	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
N-Nitrosodi-n-propylamine	ND		25	3.0	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
2,2'-oxybis[1-chloropropane]	ND		25	2.7	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Pentachlorophenol	ND		120	11	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Phenol	**26**		25	3.0	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
1,2,4-Trichlorobenzene	ND		120	7.0	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
2,4,6-Trichlorophenol	ND		120	19	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
2-Methylnaphthalene	ND		25	2.3	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
1-Methylnaphthalene	ND		25	2.7	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Naphthalene	ND		25	2.2	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Acenaphthylene	ND		25	2.9	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Acenaphthene	ND		25	2.4	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: CBCON-SED
Date Collected: 04/16/15 14:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-2
Matrix: Sediment
Percent Solids: 66.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		25	3.3	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Phenanthrene	ND		25	4.0	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Anthracene	ND		25	2.5	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Fluoranthene	**12**	**J**	25	2.7	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Pyrene	**7.2**	**J**	25	2.5	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Benzo[a]anthracene	ND		25	3.2	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Chrysene	ND		25	3.0	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Benzo[b]fluoranthene	ND		25	4.0	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Benzo[k]fluoranthene	ND		25	5.1	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Benzo[a]pyrene	**12**	**J**	25	2.5	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Indeno[1,2,3-cd]pyrene	ND		25	2.6	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Dibenz(a,h)anthracene	ND		25	2.8	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Benzo[g,h,i]perylene	ND		25	2.5	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Benzyl alcohol	ND		120	15	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5
Dibenzofuran	ND		120	12	ug/Kg	☼	04/28/15 03:00	04/30/15 17:13	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*38 - 103*	*04/28/15 03:00*	*04/30/15 17:13*	*5*
2-Fluorophenol (Surr)	*78*		*34 - 103*	*04/28/15 03:00*	*04/30/15 17:13*	*5*
2,4,6-Tribromophenol (Surr)	*19*	*X*	*20 - 113*	*04/28/15 03:00*	*04/30/15 17:13*	*5*
Nitrobenzene-d5 (Surr)	*75*		*41 - 108*	*04/28/15 03:00*	*04/30/15 17:13*	*5*
Phenol-d5 (Surr)	*84*		*35 - 103*	*04/28/15 03:00*	*04/30/15 17:13*	*5*
Terphenyl-d14 (Surr)	*71*		*28 - 109*	*04/28/15 03:00*	*04/30/15 17:13*	*5*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: WBREF-T-SED
Date Collected: 04/16/15 11:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-1
Matrix: Sediment
Percent Solids: 71.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.058	0.010	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
alpha-BHC	**0.017**	**J**	0.058	0.0094	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
beta-BHC	**0.015**	**J p B**	0.058	0.015	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
delta-BHC	ND		0.058	0.0089	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
gamma-BHC (Lindane)	**0.011**	**J p**	0.058	0.010	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
Chlordane (technical)	ND		0.58	0.025	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
Chlorobenside	**0.054**	**J p**	0.058	0.030	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
DCPA	**0.030**	**J B**	0.058	0.0088	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
4,4'-DDD	**0.039**	**J p B**	0.058	0.0075	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
4,4'-DDE	**0.052**	**J**	0.058	0.0087	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
Dieldrin	**0.037**	**J p B**	0.058	0.0096	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
Endosulfan I	ND		0.058	0.011	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
2,4'-DDD	ND		0.058	0.0035	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
Endosulfan II	**0.13**	**p B**	0.058	0.010	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
Endosulfan sulfate	ND		0.058	0.0060	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
2,4'-DDE	**0.018**	**J p**	0.058	0.0053	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
Endrin	**0.041**	**J p B**	0.058	0.011	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
Endrin aldehyde	**0.049**	**J p**	0.058	0.011	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
2,4'-DDT	ND		0.058	0.0050	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
Heptachlor	**0.013**	**J p**	0.058	0.013	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
Heptachlor epoxide	**0.061**	**p B**	0.058	0.011	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
Methoxychlor	**0.14**	**B**	0.12	0.012	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
Mirex	ND		0.058	0.0053	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1
Toxaphene	ND		2.3	0.38	ug/Kg	☼	04/28/15 03:30	05/05/15 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*61*		*10 - 140*	*04/28/15 03:30*	*05/05/15 00:36*	*1*
Tetrachloro-m-xylene	*72*		*10 - 140*	*04/28/15 03:30*	*05/05/15 00:36*	*1*
DCB Decachlorobiphenyl (Surr)	*78*		*10 - 140*	*04/28/15 03:30*	*05/05/15 00:36*	*1*
DCB Decachlorobiphenyl (Surr)	*73*		*10 - 140*	*04/28/15 03:30*	*05/05/15 00:36*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: CBCON-SED
Date Collected: 04/16/15 14:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-2
Matrix: Sediment
Percent Solids: 66.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.063	0.011	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
alpha-BHC	**0.016**	**J p**	0.063	0.010	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
beta-BHC	**0.021**	**J B**	0.063	0.016	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
delta-BHC	ND		0.063	0.0097	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
gamma-BHC (Lindane)	**0.063**		0.063	0.011	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
Chlordane (technical)	ND		0.63	0.028	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
Chlorobenside	**0.037**	**J p**	0.063	0.033	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
DCPA	**0.019**	**J p B**	0.063	0.0096	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
4,4'-DDD	**0.080**	**B**	0.063	0.0082	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
4,4'-DDE	**0.087**		0.063	0.0095	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
Dieldrin	**0.039**	**J p B**	0.063	0.010	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
Endosulfan I	ND		0.063	0.012	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
2,4'-DDD	ND		0.063	0.0038	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
Endosulfan II	**0.076**	**p B**	0.063	0.011	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
Endosulfan sulfate	**0.0093**	**J p**	0.063	0.0066	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
2,4'-DDE	ND		0.063	0.0058	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
Endrin	**0.023**	**J p B**	0.063	0.012	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
Endrin aldehyde	**0.030**	**J p**	0.063	0.012	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
2,4'-DDT	ND		0.063	0.0054	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
Heptachlor	**0.016**	**J p**	0.063	0.014	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
Heptachlor epoxide	ND		0.063	0.012	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
Methoxychlor	ND		0.13	0.013	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
Mirex	**0.0099**	**J p**	0.063	0.0058	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1
Toxaphene	ND		2.5	0.42	ug/Kg	☼	04/28/15 03:30	05/05/15 00:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*54*		*10 - 140*	*04/28/15 03:30*	*05/05/15 00:52*	*1*
Tetrachloro-m-xylene	*62*		*10 - 140*	*04/28/15 03:30*	*05/05/15 00:52*	*1*
DCB Decachlorobiphenyl (Surr)	*68*		*10 - 140*	*04/28/15 03:30*	*05/05/15 00:52*	*1*
DCB Decachlorobiphenyl (Surr)	*68*		*10 - 140*	*04/28/15 03:30*	*05/05/15 00:52*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: WBREF-T-SED
Date Collected: 04/16/15 11:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-1
Matrix: Sediment
Percent Solids: 71.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	**0.11**	**B**	0.058	0.0086	ug/Kg	☼	04/28/15 03:30	05/06/15 09:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*71*		*10 - 140*	*04/28/15 03:30*	*05/06/15 09:01*	*1*
Tetrachloro-m-xylene	*83*		*10 - 140*	*04/28/15 03:30*	*05/06/15 09:01*	*1*
DCB Decachlorobiphenyl (Surr)	*86*		*10 - 140*	*04/28/15 03:30*	*05/06/15 09:01*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*10 - 140*	*04/28/15 03:30*	*05/06/15 09:01*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: CBCON-SED
Date Collected: 04/16/15 14:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-2
Matrix: Sediment
Percent Solids: 66.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	**0.057**	**J p B**	0.063	0.0094	ug/Kg	☼	04/28/15 03:30	05/06/15 09:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*62*		*10 - 140*	*04/28/15 03:30*	*05/06/15 09:16*	*1*
Tetrachloro-m-xylene	*70*		*10 - 140*	*04/28/15 03:30*	*05/06/15 09:16*	*1*
DCB Decachlorobiphenyl (Surr)	*73*		*10 - 140*	*04/28/15 03:30*	*05/06/15 09:16*	*1*
DCB Decachlorobiphenyl (Surr)	*74*		*10 - 140*	*04/28/15 03:30*	*05/06/15 09:16*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: WBREF-T-SED
Date Collected: 04/16/15 11:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-1
Matrix: Sediment
Percent Solids: 71.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	**1.8**	**p**	0.69	0.23	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-18	ND		0.69	0.19	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-28	ND		0.69	0.098	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-44	ND		0.69	0.077	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-49	ND		0.69	0.14	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-52	ND		0.69	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-66	ND		0.69	0.062	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-77	ND		0.69	0.074	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-87	ND		0.69	0.070	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-101	**0.16**	**J p**	0.69	0.081	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-105	ND		0.69	0.056	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-118	ND		0.69	0.062	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-126	ND		0.69	0.23	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-128	ND		0.69	0.073	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-138	ND		0.69	0.058	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-153	ND		0.69	0.059	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-156	ND		0.69	0.046	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-169	ND		0.69	0.044	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-170	ND		0.69	0.052	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-180	ND		0.69	0.060	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-183	ND		0.69	0.15	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-184	ND		0.69	0.062	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-187	ND		0.69	0.085	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-195	ND		0.69	0.14	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
PCB-206	ND		0.69	0.048	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1
DCB Decachlorobiphenyl	**0.19**	**J**	0.69	0.048	ug/Kg	☼	04/24/15 04:41	05/01/15 22:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*67*		*35 - 140*	*04/24/15 04:41*	*05/01/15 22:55*	*1*
Tetrachloro-m-xylene (Surr)	*69*		*35 - 140*	*04/24/15 04:41*	*05/01/15 22:55*	*1*
PCB-205 (Surr)	*74*		*35 - 140*	*04/24/15 04:41*	*05/01/15 22:55*	*1*
PCB-205 (Surr)	*87*		*35 - 140*	*04/24/15 04:41*	*05/01/15 22:55*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: CBCON-SED
Date Collected: 04/16/15 14:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-2
Matrix: Sediment
Percent Solids: 66.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.75	0.24	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-18	ND		0.75	0.21	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-28	ND		0.75	0.11	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-44	**0.36**	**J**	0.75	0.084	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-49	ND		0.75	0.15	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-52	ND		0.75	0.14	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-66	ND		0.75	0.068	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-77	ND		0.75	0.080	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-87	ND		0.75	0.076	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-101	**0.098**	**J**	0.75	0.088	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-105	ND		0.75	0.061	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-118	ND		0.75	0.068	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-126	ND		0.75	0.25	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-128	ND		0.75	0.080	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-138	ND		0.75	0.063	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-153	ND		0.75	0.064	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-156	ND		0.75	0.050	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-169	ND		0.75	0.048	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-170	ND		0.75	0.057	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-180	ND		0.75	0.065	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-183	ND		0.75	0.16	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-184	ND		0.75	0.067	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-187	ND		0.75	0.092	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-195	ND		0.75	0.15	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
PCB-206	ND		0.75	0.052	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1
DCB Decachlorobiphenyl	ND		0.75	0.052	ug/Kg	☼	04/24/15 04:41	05/01/15 23:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*45*		*35 - 140*	*04/24/15 04:41*	*05/01/15 23:26*	*1*
Tetrachloro-m-xylene (Surr)	*45*		*35 - 140*	*04/24/15 04:41*	*05/01/15 23:26*	*1*
PCB-205 (Surr)	*48*		*35 - 140*	*04/24/15 04:41*	*05/01/15 23:26*	*1*
PCB-205 (Surr)	*62*		*35 - 140*	*04/24/15 04:41*	*05/01/15 23:26*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: WBREF-T-SED
Date Collected: 04/16/15 11:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-1
Matrix: Sediment
Percent Solids: 71.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Demeton, Total	ND		46	4.2	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Malathion	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Methyl parathion	ND		23	2.0	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Parathion	ND		23	1.8	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Bolstar	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Chlorpyrifos	ND		23	2.3	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Coumaphos	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Diazinon	ND		23	2.3	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Dichlorvos	ND		23	2.0	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Dimethoate	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Disulfoton	ND		23	2.5	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
EPN	ND		23	2.0	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Mocap	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Famphur	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Fensulfothion	ND		23	1.8	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Fenthion	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Mevinphos	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Phorate	ND		23	2.3	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Ronnel	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Stirophos	ND		23	2.3	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Sulfotepp	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Thionazin	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Tokuthion	ND		23	2.3	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
Trichloronate	ND		23	2.7	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1
O,O,O-Triethyl phosphorothioate	ND		23	4.5	ug/Kg	☼	04/23/15 05:11	04/23/15 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*61*		*47 - 130*	*04/23/15 05:11*	*04/23/15 15:55*	*1*
Tributyl phosphate	*58*		*47 - 130*	*04/23/15 05:11*	*04/23/15 15:55*	*1*
Triphenylphosphate	*59*		*55 - 125*	*04/23/15 05:11*	*04/23/15 15:55*	*1*
Triphenylphosphate	*60*		*55 - 125*	*04/23/15 05:11*	*04/23/15 15:55*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: CBCON-SED
Date Collected: 04/16/15 14:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-2
Matrix: Sediment
Percent Solids: 66.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		25	2.4	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Demeton, Total	ND		50	4.5	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Malathion	ND		25	2.4	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Methyl parathion	ND		25	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Parathion	ND		25	2.0	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Bolstar	ND		25	2.4	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Chlorpyrifos	ND		25	2.5	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Coumaphos	ND		25	2.4	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Diazinon	ND		25	2.5	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Dichlorvos	ND		25	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Dimethoate	ND		25	2.4	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Disulfoton	ND		25	2.7	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
EPN	ND		25	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Mocap	ND		25	2.4	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Famphur	ND		25	2.4	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Fensulfothion	ND		25	1.9	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Fenthion	ND		25	2.4	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Mevinphos	ND		25	2.4	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Phorate	ND		25	2.5	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Ronnel	ND		25	2.4	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Stirophos	ND		25	2.5	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Sulfotepp	ND		25	2.4	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Thionazin	ND		25	2.4	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Tokuthion	ND		25	2.5	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
Trichloronate	ND		25	2.9	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1
O,O,O-Triethyl phosphorothioate	ND		25	4.8	ug/Kg	☼	04/23/15 05:11	04/23/15 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*74*		*47 - 130*	*04/23/15 05:11*	*04/23/15 16:29*	*1*
Tributyl phosphate	*73*		*47 - 130*	*04/23/15 05:11*	*04/23/15 16:29*	*1*
Triphenylphosphate	*81*		*55 - 125*	*04/23/15 05:11*	*04/23/15 16:29*	*1*
Triphenylphosphate	*82*		*55 - 125*	*04/23/15 05:11*	*04/23/15 16:29*	*1*

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: WBREF-T-SED
Date Collected: 04/16/15 11:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-1
Matrix: Sediment
Percent Solids: 71.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.058	J	0.17	0.0057	mg/Kg	☼	04/24/15 13:10	04/28/15 14:16	1
Copper SEM	2.6		0.87	0.078	mg/Kg	☼	04/24/15 13:10	04/28/15 14:16	1
Lead SEM	6.7		0.35	0.069	mg/Kg	☼	04/24/15 13:10	04/28/15 14:16	1
Nickel SEM	3.5		1.4	0.040	mg/Kg	☼	04/24/15 13:10	04/28/15 14:16	1
Zinc SEM	27	B	3.5	0.26	mg/Kg	☼	04/24/15 13:10	04/28/15 14:16	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00052	J	0.0016	0.000051	umol/g	☼	04/24/15 13:10	04/28/15 14:16	1
Copper SEM	0.041		0.014	0.0012	umol/g	☼	04/24/15 13:10	04/28/15 14:16	1
Lead SEM	0.033		0.0017	0.00033	umol/g	☼	04/24/15 13:10	04/28/15 14:16	1
Nickel SEM	0.059		0.024	0.00068	umol/g	☼	04/24/15 13:10	04/28/15 14:16	1
Zinc SEM	0.42	B	0.053	0.0040	umol/g	☼	04/24/15 13:10	04/28/15 14:16	1

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: CBCON-SED
Date Collected: 04/16/15 14:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-2
Matrix: Sediment
Percent Solids: 66.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.060	J	0.19	0.0062	mg/Kg	☼	04/24/15 13:10	04/28/15 14:21	1
Copper SEM	2.8		0.95	0.085	mg/Kg	☼	04/24/15 13:10	04/28/15 14:21	1
Lead SEM	5.4		0.38	0.075	mg/Kg	☼	04/24/15 13:10	04/28/15 14:21	1
Nickel SEM	6.7		1.5	0.044	mg/Kg	☼	04/24/15 13:10	04/28/15 14:21	1
Zinc SEM	25	B	3.8	0.28	mg/Kg	☼	04/24/15 13:10	04/28/15 14:21	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	0.00054	J	0.0017	0.000055	umol/g	☼	04/24/15 13:10	04/28/15 14:21	1
Copper SEM	0.044		0.015	0.0013	umol/g	☼	04/24/15 13:10	04/28/15 14:21	1
Lead SEM	0.026		0.0018	0.00036	umol/g	☼	04/24/15 13:10	04/28/15 14:21	1
Nickel SEM	0.11		0.026	0.00074	umol/g	☼	04/24/15 13:10	04/28/15 14:21	1
Zinc SEM	0.39	B	0.058	0.0043	umol/g	☼	04/24/15 13:10	04/28/15 14:21	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: WBREF-T-SED
Date Collected: 04/16/15 11:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-1
Matrix: Sediment
Percent Solids: 71.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4100		2.1	0.20	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Antimony	0.033	J	0.14	0.0018	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Arsenic	3.0		0.070	0.013	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Barium	9.1		0.70	0.0075	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Beryllium	0.25		0.070	0.0052	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Cadmium	0.074		0.070	0.0049	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Chromium	9.1		0.14	0.0042	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Calcium	6300		35	0.92	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Cobalt	2.8		0.035	0.0010	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Copper	4.1		0.14	0.023	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Iron	7900		3.5	0.25	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Lead	7.0		0.070	0.0026	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Nickel	5.4		0.070	0.0079	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Potassium	1000		35	0.95	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Selenium	0.14	J	0.35	0.035	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Magnesium	2100		35	0.13	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Silver	0.025	J	0.070	0.0027	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Thallium	0.065	J	0.070	0.0014	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Sodium	2500		35	0.95	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Zinc	29		0.35	0.045	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Vanadium	11		0.070	0.0055	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1
Manganese	93		0.35	0.0072	mg/Kg	☼	04/29/15 11:56	04/30/15 00:04	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: CBCON-SED
Date Collected: 04/16/15 14:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-2
Matrix: Sediment
Percent Solids: 66.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	6600		2.2	0.21	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Antimony	0.027	J	0.15	0.0019	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Arsenic	3.7		0.074	0.013	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Barium	13		0.74	0.0079	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Beryllium	0.31		0.074	0.0056	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Cadmium	0.078		0.074	0.0052	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Chromium	14		0.15	0.0045	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Calcium	4500		37	0.98	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Cobalt	3.7		0.037	0.0011	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Copper	6.1		0.15	0.024	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Iron	11000		3.7	0.26	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Lead	6.4		0.074	0.0028	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Nickel	9.4		0.074	0.0084	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Potassium	1400		37	1.0	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Selenium	0.21	J	0.37	0.037	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Magnesium	4100		37	0.14	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Silver	0.039	J	0.074	0.0029	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Thallium	0.093		0.074	0.0015	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Sodium	3700		37	1.0	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Zinc	30		0.37	0.048	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Vanadium	17		0.074	0.0059	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1
Manganese	110		0.37	0.0076	mg/Kg	☼	04/29/15 11:56	04/30/15 00:09	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: WBREF-T-SED
Date Collected: 04/16/15 11:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-1
Matrix: Sediment
Percent Solids: 71.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.037		0.022	0.0076	mg/Kg	☼	05/06/15 08:38	05/06/15 14:41	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: CBCON-SED
Date Collected: 04/16/15 14:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-2
Matrix: Sediment
Percent Solids: 66.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.027		0.023	0.0080	mg/Kg	☼	05/06/15 08:38	05/06/15 14:43	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: WBREF-T-SED
Date Collected: 04/16/15 11:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	**0.56**		0.0010	0.0010	NONE			04/29/15 12:14	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: CBCON-SED
Date Collected: 04/16/15 14:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.47		0.0010	0.0010	NONE			04/29/15 12:14	1

General Chemistry

Client Sample ID: WBREF-T-SED
Date Collected: 04/16/15 11:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**28**		0.10	0.10	%			04/20/15 13:43	1
Ammonia, distilled	**14**		6.8	4.4	mg/Kg	☼	05/08/15 17:30	05/11/15 13:20	1
Cyanide, Total	ND		0.35	0.11	mg/Kg	☼	04/28/15 08:30	04/28/15 11:25	1
Sulfide	**65**		42	8.3	mg/Kg	☼	04/22/15 12:30	04/22/15 17:20	1
Total Organic Carbon - Duplicates	**4900**		1400	120	mg/Kg	☼		04/24/15 08:28	1
Total Phosphorus as P	**250**	**F1 F2**	140	13	mg/Kg	☼	04/26/15 04:18	04/26/15 09:28	10
Nitrogen, Kjeldahl	**400**		200	67	mg/Kg	☼	04/30/15 11:00	05/01/15 12:12	1

General Chemistry

Client Sample ID: CBCON-SED
Date Collected: 04/16/15 14:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**34**		0.10	0.10	%			04/20/15 13:43	1
Ammonia, distilled	**49**		7.3	4.7	mg/Kg	☼	05/08/15 17:30	05/11/15 13:21	1
Cyanide, Total	ND		0.38	0.12	mg/Kg	☼	04/28/15 08:30	04/28/15 11:27	1
Sulfide	**88**		45	9.0	mg/Kg	☼	04/22/15 12:30	04/22/15 17:21	1
Total Organic Carbon - Duplicates	**6000**		1500	130	mg/Kg	☼		04/24/15 08:44	1
Total Phosphorus as P	**500**		150	13	mg/Kg	☼	04/26/15 04:22	04/26/15 09:28	10
Nitrogen, Kjeldahl	**680**		230	79	mg/Kg	☼	04/30/15 11:00	05/01/15 12:14	1

General Chemistry - Soluble

Client Sample ID: WBREF-T-SED
Date Collected: 04/16/15 11:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-1
Matrix: Sediment
Percent Solids: 71.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	3.0		1.4	0.30	mg/Kg	☼		05/02/15 10:13	1

General Chemistry - Soluble

Client Sample ID: CBCON-SED
Date Collected: 04/16/15 14:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-2
Matrix: Sediment
Percent Solids: 66.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	2.1		1.5	0.32	mg/Kg	☼		05/02/15 10:18	1

General Chemistry - SEM/AVS

Client Sample ID: WBREF-T-SED
Date Collected: 04/16/15 11:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-1
Matrix: Sediment
Percent Solids: 71.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	31		21	4.2	mg/Kg	☼	04/24/15 13:10	04/24/15 19:50	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	0.98		0.65	0.13	umol/g	☼	04/24/15 13:10	04/24/15 19:50	1

General Chemistry - SEM/AVS

Client Sample ID: CBCON-SED
Date Collected: 04/16/15 14:00
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43225-2
Matrix: Sediment
Percent Solids: 66.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	39		23	4.6	mg/Kg	☼	04/24/15 13:10	04/24/15 19:51	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	1.2		0.71	0.14	umol/g	☼	04/24/15 13:10	04/24/15 19:51	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
1,2,4-Trichlorobenzene	17	0.92	ug/Kg	8270D LL
1,2-Dichlorobenzene	17	1.7	ug/Kg	8270D LL
1,2-Diphenylhydrazine(as Azobenzene)	17	2.1	ug/Kg	8270D LL
1,3-Dichlorobenzene	17	1.3	ug/Kg	8270D LL
1,4-Dichlorobenzene	17	1.2	ug/Kg	8270D LL
1-Methylnaphthalene	3.4	0.36	ug/Kg	8270D LL
2,2'-oxybis[1-chloropropane]	3.4	0.36	ug/Kg	8270D LL
2,4,6-Trichlorophenol	17	2.5	ug/Kg	8270D LL
2,4-Dichlorophenol	3.4	0.33	ug/Kg	8270D LL
2,4-Dimethylphenol	17	2.6	ug/Kg	8270D LL
2,4-Dinitrophenol	85	20	ug/Kg	8270D LL
2,4-Dinitrotoluene	17	1.3	ug/Kg	8270D LL
2,6-Dinitrotoluene	17	1.7	ug/Kg	8270D LL
2-Chloronaphthalene	3.4	0.35	ug/Kg	8270D LL
2-Chlorophenol	17	1.4	ug/Kg	8270D LL
2-Methylnaphthalene	3.4	0.30	ug/Kg	8270D LL
2-Methylphenol	17	1.2	ug/Kg	8270D LL
2-Nitrophenol	17	1.8	ug/Kg	8270D LL
3,3'-Dichlorobenzidine	17	1.8	ug/Kg	8270D LL
4,6-Dinitro-2-methylphenol	85	6.7	ug/Kg	8270D LL
4-Bromophenyl phenyl ether	17	1.5	ug/Kg	8270D LL
4-Chloro-3-methylphenol	17	1.5	ug/Kg	8270D LL
4-Chlorophenyl phenyl ether	17	1.9	ug/Kg	8270D LL
4-Nitrophenol	85	6.1	ug/Kg	8270D LL
Acenaphthene	3.4	0.32	ug/Kg	8270D LL
Acenaphthylene	3.4	0.38	ug/Kg	8270D LL
Anthracene	3.4	0.33	ug/Kg	8270D LL
Benzidine	340	70	ug/Kg	8270D LL
Benzo[a]anthracene	3.4	0.42	ug/Kg	8270D LL
Benzo[a]pyrene	3.4	0.33	ug/Kg	8270D LL
Benzo[b]fluoranthene	3.4	0.52	ug/Kg	8270D LL
Benzo[g,h,i]perylene	3.4	0.33	ug/Kg	8270D LL
Benzo[k]fluoranthene	3.4	0.67	ug/Kg	8270D LL
Benzoic acid	85	6.9	ug/Kg	8270D LL
Benzyl alcohol	17	2.0	ug/Kg	8270D LL
Bis(2-chloroethoxy)methane	17	1.1	ug/Kg	8270D LL
Bis(2-chloroethyl)ether	3.4	0.45	ug/Kg	8270D LL
Bis(2-ethylhexyl) phthalate	33	2.7	ug/Kg	8270D LL
Butyl benzyl phthalate	17	2.3	ug/Kg	8270D LL
Chrysene	3.4	0.40	ug/Kg	8270D LL
Dibenz(a,h)anthracene	3.4	0.37	ug/Kg	8270D LL
Dibenzofuran	17	1.6	ug/Kg	8270D LL
Diethyl phthalate	17	1.8	ug/Kg	8270D LL
Dimethyl phthalate	17	1.8	ug/Kg	8270D LL
Di-n-butyl phthalate	17	2.1	ug/Kg	8270D LL
Di-n-octyl phthalate	17	1.8	ug/Kg	8270D LL
Fluoranthene	3.4	0.36	ug/Kg	8270D LL
Fluorene	3.4	0.44	ug/Kg	8270D LL
Hexachlorobenzene	3.4	0.36	ug/Kg	8270D LL
Hexachlorobutadiene	3.4	0.37	ug/Kg	8270D LL
Hexachlorocyclopentadiene	17	1.8	ug/Kg	8270D LL
Hexachloroethane	17	1.2	ug/Kg	8270D LL

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	RL	MDL	Units	Method
Indeno[1,2,3-cd]pyrene	3.4	0.34	ug/Kg	8270D LL
Isophorone	17	1.3	ug/Kg	8270D LL
Methylphenol, 3 & 4	17	1.6	ug/Kg	8270D LL
Naphthalene	3.4	0.29	ug/Kg	8270D LL
Nitrobenzene	33	1.4	ug/Kg	8270D LL
N-Nitrosodimethylamine	17	1.4	ug/Kg	8270D LL
N-Nitrosodi-n-propylamine	3.4	0.39	ug/Kg	8270D LL
N-Nitrosodiphenylamine	17	1.5	ug/Kg	8270D LL
Pentachlorophenol	17	1.5	ug/Kg	8270D LL
Phenanthrene	3.4	0.53	ug/Kg	8270D LL
Phenol	3.4	0.39	ug/Kg	8270D LL
Pyrene	3.4	0.34	ug/Kg	8270D LL

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.042	0.0025	ug/Kg	8081B_LL
2,4'-DDE	0.042	0.0039	ug/Kg	8081B_LL
2,4'-DDT	0.042	0.0036	ug/Kg	8081B_LL
4,4'-DDD	0.042	0.0055	ug/Kg	8081B_LL
4,4'-DDE	0.042	0.0063	ug/Kg	8081B_LL
4,4'-DDT	0.042	0.0063	ug/Kg	8081B_LL
Aldrin	0.042	0.0075	ug/Kg	8081B_LL
alpha-BHC	0.042	0.0068	ug/Kg	8081B_LL
beta-BHC	0.042	0.011	ug/Kg	8081B_LL
Chlordane (technical)	0.42	0.018	ug/Kg	8081B_LL
Chlorobenside	0.042	0.022	ug/Kg	8081B_LL
DCPA	0.042	0.0064	ug/Kg	8081B_LL
delta-BHC	0.042	0.0064	ug/Kg	8081B_LL
Dieldrin	0.042	0.0070	ug/Kg	8081B_LL
Endosulfan I	0.042	0.0079	ug/Kg	8081B_LL
Endosulfan II	0.042	0.0074	ug/Kg	8081B_LL
Endosulfan sulfate	0.042	0.0044	ug/Kg	8081B_LL
Endrin	0.042	0.0081	ug/Kg	8081B_LL
Endrin aldehyde	0.042	0.0081	ug/Kg	8081B_LL
gamma-BHC (Lindane)	0.042	0.0073	ug/Kg	8081B_LL
Heptachlor	0.042	0.0093	ug/Kg	8081B_LL
Heptachlor epoxide	0.042	0.0081	ug/Kg	8081B_LL
Methoxychlor	0.083	0.0087	ug/Kg	8081B_LL
Mirex	0.042	0.0039	ug/Kg	8081B_LL
Toxaphene	1.7	0.28	ug/Kg	8081B_LL

Method: 8082A - PCB Congeners (GC)

Analyte	RL	MDL	Units	Method
DCB Decachlorobiphenyl	1.0	0.070	ug/Kg	8082A
PCB-101	1.0	0.12	ug/Kg	8082A
PCB-105	1.0	0.082	ug/Kg	8082A
PCB-118	1.0	0.090	ug/Kg	8082A
PCB-126	1.0	0.33	ug/Kg	8082A
PCB-128	1.0	0.11	ug/Kg	8082A
PCB-138	1.0	0.084	ug/Kg	8082A

Method: 8082A - PCB Congeners (GC) (Continued)

Analyte	RL	MDL	Units	Method
PCB-153	1.0	0.086	ug/Kg	8082A
PCB-156	1.0	0.067	ug/Kg	8082A
PCB-169	1.0	0.064	ug/Kg	8082A
PCB-170	1.0	0.076	ug/Kg	8082A
PCB-18	1.0	0.28	ug/Kg	8082A
PCB-180	1.0	0.086	ug/Kg	8082A
PCB-183	1.0	0.22	ug/Kg	8082A
PCB-184	1.0	0.090	ug/Kg	8082A
PCB-187	1.0	0.12	ug/Kg	8082A
PCB-195	1.0	0.20	ug/Kg	8082A
PCB-206	1.0	0.070	ug/Kg	8082A
PCB-28	1.0	0.14	ug/Kg	8082A
PCB-44	1.0	0.11	ug/Kg	8082A
PCB-49	1.0	0.21	ug/Kg	8082A
PCB-52	1.0	0.19	ug/Kg	8082A
PCB-66	1.0	0.090	ug/Kg	8082A
PCB-77	1.0	0.11	ug/Kg	8082A
PCB-8	1.0	0.33	ug/Kg	8082A
PCB-87	1.0	0.10	ug/Kg	8082A

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
Azinphos-methyl	17	1.6	ug/Kg	8141B
Bolstar	17	1.6	ug/Kg	8141B
Chlorpyrifos	17	1.6	ug/Kg	8141B
Coumaphos	17	1.6	ug/Kg	8141B
Demeton, Total	33	3.0	ug/Kg	8141B
Diazinon	17	1.6	ug/Kg	8141B
Dichlorvos	17	1.5	ug/Kg	8141B
Dimethoate	17	1.6	ug/Kg	8141B
Disulfoton	17	1.8	ug/Kg	8141B
EPN	17	1.4	ug/Kg	8141B
Famphur	17	1.6	ug/Kg	8141B
Fensulfothion	17	1.3	ug/Kg	8141B
Fenthion	17	1.6	ug/Kg	8141B
Malathion	17	1.6	ug/Kg	8141B
Methyl parathion	17	1.5	ug/Kg	8141B
Mevinphos	17	1.6	ug/Kg	8141B
Mocap	17	1.6	ug/Kg	8141B
O,O,O-Triethyl phosphorothioate	17	3.2	ug/Kg	8141B
Parathion	17	1.3	ug/Kg	8141B
Phorate	17	1.7	ug/Kg	8141B
Ronnel	17	1.6	ug/Kg	8141B
Stirophos	17	1.7	ug/Kg	8141B
Sulfotepp	17	1.6	ug/Kg	8141B
Thionazin	17	1.6	ug/Kg	8141B
Tokuthion	17	1.6	ug/Kg	8141B
Trichloronate	17	1.9	ug/Kg	8141B

Method: 6010B - Metals (ICP) - SEM/AVS

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43225-1

Method: 6010B - Metals (ICP) - SEM/AVS

Analyte	RL	MDL	Units	Method
Cadmium SEM	0.13	0.0041	mg/Kg	6010B
Cadmium SEM	0.0011	0.000036	umol/g	6010B
Copper SEM	0.63	0.056	mg/Kg	6010B
Copper SEM	0.0098	0.00088	umol/g	6010B
Lead SEM	0.25	0.050	mg/Kg	6010B
Lead SEM	0.0012	0.00024	umol/g	6010B
Nickel SEM	1.0	0.029	mg/Kg	6010B
Nickel SEM	0.017	0.00049	umol/g	6010B
Zinc SEM	2.5	0.18	mg/Kg	6010B
Zinc SEM	0.038	0.0028	umol/g	6010B

Method: 6020A - Metals (ICP/MS)

Analyte	RL	MDL	Units	Method
Aluminum	1.5	0.14	mg/Kg	6020A
Antimony	0.10	0.0013	mg/Kg	6020A
Arsenic	0.050	0.0091	mg/Kg	6020A
Barium	0.50	0.0054	mg/Kg	6020A
Beryllium	0.050	0.0038	mg/Kg	6020A
Cadmium	0.050	0.0035	mg/Kg	6020A
Calcium	25	0.66	mg/Kg	6020A
Chromium	0.10	0.0031	mg/Kg	6020A
Cobalt	0.025	0.00075	mg/Kg	6020A
Copper	0.10	0.017	mg/Kg	6020A
Iron	2.5	0.18	mg/Kg	6020A
Lead	0.050	0.0019	mg/Kg	6020A
Magnesium	25	0.094	mg/Kg	6020A
Manganese	0.25	0.0052	mg/Kg	6020A
Nickel	0.050	0.0057	mg/Kg	6020A
Potassium	25	0.68	mg/Kg	6020A
Selenium	0.25	0.025	mg/Kg	6020A
Silver	0.050	0.0020	mg/Kg	6020A
Sodium	25	0.68	mg/Kg	6020A
Thallium	0.050	0.0010	mg/Kg	6020A
Vanadium	0.050	0.0040	mg/Kg	6020A
Zinc	0.25	0.032	mg/Kg	6020A

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	RL	MDL	Units	Method
Mercury	0.017	0.0057	mg/Kg	7471B

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	RL	MDL	Units	Method
SEM/AVS Ratio	0.0010	0.0010	NONE	SEM

General Chemistry

Analyte	RL	MDL	Units	Method
Percent Moisture	0.10	0.10	%	2540G
Ammonia, distilled	5.0	3.2	mg/Kg	350.1

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43225-1

General Chemistry (Continued)

Analyte	RL	MDL	Units	Method
Cyanide, Total	0.25	0.082	mg/Kg	9014
Sulfide	30	6.0	mg/Kg	9034
Total Organic Carbon - Duplicates	1000	89	mg/Kg	Lloyd Kahn
Total Phosphorus as P	10	0.91	mg/Kg	SM4500 P E-1999
Nitrogen, Kjeldahl	150	51	mg/Kg	SM4500_NH3_E

General Chemistry - Soluble

Analyte	RL	MDL	Units	Method
Nitrate Nitrite as N	0.10	0.022	mg/Kg	353.2

General Chemistry - SEM/AVS

Analyte	RL	MDL	Units	Method
Acid Volatile Sulfides (AVS)	30	6.0	mg/Kg	9034
Acid Volatile Sulfides (AVS)	0.94	0.19	umol/g	9034

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43225-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(38-103)	(34-103)	(20-113)	(41-108)	(35-103)	(28-109)
180-43225-1	WBREF-T-SED	65	67	5 X	61	73	57
180-43225-2	CBCON-SED	77	78	19 X	75	84	71
LCS 180-139820/2-A	Lab Control Sample	66	73	63	67	74	66
MB 180-139820/1-A	Method Blank	52	57	52	51	59	56

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(10-140)	(10-140)	(10-140)	(10-140)
180-43225-1	WBREF-T-SED	61	72	78	73
180-43225-1 - RA	WBREF-T-SED	71	83	86	85
180-43225-2	CBCON-SED	54	62	68	68
180-43225-2 - RA	CBCON-SED	62	70	73	74
LCS 180-139823/2-B	Lab Control Sample	59	71	63	60
MB 180-139823/1-B	Method Blank	81	80	94	89

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
180-43225-1	WBREF-T-SED	67	69	74	87
180-43225-2	CBCON-SED	45	45	48	62
LCS 180-139502/2-C	Lab Control Sample	77	76	85	94
MB 180-139502/1-C	Method Blank	79	78	85	95

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43225-1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(47-130)	(47-130)	(55-125)	(55-125)
180-43225-1	WBREF-T-SED	61	58	59	60
180-43225-2	CBCON-SED	74	73	81	82
LCS 180-139360/2-A	Lab Control Sample	109	112	114	114
MB 180-139360/1-A	Method Blank	87	84	106	108

Surrogate Legend

TBPH = Tributyl phosphate

TPP = Triphenylphosphate

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-139820/1-A
Matrix: Sediment
Analysis Batch: 140091

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139820

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		340	70	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
1,2-Dichlorobenzene	ND		17	1.7	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
1,3-Dichlorobenzene	ND		17	1.3	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
1,4-Dichlorobenzene	ND		17	1.2	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Benzoic acid	ND		85	6.9	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Bis(2-chloroethyl)ether	ND		3.4	0.45	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Bis(2-chloroethoxy)methane	ND		17	1.1	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Bis(2-ethylhexyl) phthalate	ND		33	2.7	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
4-Bromophenyl phenyl ether	ND		17	1.5	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Butyl benzyl phthalate	ND		17	2.3	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
4-Chloro-3-methylphenol	ND		17	1.5	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
2-Chloronaphthalene	ND		3.4	0.35	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
2-Chlorophenol	ND		17	1.4	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
4-Chlorophenyl phenyl ether	ND		17	1.9	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Di-n-butyl phthalate	ND		17	2.1	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
3,3'-Dichlorobenzidine	ND		17	1.8	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
2,4-Dichlorophenol	ND		3.4	0.33	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Diethyl phthalate	ND		17	1.8	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
4,6-Dinitro-2-methylphenol	ND		85	6.7	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
2,4-Dimethylphenol	ND		17	2.6	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Dimethyl phthalate	ND		17	1.8	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
2,4-Dinitrophenol	ND		85	20	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
2,4-Dinitrotoluene	ND		17	1.3	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
2,6-Dinitrotoluene	ND		17	1.7	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		17	2.1	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Di-n-octyl phthalate	ND		17	1.8	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Hexachlorobenzene	ND		3.4	0.36	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Hexachlorobutadiene	ND		3.4	0.37	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Hexachloroethane	ND		17	1.2	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Hexachlorocyclopentadiene	ND		17	1.8	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Isophorone	ND		17	1.3	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
2-Methylphenol	ND		17	1.2	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Methylphenol, 3 & 4	ND		17	1.6	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Nitrobenzene	ND		33	1.4	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
2-Nitrophenol	ND		17	1.8	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
4-Nitrophenol	ND		85	6.1	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
N-Nitrosodiphenylamine	ND		17	1.5	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
N-Nitrosodimethylamine	ND		17	1.4	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
N-Nitrosodi-n-propylamine	ND		3.4	0.39	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
2,2'-oxybis[1-chloropropane]	ND		3.4	0.36	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Pentachlorophenol	ND		17	1.5	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Phenol	ND		3.4	0.39	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
1,2,4-Trichlorobenzene	ND		17	0.92	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
2,4,6-Trichlorophenol	ND		17	2.5	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
2-Methylnaphthalene	ND		3.4	0.30	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
1-Methylnaphthalene	ND		3.4	0.36	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Naphthalene	ND		3.4	0.29	ug/Kg		04/28/15 03:00	04/30/15 07:52	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-139820/1-A
Matrix: Sediment
Analysis Batch: 140091

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139820

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		3.4	0.38	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Acenaphthene	ND		3.4	0.32	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Fluorene	ND		3.4	0.44	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Phenanthrene	ND		3.4	0.53	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Anthracene	ND		3.4	0.33	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Fluoranthene	ND		3.4	0.36	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Pyrene	ND		3.4	0.34	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Benzo[a]anthracene	ND		3.4	0.42	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Chrysene	ND		3.4	0.40	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Benzo[b]fluoranthene	ND		3.4	0.52	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Benzo[k]fluoranthene	ND		3.4	0.67	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Benzo[a]pyrene	ND		3.4	0.33	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Indeno[1,2,3-cd]pyrene	ND		3.4	0.34	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Dibenz(a,h)anthracene	ND		3.4	0.37	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Benzo[g,h,i]perylene	ND		3.4	0.33	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Benzyl alcohol	ND		17	2.0	ug/Kg		04/28/15 03:00	04/30/15 07:52	1
Dibenzofuran	ND		17	1.6	ug/Kg		04/28/15 03:00	04/30/15 07:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*38 - 103*	*04/28/15 03:00*	*04/30/15 07:52*	*1*
2-Fluorophenol (Surr)	*57*		*34 - 103*	*04/28/15 03:00*	*04/30/15 07:52*	*1*
2,4,6-Tribromophenol (Surr)	*52*		*20 - 113*	*04/28/15 03:00*	*04/30/15 07:52*	*1*
Nitrobenzene-d5 (Surr)	*51*		*41 - 108*	*04/28/15 03:00*	*04/30/15 07:52*	*1*
Phenol-d5 (Surr)	*59*		*35 - 103*	*04/28/15 03:00*	*04/30/15 07:52*	*1*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*04/28/15 03:00*	*04/30/15 07:52*	*1*

Lab Sample ID: LCS 180-139820/2-A
Matrix: Sediment
Analysis Batch: 140091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139820

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	333	108	J	ug/Kg		32	10 - 101
1,2-Dichlorobenzene	333	211		ug/Kg		63	30 - 100
1,3-Dichlorobenzene	333	205		ug/Kg		61	30 - 100
1,4-Dichlorobenzene	333	207		ug/Kg		62	29 - 100
Benzoic acid	333	250		ug/Kg		75	10 - 131
Bis(2-chloroethyl)ether	333	214		ug/Kg		64	31 - 100
Bis(2-chloroethoxy)methane	333	219		ug/Kg		66	31 - 100
Bis(2-ethylhexyl) phthalate	333	258		ug/Kg		78	32 - 106
4-Bromophenyl phenyl ether	333	213		ug/Kg		64	33 - 100
Butyl benzyl phthalate	333	252		ug/Kg		76	33 - 105
4-Chloro-3-methylphenol	333	250		ug/Kg		75	37 - 100
2-Chloronaphthalene	333	189		ug/Kg		57	29 - 100
2-Chlorophenol	333	224		ug/Kg		67	31 - 100
4-Chlorophenyl phenyl ether	333	222		ug/Kg		67	35 - 100
Di-n-butyl phthalate	333	262		ug/Kg		79	36 - 102
3,3'-Dichlorobenzidine	333	232		ug/Kg		70	29 - 100
2,4-Dichlorophenol	333	227		ug/Kg		68	34 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139820/2-A
Matrix: Sediment
Analysis Batch: 140091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139820

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diethyl phthalate	333	244		ug/Kg		73	36 - 103
4,6-Dinitro-2-methylphenol	667	558		ug/Kg		84	36 - 100
2,4-Dimethylphenol	333	230		ug/Kg		69	34 - 100
Dimethyl phthalate	333	235		ug/Kg		71	36 - 100
2,4-Dinitrophenol	667	646		ug/Kg		97	30 - 100
2,4-Dinitrotoluene	333	275		ug/Kg		82	36 - 102
2,6-Dinitrotoluene	333	247		ug/Kg		74	37 - 100
1,2-Diphenylhydrazine(as Azobenzene)	333	210		ug/Kg		63	29 - 103
Di-n-octyl phthalate	333	240		ug/Kg		72	26 - 112
Hexachlorobenzene	333	206		ug/Kg		62	30 - 104
Hexachlorobutadiene	333	178		ug/Kg		53	30 - 104
Hexachloroethane	333	205		ug/Kg		61	31 - 100
Hexachlorocyclopentadiene	333	196		ug/Kg		59	21 - 113
Isophorone	333	217		ug/Kg		65	34 - 100
2-Methylphenol	333	236		ug/Kg		71	33 - 100
Methylphenol, 3 & 4	333	242		ug/Kg		72	33 - 100
Nitrobenzene	333	208		ug/Kg		62	30 - 100
2-Nitrophenol	333	235		ug/Kg		70	33 - 100
4-Nitrophenol	667	553		ug/Kg		83	23 - 138
N-Nitrosodiphenylamine	667	470		ug/Kg		71	32 - 100
N-Nitrosodimethylamine	333	238		ug/Kg		71	23 - 102
N-Nitrosodi-n-propylamine	333	210		ug/Kg		63	33 - 100
2,2'-oxybis[1-chloropropane]	333	219		ug/Kg		66	29 - 100
Pentachlorophenol	667	418		ug/Kg		63	24 - 106
Phenol	333	236		ug/Kg		71	34 - 100
1,2,4-Trichlorobenzene	333	201		ug/Kg		60	31 - 100
2,4,6-Trichlorophenol	333	227		ug/Kg		68	34 - 103
2-Methylnaphthalene	333	216		ug/Kg		65	33 - 100
1-Methylnaphthalene	333	207		ug/Kg		62	31 - 100
Naphthalene	333	209		ug/Kg		63	32 - 100
Acenaphthylene	333	225		ug/Kg		68	34 - 100
Acenaphthene	333	215		ug/Kg		65	34 - 100
Fluorene	333	243		ug/Kg		73	35 - 100
Phenanthrene	333	234		ug/Kg		70	33 - 100
Anthracene	333	239		ug/Kg		72	35 - 100
Fluoranthene	333	262		ug/Kg		79	36 - 100
Pyrene	333	217		ug/Kg		65	32 - 100
Benzo[a]anthracene	333	249		ug/Kg		75	37 - 100
Chrysene	333	241		ug/Kg		72	37 - 100
Benzo[b]fluoranthene	333	228		ug/Kg		68	31 - 100
Benzo[k]fluoranthene	333	245		ug/Kg		73	34 - 100
Benzo[a]pyrene	333	254		ug/Kg		76	36 - 100
Indeno[1,2,3-cd]pyrene	333	252		ug/Kg		76	31 - 103
Dibenz(a,h)anthracene	333	260		ug/Kg		78	31 - 106
Benzo[g,h,i]perylene	333	257		ug/Kg		77	29 - 106
Benzyl alcohol	333	244		ug/Kg		73	30 - 100
Dibenzofuran	333	225		ug/Kg		68	35 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139820/2-A
Matrix: Sediment
Analysis Batch: 140091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139820

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	66		38 - 103
2-Fluorophenol (Surr)	73		34 - 103
2,4,6-Tribromophenol (Surr)	63		20 - 113
Nitrobenzene-d5 (Surr)	67		41 - 108
Phenol-d5 (Surr)	74		35 - 103
Terphenyl-d14 (Surr)	66		28 - 109

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-139823/1-B
Matrix: Sediment
Analysis Batch: 140438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139823

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.042	0.0075	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
alpha-BHC	ND		0.042	0.0068	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
beta-BHC	0.0224	J p	0.042	0.011	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
delta-BHC	ND		0.042	0.0064	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
gamma-BHC (Lindane)	ND		0.042	0.0073	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Chlordane (technical)	ND		0.42	0.018	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Chlorobenside	ND		0.042	0.022	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
DCPA	0.0138	J p	0.042	0.0064	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
4,4'-DDD	0.00684	J p	0.042	0.0055	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
4,4'-DDE	ND		0.042	0.0063	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
4,4'-DDT	0.0115	J	0.042	0.0063	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Dieldrin	0.0101	J p	0.042	0.0070	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endosulfan I	ND		0.042	0.0079	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
2,4'-DDD	0.0195	J p	0.042	0.0025	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endosulfan II	0.0227	J p	0.042	0.0074	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endosulfan sulfate	ND		0.042	0.0044	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
2,4'-DDE	ND		0.042	0.0039	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endrin	0.0302	J p	0.042	0.0081	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Endrin aldehyde	ND		0.042	0.0081	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
2,4'-DDT	ND		0.042	0.0036	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Heptachlor	ND		0.042	0.0093	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Heptachlor epoxide	0.0126	J p	0.042	0.0081	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Methoxychlor	0.0301	J	0.083	0.0087	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Mirex	ND		0.042	0.0039	ug/Kg		04/28/15 03:30	05/04/15 19:58	1
Toxaphene	ND		1.7	0.28	ug/Kg		04/28/15 03:30	05/04/15 19:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	81		10 - 140	04/28/15 03:30	05/04/15 19:58	1
Tetrachloro-m-xylene	80		10 - 140	04/28/15 03:30	05/04/15 19:58	1
DCB Decachlorobiphenyl (Surr)	94		10 - 140	04/28/15 03:30	05/04/15 19:58	1
DCB Decachlorobiphenyl (Surr)	89		10 - 140	04/28/15 03:30	05/04/15 19:58	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-139823/2-B
Matrix: Sediment
Analysis Batch: 140438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139823

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aldrin			1.67	0.916		ug/Kg		55	10 - 150		
alpha-BHC			1.67	0.874		ug/Kg		52	10 - 150		
beta-BHC			1.67	0.918		ug/Kg		55	10 - 150		
delta-BHC			1.67	0.668		ug/Kg		40	20 - 124		
gamma-BHC (Lindane)			1.67	0.975		ug/Kg		59	10 - 150		
4,4'-DDD			1.67	0.909		ug/Kg		55	15 - 150		
4,4'-DDE			1.67	0.906		ug/Kg		54	10 - 150		
4,4'-DDT			1.67	0.987		ug/Kg		59	10 - 150		
Dieldrin			1.67	0.901		ug/Kg		54	20 - 150		
Endosulfan I			1.67	0.881		ug/Kg		53	20 - 150		
Endosulfan II			1.67	0.872		ug/Kg		52	10 - 150		
Endosulfan sulfate			1.67	0.841		ug/Kg		50	13 - 140		
Endrin			1.67	0.930		ug/Kg		56	10 - 150		
Endrin aldehyde			1.67	0.860		ug/Kg		52	10 - 150		
Heptachlor			1.67	0.993		ug/Kg		60	10 - 150		
Heptachlor epoxide			1.67	0.877		ug/Kg		53	10 - 150		
Methoxychlor			1.67	1.33		ug/Kg		80	10 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*59*		*10 - 140*
Tetrachloro-m-xylene	*71*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*63*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*60*		*10 - 140*

Method: 8082A - PCB Congeners (GC)

Lab Sample ID: MB 180-139502/1-C
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139502

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.50	0.16	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-18	ND		0.50	0.14	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-28	ND		0.50	0.071	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-44	ND		0.50	0.056	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-49	ND		0.50	0.10	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-52	ND		0.50	0.096	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-66	ND		0.50	0.045	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-77	ND		0.50	0.054	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-87	ND		0.50	0.051	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-101	ND		0.50	0.059	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-105	ND		0.50	0.041	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-118	ND		0.50	0.045	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-126	ND		0.50	0.17	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-128	ND		0.50	0.053	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-138	ND		0.50	0.042	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-153	ND		0.50	0.043	ug/Kg		04/24/15 04:41	05/01/15 17:40	1

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: MB 180-139502/1-C
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139502

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-156	ND		0.50	0.033	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-169	ND		0.50	0.032	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-170	ND		0.50	0.038	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-180	ND		0.50	0.043	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-183	ND		0.50	0.11	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-184	ND		0.50	0.045	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-187	ND		0.50	0.062	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-195	ND		0.50	0.099	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-206	ND		0.50	0.035	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
DCB Decachlorobiphenyl	ND		0.50	0.035	ug/Kg		04/24/15 04:41	05/01/15 17:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*79*		*35 - 140*	*04/24/15 04:41*	*05/01/15 17:40*	*1*
Tetrachloro-m-xylene (Surr)	*78*		*35 - 140*	*04/24/15 04:41*	*05/01/15 17:40*	*1*
PCB-205 (Surr)	*85*		*35 - 140*	*04/24/15 04:41*	*05/01/15 17:40*	*1*
PCB-205 (Surr)	*95*		*35 - 140*	*04/24/15 04:41*	*05/01/15 17:40*	*1*

Lab Sample ID: LCS 180-139502/2-C
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139502

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	10.0	9.84		ug/Kg		98	50 - 140
PCB-18	10.0	9.05		ug/Kg		91	50 - 140
PCB-28	10.0	8.93		ug/Kg		89	50 - 140
PCB-44	10.0	8.29		ug/Kg		83	50 - 140
PCB-49	10.0	8.59		ug/Kg		86	50 - 140
PCB-52	10.0	8.41		ug/Kg		84	50 - 140
PCB-66	10.0	9.85		ug/Kg		99	50 - 140
PCB-77	10.0	10.1		ug/Kg		101	50 - 140
PCB-87	10.0	10.6		ug/Kg		106	50 - 140
PCB-101	10.0	9.20		ug/Kg		92	50 - 140
PCB-105	10.0	9.26		ug/Kg		93	50 - 140
PCB-118	10.0	9.61		ug/Kg		96	50 - 140
PCB-126	10.0	8.67		ug/Kg		87	50 - 140
PCB-128	10.0	8.53		ug/Kg		85	50 - 140
PCB-138	10.0	8.64		ug/Kg		86	50 - 140
PCB-153	10.0	8.31		ug/Kg		83	50 - 140
PCB-156	10.0	8.93		ug/Kg		89	50 - 140
PCB-169	10.0	7.90		ug/Kg		79	50 - 140
PCB-170	10.0	8.26		ug/Kg		83	50 - 140
PCB-180	10.0	8.63		ug/Kg		86	50 - 140
PCB-183	10.0	7.87		ug/Kg		79	50 - 140
PCB-184	10.0	9.52		ug/Kg		95	50 - 140
PCB-187	10.0	8.12		ug/Kg		81	50 - 140
PCB-195	10.0	8.53		ug/Kg		85	50 - 140
PCB-206	10.0	7.84		ug/Kg		78	50 - 140
DCB Decachlorobiphenyl	10.0	8.64		ug/Kg		86	50 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene (Surr)	77		35 - 140
Tetrachloro-m-xylene (Surr)	76		35 - 140
PCB-205 (Surr)	85		35 - 140
PCB-205 (Surr)	94		35 - 140

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Lab Sample ID: MB 180-139360/1-A
Matrix: Sediment
Analysis Batch: 139370

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139360

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		33	3.1	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Demeton, Total	ND		66	6.0	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Malathion	ND		33	3.1	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Methyl parathion	ND		33	2.9	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Parathion	ND		33	2.6	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Bolstar	ND		33	3.1	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Chlorpyrifos	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Coumaphos	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Diazinon	ND		33	3.3	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Dichlorvos	ND		33	2.9	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Dimethoate	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Disulfoton	ND		33	3.5	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
EPN	ND		33	2.9	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Mocap	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Famphur	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Fensulfothion	ND		33	2.6	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Fenthion	ND		33	3.1	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Mevinphos	ND		33	3.1	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Phorate	ND		33	3.3	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Ronnel	ND		33	3.1	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Stirophos	ND		33	3.3	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Sulfotepp	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Thionazin	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Tokuthion	ND		33	3.3	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Trichloronate	ND		33	3.9	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
O,O,O-Triethyl phosphorothioate	ND		33	6.4	ug/Kg		04/23/15 05:11	04/23/15 13:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	87		47 - 130	04/23/15 05:11	04/23/15 13:06	1
Tributyl phosphate	84		47 - 130	04/23/15 05:11	04/23/15 13:06	1
Triphenylphosphate	106		55 - 125	04/23/15 05:11	04/23/15 13:06	1
Triphenylphosphate	108		55 - 125	04/23/15 05:11	04/23/15 13:06	1

Lab Sample ID: LCS 180-139360/2-A
Matrix: Sediment
Analysis Batch: 139370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139360

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	333	335		ug/Kg		100	40 - 150
Malathion	333	362		ug/Kg		109	50 - 135

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCS 180-139360/2-A
Matrix: Sediment
Analysis Batch: 139370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139360

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl parathion	333	341		ug/Kg		102	43 - 146
Parathion	333	353		ug/Kg		106	52 - 133
Bolstar	333	363		ug/Kg		109	10 - 150
Chlorpyrifos	333	359		ug/Kg		108	50 - 130
Coumaphos	333	352		ug/Kg		105	10 - 150
Diazinon	333	348		ug/Kg		104	50 - 150
Dichlorvos	333	401		ug/Kg		120	10 - 150
Dimethoate	333	316		ug/Kg		95	40 - 143
Disulfoton	333	358		ug/Kg		107	31 - 136
EPN	333	347		ug/Kg		104	10 - 150
Mocap	333	355		ug/Kg		107	10 - 150
Famphur	333	344		ug/Kg		103	54 - 137
Fensulfothion	333	320		ug/Kg		96	10 - 150
Fenthion	333	359		ug/Kg		108	10 - 150
Mevinphos	333	310		ug/Kg		93	10 - 150
Phorate	333	357		ug/Kg		107	41 - 143
Ronnel	333	341		ug/Kg		102	10 - 150
Stirophos	333	340		ug/Kg		102	10 - 150
Sulfotepp	333	358		ug/Kg		107	48 - 126
Thionazin	333	354		ug/Kg		106	48 - 126
Tokuthion	333	352		ug/Kg		106	10 - 150
Trichloronate	333	357		ug/Kg		107	10 - 150
O,O,O-Triethyl phosphorothioate	333	329		ug/Kg		99	45 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tributyl phosphate	*109*		*47 - 130*
Tributyl phosphate	*112*		*47 - 130*
Triphenylphosphate	*114*		*55 - 125*
Triphenylphosphate	*114*		*55 - 125*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 180-139589/1-A
Matrix: Sediment
Analysis Batch: 139953

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 139589

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.13	0.0041	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Copper SEM	ND		0.63	0.056	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Lead SEM	ND		0.25	0.050	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Nickel SEM	ND		1.0	0.029	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Zinc SEM	1.15	J	2.5	0.18	mg/Kg		04/24/15 13:10	04/28/15 13:04	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.0011	0.000036	umol/g		04/24/15 13:10	04/28/15 13:04	1
Copper SEM	ND		0.0098	0.00088	umol/g		04/24/15 13:10	04/28/15 13:04	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 180-139589/1-A
Matrix: Sediment
Analysis Batch: 139953

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 139589

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead SEM	ND		0.0012	0.00024	umol/g		04/24/15 13:10	04/28/15 13:04	1
Nickel SEM	ND		0.017	0.00049	umol/g		04/24/15 13:10	04/28/15 13:04	1
Zinc SEM	0.0176	J	0.038	0.0028	umol/g		04/24/15 13:10	04/28/15 13:04	1

Lab Sample ID: LCS 180-139589/2-A
Matrix: Sediment
Analysis Batch: 139953

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 139589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	1.25	1.25		mg/Kg		100	80 - 120
Copper SEM	6.25	6.20		mg/Kg		99	80 - 120
Lead SEM	12.5	12.0		mg/Kg		96	80 - 120
Nickel SEM	12.5	12.1		mg/Kg		97	80 - 120
Zinc SEM	12.5	13.6		mg/Kg		109	80 - 120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	0.011	0.0112		umol/g		100	80 - 120
Copper SEM	0.098	0.0975		umol/g		99	80 - 120
Lead SEM	0.060	0.0580		umol/g		96	80 - 120
Nickel SEM	0.21	0.206		umol/g		97	80 - 120
Zinc SEM	0.19	0.209		umol/g		109	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-140029/1-A
Matrix: Sediment
Analysis Batch: 140127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140029

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.5	0.14	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Antimony	ND		0.10	0.0013	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Arsenic	ND		0.050	0.0091	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Barium	ND		0.50	0.0054	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Beryllium	ND		0.050	0.0038	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Cadmium	ND		0.050	0.0035	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Chromium	ND		0.10	0.0031	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Calcium	ND		25	0.66	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Cobalt	ND		0.025	0.00075	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Copper	ND		0.10	0.017	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Iron	ND		2.5	0.18	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Lead	ND		0.050	0.0019	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Nickel	ND		0.050	0.0057	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Potassium	ND		25	0.68	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Selenium	ND		0.25	0.025	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Magnesium	ND		25	0.094	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Silver	ND		0.050	0.0020	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Thallium	ND		0.050	0.0010	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Sodium	ND		25	0.68	mg/Kg		04/29/15 11:56	04/29/15 22:05	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-140029/1-A
Matrix: Sediment
Analysis Batch: 140127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140029

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		0.25	0.032	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Vanadium	ND		0.050	0.0040	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Manganese	ND		0.25	0.0052	mg/Kg		04/29/15 11:56	04/29/15 22:05	1

Lab Sample ID: LCS 180-140029/2-A
Matrix: Sediment
Analysis Batch: 140127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140029

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	99.0	91.3		mg/Kg		92	80 - 120
Antimony	24.8	22.7		mg/Kg		92	80 - 120
Arsenic	1.98	1.82		mg/Kg		92	80 - 120
Barium	99.0	89.7		mg/Kg		91	80 - 120
Beryllium	2.48	2.30		mg/Kg		93	80 - 120
Cadmium	2.48	2.40		mg/Kg		97	80 - 120
Chromium	9.90	8.94		mg/Kg		90	80 - 120
Calcium	2480	2280		mg/Kg		92	80 - 120
Cobalt	24.8	22.5		mg/Kg		91	80 - 120
Copper	12.4	11.6		mg/Kg		94	80 - 120
Iron	49.5	45.2		mg/Kg		91	80 - 120
Lead	0.990	1.01		mg/Kg		102	80 - 120
Nickel	24.8	22.7		mg/Kg		92	80 - 120
Potassium	2480	2160		mg/Kg		87	80 - 120
Selenium	0.495	0.418		mg/Kg		85	80 - 120
Magnesium	2480	2250		mg/Kg		91	80 - 120
Silver	2.48	2.38		mg/Kg		96	80 - 120
Thallium	2.48	2.45		mg/Kg		99	80 - 120
Sodium	2480	2340		mg/Kg		94	80 - 120
Zinc	24.8	20.7		mg/Kg		84	80 - 120
Vanadium	24.8	22.6		mg/Kg		91	80 - 120
Manganese	24.8	24.1		mg/Kg		97	80 - 120

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Lab Sample ID: MB 180-140689/1-A
Matrix: Sediment
Analysis Batch: 140788

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140689

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.016	0.0056	mg/Kg		05/06/15 08:38	05/06/15 13:53	1

Lab Sample ID: LCS 180-140689/2-A
Matrix: Sediment
Analysis Batch: 140788

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140689

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.200	0.238		mg/Kg		119	80 - 120

Method: 2540G - SM 2540G

Lab Sample ID: 180-43225-1 DU
Matrix: Sediment
Analysis Batch: 139073

Client Sample ID: WBREF-T-SED
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	28		27		%		3	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 180-141042/1-A
Matrix: Sediment
Analysis Batch: 141199

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141042

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		5.0	3.2	mg/Kg		05/08/15 17:30	05/11/15 13:13	1

Lab Sample ID: LCS 180-141042/2-A
Matrix: Sediment
Analysis Batch: 141199

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141042

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	100	101		mg/Kg		101	90 - 110

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: LB 180-140142/2-A
Matrix: Sediment
Analysis Batch: 140363

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.0	0.21	mg/Kg			05/02/15 10:10	1

Lab Sample ID: LCS 180-140142/1-A
Matrix: Sediment
Analysis Batch: 140363

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	39.8	43.2		mg/Kg		108	90 - 110

Lab Sample ID: 180-43225-1 MS
Matrix: Sediment
Analysis Batch: 140363

Client Sample ID: WBREF-T-SED
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	3.0		27.7	29.5		mg/Kg	☼	95	90 - 110

Lab Sample ID: 180-43225-1 MSD
Matrix: Sediment
Analysis Batch: 140363

Client Sample ID: WBREF-T-SED
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	3.0		27.7	29.0		mg/Kg	☼	94	90 - 110	1	20

Method: 9014 - Cyanide

Lab Sample ID: MB 180-139851/4-A
Matrix: Sediment
Analysis Batch: 139911

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139851

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.25	0.082	mg/Kg		04/28/15 08:30	04/28/15 12:22	1

Lab Sample ID: HLCS 180-139851/2-A
Matrix: Sediment
Analysis Batch: 139911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139851

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.256		mg/Kg		103	90 - 110

Lab Sample ID: LCS 180-139851/3-A
Matrix: Sediment
Analysis Batch: 139911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139851

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	70.3	77.0		mg/Kg		110	38 - 162

Lab Sample ID: LLCS 180-139851/1-A
Matrix: Sediment
Analysis Batch: 139911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139851

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0500	0.0496		mg/Kg		99	90 - 110

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-139295/1-A
Matrix: Sediment
Analysis Batch: 139344

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139295

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		30	6.0	mg/Kg		04/22/15 12:30	04/22/15 17:17	1

Lab Sample ID: LCS 180-139295/2-A
Matrix: Sediment
Analysis Batch: 139344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139295

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	192	175		mg/Kg		91	85 - 115

Lab Sample ID: MB 180-139590/1-A
Matrix: Sediment
Analysis Batch: 139629

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 139590

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		15	3.0	mg/Kg		04/24/15 13:10	04/24/15 19:37	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.47	0.094	umol/g		04/24/15 13:10	04/24/15 19:37	1

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric) (Continued)

Lab Sample ID: LCS 180-139590/2-A
Matrix: Sediment
Analysis Batch: 139629

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 139590

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	96.1	87.5		mg/Kg		91	85 - 115

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	3.0	2.73		umol/g		91	85 - 115

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 180-139579/3
Matrix: Sediment
Analysis Batch: 139579

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	89	mg/Kg			04/24/15 04:15	1

Lab Sample ID: LCS 180-139579/4
Matrix: Sediment
Analysis Batch: 139579

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	35000	34300		mg/Kg		98	75 - 125

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-177993/10-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 177993

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		9.6	0.88	mg/Kg		04/26/15 03:45	04/26/15 09:09	1

Lab Sample ID: MB 240-177993/35-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 177993

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		9.6	0.88	mg/Kg		04/26/15 04:16	04/26/15 09:09	1

Lab Sample ID: LCS 240-177993/11-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 177993

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	16.9	17.0		mg/Kg		101	75 - 125

Method: SM4500 P E-1999 - Phosphorus (Continued)

Lab Sample ID: LCS 240-177993/36-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 177993

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Phosphorus as P			16.9	16.0		mg/Kg		94	75 - 125		

Lab Sample ID: 180-43225-1 MS
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: WBREF-T-SED
Prep Type: Total/NA
Prep Batch: 177993

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Phosphorus as P	250	F1 F2	71.1	300		mg/Kg	☼	76	75 - 125		

Lab Sample ID: 180-43225-1 MSD
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: WBREF-T-SED
Prep Type: Total/NA
Prep Batch: 177993

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Phosphorus as P	250	F1 F2	71.1	478	F1 F2	mg/Kg	☼	327	75 - 125	46	20

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total

Lab Sample ID: MB 240-178705/1-A
Matrix: Sediment
Analysis Batch: 178910

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 178705

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		150	50	mg/Kg		04/30/15 11:00	05/01/15 11:47	1

Lab Sample ID: LCS 240-178705/2-A
Matrix: Sediment
Analysis Batch: 178910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 178705

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Kjeldahl			367	414		mg/Kg		113	70 - 133		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-43225-1

CBBT Thimble Shoal

Lot #: H5D210416

Carrie Gamber

TestAmerica Pittsburgh
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TESTAMERICA LABORATORIES, INC.

Bruce Wagner
Project Manager

April 29, 2015

ANALYTICAL METHODS SUMMARY

H5D210416

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B
Percent Moisture	MCAWW 160.3 MOD

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SAMPLE SUMMARY

H5D210416

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M6MRG	001	WBREF-T-SED	04/16/15	11:00
M6MRH	002	CBCON-SED	04/16/15	14:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H5D210416

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

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The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

For solid and sediments samples, when percent moisture is included in the report header field, the sample results are reported on a dry weight basis. When percent moisture is not contained in the header field, sample results are reported on an as received or wet weight basis.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

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Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

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Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration

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W = amount of sample extracted (grams or liters)
S = percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: WBREF-T-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D210416 - 001	**Work Order #....:**	M6MRG1AA	**Matrix.....:**	SE
Date Sampled....:	04/16/15	**Date Received....:**	04/21/15	**Units....:**	pg/g
Prep Date....:	04/22/15			**Dilution Factor:**	1
Prep Batch # ....:	5112014			**Percent Moisture:**	34
Initial Wgt/Vol :	15.7 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**4/28/15**	**1**	**0.14 J**	**0.96**	**0.063**	**1.0**	**0.14**
1,2,3,7,8-PeCDD	**4/28/15**	**1**	**0.77 Q B J**	**4.8**	**0.032**	**0.5**	**0.38**
1,2,3,4,7,8-HxCDD	**4/28/15**	**1**	**1.0 J**	**4.8**	**0.032**	**0.1**	**0.10**
1,2,3,6,7,8-HxCDD	**4/28/15**	**1**	**1.8 B J**	**4.8**	**0.032**	**0.1**	**0.18**
1,2,3,7,8,9-HxCDD	**4/28/15**	**1**	**3.8 C B J**	**4.8**	**0.030**	**0.1**	**0.38**
1,2,3,4,6,7,8-HpCDD	**4/28/15**	**1**	**42 B**	**4.8**	**0.041**	**0.01**	**0.42**
OCDD	**4/28/15**	**1**	**670 B**	**9.6**	**0.057**	**0.001**	**0.67**
2,3,7,8-TCDF	**4/28/15**	**1**	**0.18 Q J**	**0.96**	**0.019**	**0.1**	**0.018**
1,2,3,7,8-PeCDF	**4/28/15**	**1**	**0.23 B J**	**4.8**	**0.014**	**0.05**	**0.012**
2,3,4,7,8-PeCDF	**4/28/15**	**1**	**0.32 Q B J**	**4.8**	**0.014**	**0.5**	**0.16**
1,2,3,4,7,8-HxCDF	**4/28/15**	**1**	**0.67 C B J**	**4.8**	**0.0099**	**0.1**	**0.067**
1,2,3,6,7,8-HxCDF	**4/28/15**	**1**	**0.45 B J**	**4.8**	**0.0097**	**0.1**	**0.045**
2,3,4,6,7,8-HxCDF	**4/28/15**	**1**	**0.23 Q B J**	**4.8**	**0.0098**	**0.1**	**0.023**
1,2,3,7,8,9-HxCDF	**4/28/15**	**1**	**0.041 Q B J**	**4.8**	**0.012**	**0.1**	**0.0041**
1,2,3,4,6,7,8-HpCDF	**4/28/15**	**1**	**1.8 Q B J**	**4.8**	**0.012**	**0.01**	**0.018**
1,2,3,4,7,8,9-HpCDF	**4/28/15**	**1**	**0.23 B J**	**4.8**	**0.017**	**0.01**	**0.0023**
OCDF	**4/28/15**	**1**	**3.2 B J**	**9.6**	**0.013**	**0.001**	**0.0032**
Total TEQ Concentration							**2.6**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	59	(25 - 164)
13C-1,2,3,7,8-PeCDD	62	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	76	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	71	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	79	(23 - 140)
13C-OCDD	64	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	62	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	70	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	68	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	63	(26 - 138)
13C-OCDF	51	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: WBREF-T-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	70	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: CBCON-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D210416 - 002	**Work Order #....:**	M6MRH1AA	**Matrix.....:**	SE
Date Sampled....:	04/16/15	**Date Received....:**	04/21/15	**Units....:**	pg/g
Prep Date....:	04/22/15			**Dilution Factor:**	1
Prep Batch # ....:	5112014			**Percent Moisture:**	37
Initial Wgt/Vol :	16.6 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**4/29/15**	**1**	**0.35 Q J**	**0.96**	**0.095**	**1.0**	**0.35**
1,2,3,7,8-PeCDD	**4/29/15**	**1**	**0.84 Q B J**	**4.8**	**0.038**	**0.5**	**0.42**
1,2,3,4,7,8-HxCDD	**4/29/15**	**1**	**1.1 Q J**	**4.8**	**0.022**	**0.1**	**0.11**
1,2,3,6,7,8-HxCDD	**4/29/15**	**1**	**2.2 B J**	**4.8**	**0.024**	**0.1**	**0.22**
1,2,3,7,8,9-HxCDD	**4/29/15**	**1**	**3.6 Q B J**	**4.8**	**0.022**	**0.1**	**0.36**
1,2,3,4,6,7,8-HpCDD	**4/29/15**	**1**	**38 B**	**4.8**	**0.053**	**0.01**	**0.38**
OCDD	**4/29/15**	**1**	**500 B**	**9.6**	**0.043**	**0.001**	**0.50**
2,3,7,8-TCDF	**4/29/15**	**1**	**0.58 J**	**0.96**	**0.029**	**0.1**	**0.058**
1,2,3,7,8-PeCDF	**4/29/15**	**1**	**0.18 Q B J**	**4.8**	**0.020**	**0.05**	**0.0090**
2,3,4,7,8-PeCDF	**4/29/15**	**1**	**0.34 Q B J**	**4.8**	**0.019**	**0.5**	**0.17**
1,2,3,4,7,8-HxCDF	**4/29/15**	**1**	**0.55 C B J**	**4.8**	**0.011**	**0.1**	**0.055**
1,2,3,6,7,8-HxCDF	**4/29/15**	**1**	**0.24 B J**	**4.8**	**0.010**	**0.1**	**0.024**
2,3,4,6,7,8-HxCDF	**4/29/15**	**1**	**0.042 Q B J**	**4.8**	**0.012**	**0.1**	**0.0042**
1,2,3,7,8,9-HxCDF	4/29/15	1	ND	4.8	0.016	0.1	0.0016
1,2,3,4,6,7,8-HpCDF	**4/29/15**	**1**	**1.7 B J**	**4.8**	**0.0096**	**0.01**	**0.017**
1,2,3,4,7,8,9-HpCDF	**4/29/15**	**1**	**0.19 Q B J**	**4.8**	**0.014**	**0.01**	**0.0019**
OCDF	**4/29/15**	**1**	**2.3 B J**	**9.6**	**0.0049**	**0.001**	**0.0023**
Total TEQ Concentration							**2.7**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	63	(25 - 164)
13C-1,2,3,7,8-PeCDD	68	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	73	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	63	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	70	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	69	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	71	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	64	(26 - 138)
13C-OCDF	55	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: CBCON-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	75	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D220000 - 014B	**Work Order #....:**	M6M2L1AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	04/22/15	**Analysis Date....:**	04/28/15	**Percent Moisture:**	0.0
Prep Batch # ....:	5112014				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.065	pg/g
1,2,3,7,8-PeCDD	**0.086**	**Q J**	**5.0**	**0.017**	**pg/g**
1,2,3,4,7,8-HxCDD	ND		5.0	0.016	pg/g
1,2,3,6,7,8-HxCDD	**0.038**	**J**	**5.0**	**0.017**	**pg/g**
1,2,3,7,8,9-HxCDD	**0.13**	**Q J**	**5.0**	**0.015**	**pg/g**
1,2,3,4,6,7,8-HpCDD	**0.28**	**Q J**	**5.0**	**0.0068**	**pg/g**
OCDD	**1.4**	**J**	**10**	**0.0056**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.0040	pg/g
1,2,3,7,8-PeCDF	**0.020**	**Q J**	**5.0**	**0.0061**	**pg/g**
2,3,4,7,8-PeCDF	**0.024**	**Q J**	**5.0**	**0.0058**	**pg/g**
1,2,3,4,7,8-HxCDF	**0.13**	**Q J**	**5.0**	**0.0070**	**pg/g**
1,2,3,6,7,8-HxCDF	**0.076**	**Q J**	**5.0**	**0.0074**	**pg/g**
2,3,4,6,7,8-HxCDF	**0.12**	**J**	**5.0**	**0.0076**	**pg/g**
1,2,3,7,8,9-HxCDF	**0.050**	**Q J**	**5.0**	**0.0099**	**pg/g**
1,2,3,4,6,7,8-HpCDF	**0.16**	**J**	**5.0**	**0.0054**	**pg/g**
1,2,3,4,7,8,9-HpCDF	**0.057**	**Q J**	**5.0**	**0.0080**	**pg/g**
OCDF	**1.2**	**J**	**10**	**0.0053**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	55	25 - 164
13C-1,2,3,7,8-PeCDD	60	25 - 181
13C-1,2,3,4,7,8-HxCDD	69	32 - 141
13C-1,2,3,6,7,8-HxCDD	65	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	69	23 - 140
13C-OCDD	54	17 - 157
13C-2,3,7,8-TCDF	51	24 - 169
13C-1,2,3,7,8-PeCDF	53	24 - 185
13C-2,3,4,7,8-PeCDF	58	21 - 178
13C-1,2,3,4,7,8-HxCDF	69	26 - 152
13C-1,2,3,6,7,8-HxCDF	63	26 - 123
13C-2,3,4,6,7,8-HxCDF	65	28 - 136
13C-1,2,3,7,8,9-HxCDF	61	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	68	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	62	26 - 138
13C-OCDF	48	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D220000 - 014B	**Work Order #....:**	M6M2L1AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	04/22/15	**Analysis Date....:**	04/28/15	**Percent Moisture:**	0.0
Prep Batch # ....:	5112014				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	67	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D210416	**Work Order # ...:**	M6M2L1AC-LCS	**Matrix .....:**	SOLID
LCS Lot-Sample# :	H5D220000 - 014				
Prep Date .....:	04/22/15	**Analysis Date ..:**	04/28/15		
Prep Batch # ...:	5112014				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**20.9**	**pg/g**	**105**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**103**	**pg/g**	**103**	**B**	**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**101**	**pg/g**	**101**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**103**	**pg/g**	**103**	**B**	**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**110**	**pg/g**	**110**	**B**	**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**99.5**	**pg/g**	**99**	**B**	**(70 - 140)**
OCDD	**200**	**200**	**pg/g**	**100**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**20.6**	**pg/g**	**103**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**94.2**	**pg/g**	**94**	**B**	**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**96.6**	**pg/g**	**97**	**B**	**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**99.8**	**pg/g**	**100**	**B**	**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**99.7**	**pg/g**	**100**	**B**	**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**102**	**pg/g**	**102**	**B**	**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**98.9**	**pg/g**	**99**	**B**	**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**98.0**	**pg/g**	**98**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**102**	**pg/g**	**102**	**B**	**(78 - 138)**
OCDF	**200**	**192**	**pg/g**	**96**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(20 - 175)
13C-1,2,3,7,8-PeCDD	66	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	69	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	64	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	70	(26 - 166)
13C-OCDD	57	(13 - 199)
13C-2,3,7,8-TCDF	56	(22 - 152)
13C-1,2,3,7,8-PeCDF	63	(21 - 192)
13C-2,3,4,7,8-PeCDF	65	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	66	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	62	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	63	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	62	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	68	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	62	(20 - 186)
13C-OCDF	53	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	75	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSD210416

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-196300.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43225-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/12/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
WBREF-T-SED (180-43225-1)	4/16/15	11:00 Eastern		Sediment			X	1	
CBCON-SED (180-43225-2)	4/16/15	14:00 Eastern		Sediment			X	1	

CUSTODY SEALS INTACT
RECEIVED AT RT 0.4 / CT 0.4°C
BKD 4-21-15
1 COOLER FED X#
5682 3725 5690

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	[signature]		[signature]	4-21-15 10:20	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: 14SD210416

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC57 Correction factor: 0.0	✓			☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____ ☐ 2c Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ 3a See box 3A for pH Preservation ☐ 3b Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ 4a Not present ☐ 4b Not intact ☐ 4c Other:
5. Were all of the samples listed on the COC received?	✓			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC
6. Were all of the sample containers received intact?	✓			☐ 6a Leaking ☐ 6b Broken
7. Were VOA samples received without headspace?		✓	✓	☐ 7a Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ 8a Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ 9a Could not be determined due to matrix interference
10. Were samples received within holding time?	✓			☐ 10a Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ 13a Leaking ☐ 13b Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ 14a Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ 15a Incomplete information
16. Is the matrix of the samples noted?	✓			☐ 15a Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ 15a Incomplete information
18. Is the client and project name/# identified?	✓			☐ 15a Incomplete information
19. Was the sampler identified on the COC?		✓		☐ 19a Other

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number:

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: N/A

Sample Receiving Associate: [signature] Date: 4-21-15

QA026R29.doc, 041115

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): 15204.01, 0009

Page 1 of 1

Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Semivolatiles and PAHs SW846 8270C	Metals SW846 6020	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon Lloyd Kahn	AVS/SEM EPA Draft 1991	Remarks
4/16/15	1100		X	WBREF-T-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SEE PRO
4/16/15	1200		X	CBCON-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
			X	OCBREF-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

180-43225 Chain of Custody

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
	4/16/15 1700		4/17/15 1015
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time
	4/17/15 0630		4/17/15 0945

OCEAN SEDIMENT Parallel Thimble Shoal Tunnel

Dallie Watson 4-18-15 9:00

From: (757) 671-1291
Emily Bauer
TestAmerica (formerly STL)
5135 Cleveland Street

Virginia Beach, VA 23462

Origin ID: NTUA

FedEx Express

E

J151215022303uv

Ship Date: 17APR15
ActWgt: 49.0 LB
CAD: 8247985/INET3610

Deli

180-43225 Waybill

180-43224 Waybill

SHIP TO: (412) 963-7058 BILL RECIPIENT

Sample Receiving
TestAmerica Pittsburgh
301 Alpha Drive

Pittsburgh, PA 15238

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 7733 9818 1362
0201

X0 AGCA

15238
PA-US
PIT

Uncorrected temp 3.8 °C
Thermometer ID
Initials
CF 0
PT-WI-SR-001 effective 7/26/13

J2/8FC5/EE4B

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

From: (757) 671-1291
Emily Bauer
TestAmerica (formerly STL)
5135 Cleveland Street

Virginia Beach, VA 23462

Origin ID: NTUA

FedEx Express

J15121502303uv

Ship Date: 17APR15
ActWgt: 54.0 LB
CAD: 8247985/INET3610

Delivery Address Bar Code

SHIP TO: (412) 963-7058 BILL RECIPIENT

Sample Receiving
TestAmerica Pittsburgh
301 Alpha Drive

Pittsburgh, PA 15238

Ref #
Invoice #
PO #
Dept #

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 7733 9816 7120

X0 AGCA

15238
PA-US
PIT

Uncorrected temp 3.7 °C
Thermometer ID
CF Initials

PT-WI-SR-001 effective 7/26/13

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43225-1

Login Number: 43225
List Number: 1
Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

4.2 | C4.7

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-196299.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-43225-1
Address: 4101 Shuffel Street NW,	Due Date Requested: 5/12/2015			Preservation Codes:
City: North Canton	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify) Other:
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

C54

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500Norg_C/SM4500Norg_C_P Nitrogen-Total Kjeldahl	4500_P_E/365_Prep Total Phosphorus as P	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
WBREF-T-SED (180-43225-1)	4/16/15	11:00 Eastern		Sediment			X	X	1	
CBCON-SED (180-43225-2)	4/16/15	14:00 Eastern		Sediment			X	X	1	

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4/21/15			4/21/15 9:20	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative Login # : 43725
Canton Facility

Client TA Pitt Site Name _____ Cooler unpacked by:

Cooler Received on 4/21/15 Opened on 4/22/15

FedEx: 1st Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ Foam Box (Client Cooler) Box Other _____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

~~IR GUN# A (CF +4.0 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C~~

IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. 4.2 °C Corrected Cooler Temp. 4.7 °C ☐ See Multiple Cooler Form

~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C~~

IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 (Yes) No
   -Were custody seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   -Were custody seals on the bottle(s)? Yes (No)
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the sampler(s) clearly identified on the COC? Yes (No)
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels be reconciled with the COC? (Yes) No
9. Were correct bottle(s) used for the test(s) indicated? (Yes) No
10. Sufficient quantity received to perform indicated analyses? (Yes) No
11. Were sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# **HC425511**
12. Were VOAs on the COC? Yes (No)
13. Were air bubbles >6 mm in any VOA vials? Yes No (NA)
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes (No)

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

15. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

Ref: SOP NC-SC-0005, Sample Receiving
X:\Document Control\SOPs\Work Instructions\Word Version Work Instructions\WI-NC-099P-020915 Cooler Receipt Form.doc djl

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-43251-2

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
4/24/2015 1:20 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
04/24/2015

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-43251-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/20/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.1 C.

GEOTECHNICAL

The following samples are not amenable to Liquid Limits, Plastic Limits, and Plasticity Index determination due to the physical properties of the samples: OC-REF-SED (180-43251-1). Values of zero, zero, and NP have been reported respectively for each determination.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43251-2

Client Sample ID: OC-REF-SED

Lab Sample ID: 180-43251-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Group Name	PG-SAND-W -SILT				NONE	1		D2487	Total/NA
Group Symbol	SP-SM				NONE	1		D2487	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Sieve Size 3 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sand	89.8				%	1		D422	Total/NA
Sieve Size 2 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Coarse Sand	0.2				%	1		D422	Total/NA
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Medium Sand	0.3				%	1		D422	Total/NA
Sieve Size 1 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Fine Sand	89.3				%	1		D422	Total/NA
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing	1		D422	Total/NA
Silt	8.2				%	1		D422	Total/NA
Clay	2.0				%	1		D422	Total/NA
Sieve Size #4 - Percent Finer	100.0				% Passing	1		D422	Total/NA
Sieve Size #10 - Percent Finer	99.8				% Passing	1		D422	Total/NA
Sieve Size #20 - Percent Finer	99.7				% Passing	1		D422	Total/NA
Sieve Size #40 - Percent Finer	99.5				% Passing	1		D422	Total/NA
Sieve Size #60 - Percent Finer	99.1				% Passing	1		D422	Total/NA
Sieve Size #80 - Percent Finer	97.7				% Passing	1		D422	Total/NA
Sieve Size #100 - Percent Finer	92.9				% Passing	1		D422	Total/NA
Sieve Size #200 - Percent Finer	10.2				% Passing	1		D422	Total/NA
Hydrometer Reading 1 - Percent Finer	3.7				% Passing	1		D422	Total/NA
Hydrometer Reading 2 - Percent Finer	3.1				% Passing	1		D422	Total/NA
Hydrometer Reading 3 - Percent Finer	3.1				% Passing	1		D422	Total/NA
Hydrometer Reading 4 - Percent Finer	2.5				% Passing	1		D422	Total/NA
Hydrometer Reading 5 - Percent Finer	2.0				% Passing	1		D422	Total/NA
Hydrometer Reading 6 - Percent Finer	1.5				% Passing	1		D422	Total/NA
Hydrometer Reading 7 - Percent Finer	1				% Passing	1		D422	Total/NA
Liquid Limit	0				NONE	1		D4318	Total/NA
Plastic Limit	0				NONE	1		D4318	Total/NA
Plasticity Index	NP				NONE	1		D4318	Total/NA

This Detection Summary does not include radiochemical test results.

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43251-2

Method: D2487 - Classification of Soils for Engineering Purposes

Client Sample ID: OC-REF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43251-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Group Name	PG-SAND-W -SILT				NONE			04/24/15 13:04	1
Group Symbol	SP-SM				NONE			04/24/15 13:04	1

Method: D422 - Grain Size

Client Sample ID: OC-REF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43251-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			04/22/15 13:20	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			04/22/15 13:20	1
Sand	89.8				%			04/22/15 13:20	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			04/22/15 13:20	1
Coarse Sand	0.2				%			04/22/15 13:20	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			04/22/15 13:20	1
Medium Sand	0.3				%			04/22/15 13:20	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			04/22/15 13:20	1
Fine Sand	89.3				%			04/22/15 13:20	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			04/22/15 13:20	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			04/22/15 13:20	1
Silt	8.2				%			04/22/15 13:20	1
Clay	2.0				%			04/22/15 13:20	1
Sieve Size #4 - Percent Finer	100.0				% Passing			04/22/15 13:20	1
Sieve Size #10 - Percent Finer	99.8				% Passing			04/22/15 13:20	1
Sieve Size #20 - Percent Finer	99.7				% Passing			04/22/15 13:20	1
Sieve Size #40 - Percent Finer	99.5				% Passing			04/22/15 13:20	1
Sieve Size #60 - Percent Finer	99.1				% Passing			04/22/15 13:20	1
Sieve Size #80 - Percent Finer	97.7				% Passing			04/22/15 13:20	1
Sieve Size #100 - Percent Finer	92.9				% Passing			04/22/15 13:20	1
Sieve Size #200 - Percent Finer	10.2				% Passing			04/22/15 13:20	1
Hydrometer Reading 1 - Percent Finer	3.7				% Passing			04/22/15 13:20	1
Hydrometer Reading 2 - Percent Finer	3.1				% Passing			04/22/15 13:20	1
Hydrometer Reading 3 - Percent Finer	3.1				% Passing			04/22/15 13:20	1
Hydrometer Reading 4 - Percent Finer	2.5				% Passing			04/22/15 13:20	1
Hydrometer Reading 5 - Percent Finer	2.0				% Passing			04/22/15 13:20	1
Hydrometer Reading 6 - Percent Finer	1.5				% Passing			04/22/15 13:20	1
Hydrometer Reading 7 - Percent Finer	1				% Passing			04/22/15 13:20	1

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43251-2

Method: D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils

Client Sample ID: OC-REF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43251-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Liquid Limit	0				NONE			04/22/15 13:55	1
Plastic Limit	0				NONE			04/22/15 13:55	1
Plasticity Index	NP				NONE			04/22/15 13:55	1

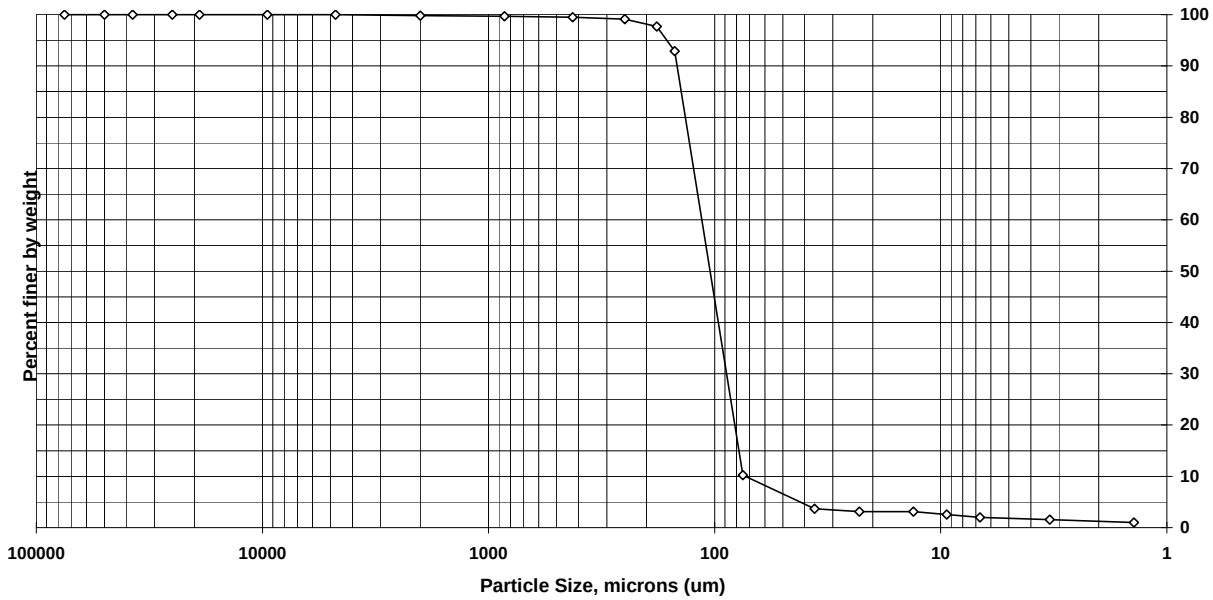
Particle Size of Soils by ASTM D422

				Date Received:	4/20/2015
Sample ID:	OC-REF-SED	**Percent Solids:**	75.2%	**Start Date:**	4/22/2015
Lab ID:	180-43251-A-1	**Specific Gravity:**	2.650	**End Date:**	4/24/2015

Shape (> #10): na

Non-soil material: shell, plant

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.8	0.2
#20	850	99.7	0.1
#40	425	99.5	0.2
#60	250	99.1	0.4
#80	180	97.7	1.4
#100	150	92.9	4.8
#200	75	10.2	82.7
Hyd1	36.1	3.7	6.6
Hyd2	22.9	3.1	0.6
Hyd3	13.2	3.1	0.0
Hyd4	9.4	2.5	0.6
Hyd5	6.7	2.0	0.6
Hyd6	3.3	1.5	0.4
Hyd7	1.4	1.0	0.6

Soil Classification	Percent of sample
Gravel	0.0
Sand	89.8
Coarse Sand	0.2
Medium Sand	0.3
Fine Sand	89.3
Silt	8.2
Clay	2.0

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	OC-REF-SED
Lab Sample ID	180-43251-A-1

Date Received	4/20/2015
Start Date	04/22/2015 13:20
End Date	04/24/2015 10:54

Dry Weight Determination

Tin Weight	4.07	g
Wet Sample + Tin	283.91	g
Dry Sample + Tin	214.48	g
% Moisture	24.81	%

Non-soil material:	shell, plant
Shape (> #10):	na
Hardness (> #10):	na

Date/Time in oven	04/22/2015 13:20
Date/Time out of oven	04/23/2015 8:44

Sample Weights	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	52.91	242.46	189.55
Sample Weight (Oven Dried)			143

Sample Split (oven dried)	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			0.29
Sample <#10			143
% Passing #10			75.4

Hydrometer Data

Serial Number	426928
Calib. Date (mm/dd/yyyy)	11/13/2014
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0025
Hydrometer Cal Slope	-0.00025
Hydrometer Cal Intercept	1.00825
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample		% Finer	Classification	Sub Class
3 inch	75000			0.00	g	100.0	Gravel	
2 inch	50000			0.00	g	100.0	Gravel	
1.5 inch	37500			0.00	g	100.0	Gravel	
1 inch	25000			0.00	g	100.0	Gravel	
3/4 inch	19000			0.00	g	100.0	Gravel	
3/8 inch	9500			0.00	g	100.0	Gravel	
#4	4750			0.00	g	100.0	Gravel	
#10	2000	462.86	463.15	0.29	g	99.8	Sand	Coarse
#20	850	389.78	389.88	0.10	g	99.7	Sand	Medium
#40	425	367.87	368.14	0.27	g	99.5	Sand	Medium
#60	250	349.74	350.31	0.57	g	99.1	Sand	Fine
#80	180	332.20	334.23	2.03	g	97.7	Sand	Fine
#100	150	331.25	338.14	6.89	g	92.9	Sand	Fine
#200	75	330.97	449.30	118.33	g	10.2	Sand	Fine
				0.00	g	10.2		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	143

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0060	22.0	36.1	3.65	Silt	
5	5	1.0055	22.0	22.9	3.09	Silt	
15	15	1.0055	22.0	13.2	3.09	Silt	
30	30	1.0050	22.0	9.4	2.53	Silt	
60	59	1.0045	22.0	6.7	1.97	Silt	
250	256	1.0045	20.5	3.3	1.54	Clay	
1440	1440	1.0040	20.5	1.4	0.983	Clay	

Shipping and Receiving Documents

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc. **225 Schilling Circle** **Hunt Valley, MD 21031**	**Peggy Derrick** Phone: **410-584-7000** Field Contact: **Morgan Gelinas** **Phone: 860-287-0745**		Laboratory: **TestAmerica - Burlington** **30 Community Dr** **Suite 11** **South Burlington, VT 05403** **phone: (802) 660-1990** **ATTN: Kirk Young**

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): [redacted]

Page 1 of 1

Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Butyl Tins Unger Method	Total Solids SW846	Specific Gravity ASTM D854	Unified Soil Classification System (Includes Atterberg Limits) ASTM D2487	Remarks
4/18/15	1145		X	OC-REF-SED	1	X	X	X	X	**5 DAY TAT FOR GRAIN SIZE**
~~4/16/15~~	~~1100~~		~~X~~	~~CBCON-SED~~	~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	
~~4/16/15~~	~~1100~~		~~X~~	~~OCREF-T-SED~~	~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	

180-43251 Chain of Custody

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
[signature]	4/18/15 1600			**OCEAN SEDIMENT** **Parallel Thimble Shoal**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
[signature]	4/20/15 1400	[signature]	4/20/15 1400	

4.1 cf=tho 4.1°C IR#6

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43251-2

Login Number: 43251

List Source: TestAmerica Pittsburgh

List Number: 1

Creator: Neri, Tom

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43251-2

Login Number: 43251
List Number: 2
Creator: Callahan, Christopher G

List Source: TestAmerica Burlington
List Creation: 04/22/15 10:59 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Seals on cooler but date and time not filled out.
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

[redacted]

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-196399.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		**Analysis Requested**		Job #: 180-43251-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 5/12/2015			**Preservation Codes:**
City: South Burlington	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	D854/ Specific Gravity	Moisture/ (MOD) Percent Moisture Burlington	Organotins_GC/3550C Organotins (GC/FPD)	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
OC-REF-SED (180-43251-1)	4/18/15	11:45 Eastern		Sediment			X	X	X	1	

180-43251 Chain of Custody

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 4/21/15	Company	Received by:	Date/Time: 4/22/15 1015	Company YAGIV
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

[redacted]

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-196399.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43251-2
Address: 30 Community Drive, Suite 11,	Due Date Requested: 4/24/2015			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	D2487/ Classification of Soils for Engineering	D422/ % Passing Routine List	D422/ Classification in %	D4318/ Liquid Limit, Plastic Limit and Plastici	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
OC-REF-SED (180-43251-1)	4/18/15	11:45 Eastern		Sediment			X	X	X	X	1	

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 4/21/15	Company	Received by:	Date/Time: 4/22/15 1615	Company YRSN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
RT 716
FZ 717
10:30
ORIGIN ID:AGCA (412) 963-7058
SAMPLE RECEIVING
TEST AMERICA LABORATORIES INC
301 ALPHA DR
PITTSBURGH, PA 152381330
UNITED STATES US
SHIP DATE: 21APR15
ACTWGT: 54.0 LB MAN
CAD: 741733/CAFE2807
BILL RECIPIENT
TO SHIPPING/RECEIVING
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: S180-23698
FedEx
Express
WED - 22 APR 10:30A
PRIORITY OVERNIGHT
TRK# 0201 5682 3725 5851
05403
VT-US BTV
XH BTVA

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:

Log In #: 180-43251	Method: D422
Client: TA Pittsburgh	LAB IDs: 180-43251-1

Samples associated with this log-in were placed into storage on 4/22/2015 (Date) 1106 (Time[2]) by: [signature]

Sample Custodian Signature

Storage Location: WALK-IN BB1 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: ☒ Refrigeration Frozen Ambient

Internal Transfer Information:

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
✓		180-43251.1	4/22/15	1230	✓	✓	✓	[signature]	[signature]	GFEO
✓		" "	" "	1330			✓	[signature]	[signature]	WE

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

Classifying Coarse-grained Soils (More Than 50% Retained on No.200 Sieve)

Group Name Result	Group Name	Group Symbol
WG gravel	Well-graded gravel	GW
WG gravel w sand	Well-graded gravel with sand	GW
PG gravel	Poorly graded gravel	GP
PG gravel w sand	Poorly graded gravel with sand	GP
WG gravel w silt	Well-graded gravel with silt	GW-GM
WG gravel w silt sand	Well-graded gravel with silt and sand	GW-GM
WG gravel w clay	Well-graded gravel with clay	GW-GC
WG gravel w clay sand	Well-graded gravel with clay and sand	GW-GC
PG gravel w silt	Poorly graded gravel with silt	GP-GM
PG gravel w silt sand	Poorly graded gravel with silt and sand	GP-GM
PG gravel w clay	Poorly graded gravel with clay	GP-GC
PG gravel w clay sand	Poorly graded gravel with clay and sand	GP-GC
Si gravel	Silty gravel	GM
Si gravel w sand	Silty gravel with sand	GM
Cl gravel	Clayey gravel	GC
Cl gravel w sand	Clayey gravel with sand	GC
Si Cl gravel	Silty, clayey gravel	GC-GM
Si Cl gravel w sand	Silty, clayey gravel with sand	GC-GM
WG sand	Well-graded sand	SW
WG sand w gravel	Well-graded sand with gravel	SW
PG sand	Poorly graded sand	SP
PG sand w gravel	Poorly graded sand with gravel	SP
WG sand w silt	Well-graded sand with silt	SW-SM
WG sand w silt gravel	Well-graded sand with silt and gravel	SW-SM
WG sand w clay	Well-graded sand with clay	SW-SC
WG sand w clay gravel	Well-graded sand with clay and gravel	SW-SC
PG sand w silt	Poorly graded sand with silt	SP-SM
PG sand w silt gravel	Poorly graded sand with silt and gravel	SP-SM
PG sand w clay	Poorly graded sand with clay	SP-SC
PG sand w clay gravel	Poorly graded sand with clay and gravel	SP-SC
Si sand	Silty sand	SM
Si sand gravel	Silty sand and gravel	SM
Cl sand	Clayey sand	SC
Cl sand w gravel	Clayey sand with gravel	SC
Si Cl sand	Silty, clayey sand	SC-SM
Si Cl sand w gravel	Silty, clayey sand with gravel	SC-SM

Classifying Fine-Grained Soil (50% or More Passes No. 200 sieve)

Group Name Result	Group Name	Group Symbol
Lean clay	Lean clay	CL
Lean clay w sand	Lean clay with sand	CL
Lean clay w gravel		CL
Sn lean clay	Sandy lean clay	CL
Sn lean clay w gravel	Sandy lean clay with gravel	CL
Gr lean clay	Gravelly lean clay	CL
Gr lean clay w sand	Gravelly lean clay with sand	CL
Si clay	Silty clay	CL-ML
Si clay w sand	Silty clay with sand	CL-ML
Si clay w gravel	Silty clay with gravel	CL-ML
Sn Si clay	Sandy silty clay	CL-ML
Sn Si clay w gravel	Sandy silty clay with gravel	CL-ML

Gr Si clay	Gravelly silty clay	CL-ML
Gr Si caly w sand	Gravelly silty clay with sand	CL-ML
Silt	Silt	ML
Silt w sand	Silt with sand	ML
Silt w gravel	Silt with gravel	ML
Sn silt	Sandy silt	ML
Sn silt w gravel	Sandy silt with gravel	ML
Gr silt	Gravelly silt	ML
Gr silt w sand	Gravelly silt with sand	ML
Fat clay	Fat clay	CH
Fat clay w sand	Fat clay with sand	CH
Flat clay w gravel	Flat clay with gravel	CH
Sn fat clay	Sandy fat clay	CH
Sn fat clay w gravel	Sandy fat clay with gravel	CH
Gr fat clay	Gravelly fat clay	CH
Gr fat clay w sand	Gravelly fat clay with sand	CH
El silt	Elastic silt	
El silt w sand	Elastic silt with sand	MH
El silt w gravel	Elastic silt with gravel	MH
Sn El silt	Sandy elastic silt	MH
Sn El silt w gravel	Sandy elastic silt with gravel	MH
Gr El silt	Gravelly elastic silt	MH
Gr El silt w sand	Gravelly elastic silt with sand	MH

Classifying Organic Fine-Grained Soil (50% or More Passes No. 200 sieve)

Group Name Result	Group Name	Group Symbol
Og clay	Organic clay	OL
Og clay w sand	Organic clay with sand	OL
Og clay w gravel	Organic clay with gravel	OL
Sn Og clay	Sandy organic clay	OL
Sn Og clay w gravel	Sandy organic clay with gravel	OL
Gr Og clay	Gravelly organic clay	OL
Gr Og clay w sand	Gravelly organic clay with sand	OL
Og silt	Organic silt	OL
Og silt w clay	Organic silt with clay	OL
Og silt w gravel	Organic silt with gravel	OL
Sn Og silt	Sandy organic silt	OL
Sn Og silt w gravel	Sandy organic silt with gravel	OL
Gr Og silt	Gravelly organic silt	OL
Gr Og silt w sand	Gravelly organic silt with sand	OL
Og clay	Organic clay	OH
Og clay w sand	Organic clay with sand	OH
Og clay w gravel	Organic clay with gravel	OH
Sn Og clay	Sandy organic clay	OH
Sn Og clay w gravel	Sandy organic clay with gravel	OH
Gr Og clay	Gravelly organic clay	OH
Gr Og clay w sand	Gravelly organic clay with sand	OH
Og silt	Organic silt	OH
Og silt w clay	Organic silt with clay	OH
Og silt w gravel	Organic silt with gravel	OH
Sn Og silt	Sandy organic silt	OH
Sn Og silt w gravel	Sandy organic silt with gravel	OH
Gr Og silt	Gravelly organic silt	OH
Gr Og silt w sand	Gravelly organic silt with sand	OH

ATTACHMENT II

TEST AMERICA ANALYTICAL RESULTS FOR SITE WATER, RECEIVING WATER, AND ELUTRIATES

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-42930-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/10/2015 4:11 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/10/2015
Revision: 1

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
*	LCS or LCSD is outside acceptance limits.
cn	Refer to Case Narrative for further detail
X	Surrogate is outside control limits
B	Compound was found in the blank and sample.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-42930-1 REVISED

NOTE: This report has been revised to include Manganese per EA Engineering's request.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/10/2015; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.3º C, 4.6º C and 5.1º C.

SEMIVOLATILES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PESTICIDES
DCB Decachlorobiphenyl (Surr) and Tetrachloro-m-xylene failed the surrogate recovery criteria high for SRM WATER (180-42930-2). At l;east one surrogate recoveries within QC limits. All data was reported.

The continuing calibration verification (CCV) associated with batch 139019 recovered above the upper control limit for Endrin Ketone, 4,4-DDT, Methoxychlor and Mirex on MR-1 column and also 4,4-DDT and Methoxychlor on MR-2 column . The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

The following samples were spiked in 25ul of surrogate instead of the normal 100ul. EQB-CATCHER (180-42930-1) and SRM WATER (180-42930-2)

PCB CONGENERS
PCB-180, PCB-44 and PCB-49 were detected in method blank MB 180-138629/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

ORGANOPHOSPHORUS PESTICIDES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ORGANOTINS
The samples in this delivery group were analyzed for alkyltins. The samples were analyzed using an internal standard method of analysis with tetra-n-propyltin as the internal standard. Peak areas were used to measure the instrument response in performing calibration and quantification. The analytical report forms correctly list the alkyltin analytes as unsubstituted alkyltin compounds. The analysis of three of the compounds employed the use of alkyltin chlorides. The results from the alkyltin chlorides required conversion factors to reflect the concentrations of the unsubstituted forms. For instance, tributyltin chloride was converted to tributyltin using a conversion factor of 0.89. Dibutyltin dichloride was converted to dibutyltin using a factor of 0.77. Monobutyltin trichloride was converted to monobutyltin using a factor of 0.62 and the surrogate, tripentyltin chloride was converted to tripentyltin using a factor of 0.90.

Monobutyltin has poor extraction efficiency exhibiting a mean recovery of typically less than 5%. The low mean recovery is typical of routine implementation of this method. Although the laboratory has reported control limits of 10-48% for this analyte these control limits are not based on historical performance and do not indicate expected performance of this analyte by this method. The laboratory does not use the recovery or performance of this compound as a basis for acceptance of the analytical batch. All analytical results, both positive and non-detects are considered qualitative values and are flagged with a cn qualifier. EQB-CATCHER (180-42930-1), (LCS 200-86884/2-A) and (MB 200-86884/1-A)

Monobutyltin failed the recovery criteria low for LCS 200-86884/2-A.

METALS

Several samples were diluted due to the nature of the sample matrix. Elevated reporting limits (RLs) are provided.

Calcium, Potassium and Sodium were detected in method blank MB 180-139169/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

GENERAL CHEMISTRY

Ammonia, distilled failed the recovery criteria low for the MSD of sample EQB-CATCHER (180-42930-1) in batch 180-140521.

SUBCONTRACT WORK

Method 1613 B Dioxins/Furans + TEQs (EA criteria): This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42930-1

Client Sample ID: EQB-CATCHER — Lab Sample ID: 180-42930-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	0.83	J	1.9	0.41	ug/L	1		8270D LL	Total/NA
Butyl benzyl phthalate	0.63	J	0.93	0.20	ug/L	1		8270D LL	Total/NA
delta-BHC	0.00060	J p	0.0012	0.00036	ug/L	1		8081B_LL	Total/NA
2,4'-DDE	0.00021	J	0.0012	0.00014	ug/L	1		8081B_LL	Total/NA
PCB-77	0.96	p	0.95	0.15	ng/L	1		8082A	Total/NA
PCB-195	0.10	J p	0.95	0.098	ng/L	1		8082A	Total/NA
DCB Decachlorobiphenyl	0.39	J	0.95	0.10	ng/L	1		8082A	Total/NA
Aluminum	18	J	30	2.6	ug/L	1		6020A	Total Recoverable
Barium	0.36	J	10	0.098	ug/L	1		6020A	Total Recoverable
Calcium	160	J B	500	2.8	ug/L	1		6020A	Total Recoverable
Chromium	3.3		2.0	0.54	ug/L	1		6020A	Total Recoverable
Cobalt	0.040	J	0.50	0.026	ug/L	1		6020A	Total Recoverable
Copper	0.61	J	2.0	0.24	ug/L	1		6020A	Total Recoverable
Iron	22	J	50	6.1	ug/L	1		6020A	Total Recoverable
Magnesium	17	J	500	1.2	ug/L	1		6020A	Total Recoverable
Sodium	380	J B	500	3.8	ug/L	1		6020A	Total Recoverable
Lead	0.031	J	1.0	0.019	ug/L	1		6020A	Total Recoverable
Thallium	0.057	J	1.0	0.015	ug/L	1		6020A	Total Recoverable
Zinc	9.0		5.0	0.96	ug/L	1		6020A	Total Recoverable
Manganese	0.84	J	5.0	0.039	ug/L	1		6020A	Total Recoverable
Ammonia, distilled	0.13	F1	0.10	0.086	mg/L	1		350.1	Total/NA
Nitrate Nitrite as N	0.29		0.10	0.022	mg/L	1		353.2	Total/NA
Total Organic Carbon - Duplicates	2.9		1.0	0.19	mg/L	1		SM 5310C	Total/NA

Client Sample ID: SRM WATER — Lab Sample ID: 180-42930-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	0.86	J	2.0	0.44	ug/L	1		8270D LL	Total/NA
Butyl benzyl phthalate	0.30	J	1.0	0.21	ug/L	1		8270D LL	Total/NA
Naphthalene	2.3		0.20	0.023	ug/L	1		8270D LL	Total/NA
Acenaphthylene	1.4		0.20	0.022	ug/L	1		8270D LL	Total/NA
Acenaphthene	1.1		0.20	0.029	ug/L	1		8270D LL	Total/NA
Fluorene	1.0		0.20	0.024	ug/L	1		8270D LL	Total/NA
Phenanthrene	2.9		0.20	0.042	ug/L	1		8270D LL	Total/NA
Anthracene	0.94		0.20	0.019	ug/L	1		8270D LL	Total/NA
Fluoranthene	2.5		0.20	0.021	ug/L	1		8270D LL	Total/NA
Pyrene	2.9		0.20	0.023	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	1.6		0.20	0.037	ug/L	1		8270D LL	Total/NA
Chrysene	2.5		0.20	0.031	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene	3.6		0.20	0.049	ug/L	1		8270D LL	Total/NA
Benzo[k]fluoranthene	0.72		0.20	0.030	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SRM WATER (Continued)

Lab Sample ID: 180-42930-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]pyrene	1.3		0.20	0.028	ug/L	1		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	1.4		0.20	0.043	ug/L	1		8270D LL	Total/NA
Dibenz(a,h)anthracene	1.9		0.20	0.027	ug/L	1		8270D LL	Total/NA
Benzo[g,h,i]perylene	1.5		0.20	0.029	ug/L	1		8270D LL	Total/NA
Benzyl alcohol	2.4		1.0	0.20	ug/L	1		8270D LL	Total/NA
Aldrin	0.023		0.0026	0.0017	ug/L	1		8081B_LL	Total/NA
gamma-BHC (Lindane)	0.032		0.0026	0.0016	ug/L	1		8081B_LL	Total/NA
4,4'-DDD	0.027		0.0026	0.0013	ug/L	1		8081B_LL	Total/NA
4,4'-DDE	0.034		0.0026	0.0016	ug/L	1		8081B_LL	Total/NA
4,4'-DDT	0.041		0.0026	0.0015	ug/L	1		8081B_LL	Total/NA
Dieldrin	0.038		0.0026	0.0016	ug/L	1		8081B_LL	Total/NA
2,4'-DDD	0.027	p	0.0026	0.00032	ug/L	1		8081B_LL	Total/NA
2,4'-DDE	0.024		0.0026	0.00030	ug/L	1		8081B_LL	Total/NA
2,4'-DDT	0.025		0.0026	0.00044	ug/L	1		8081B_LL	Total/NA
Heptachlor	0.028		0.0026	0.0020	ug/L	1		8081B_LL	Total/NA
Heptachlor epoxide	0.032		0.0026	0.0019	ug/L	1		8081B_LL	Total/NA
Mirex	0.039		0.0026	0.00096	ug/L	1		8081B_LL	Total/NA
PCB-8	13		1.0	0.32	ng/L	1		8082A	Total/NA
PCB-18	19		1.0	0.19	ng/L	1		8082A	Total/NA
PCB-28	17	p	1.0	0.23	ng/L	1		8082A	Total/NA
PCB-44	14	B	1.0	0.077	ng/L	1		8082A	Total/NA
PCB-52	15		1.0	0.15	ng/L	1		8082A	Total/NA
PCB-66	20		1.0	0.13	ng/L	1		8082A	Total/NA
PCB-77	20		1.0	0.16	ng/L	1		8082A	Total/NA
PCB-101	16		1.0	0.15	ng/L	1		8082A	Total/NA
PCB-105	18		1.0	0.079	ng/L	1		8082A	Total/NA
PCB-118	14		1.0	0.12	ng/L	1		8082A	Total/NA
PCB-126	19		1.0	0.32	ng/L	1		8082A	Total/NA
PCB-128	17		1.0	0.085	ng/L	1		8082A	Total/NA
PCB-138	17		1.0	0.15	ng/L	1		8082A	Total/NA
PCB-153	16		1.0	0.12	ng/L	1		8082A	Total/NA
PCB-170	17		1.0	0.11	ng/L	1		8082A	Total/NA
PCB-180	17	B	1.0	0.080	ng/L	1		8082A	Total/NA
PCB-187	16		1.0	0.40	ng/L	1		8082A	Total/NA
PCB-195	17		1.0	0.10	ng/L	1		8082A	Total/NA
PCB-206	16		1.0	0.17	ng/L	1		8082A	Total/NA
DCB Decachlorobiphenyl	17		1.0	0.11	ng/L	1		8082A	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: EQB-CATCHER
Date Collected: 04/09/15 16:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42930-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.4	ug/L		04/16/15 12:04	04/21/15 14:10	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		04/16/15 12:04	04/21/15 14:10	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		04/16/15 12:04	04/21/15 14:10	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		04/16/15 12:04	04/21/15 14:10	1
Benzoic acid	ND		4.6	1.5	ug/L		04/16/15 12:04	04/21/15 14:10	1
Bis(2-chloroethyl)ether	ND		0.93	0.029	ug/L		04/16/15 12:04	04/21/15 14:10	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		04/16/15 12:04	04/21/15 14:10	1
Bis(2-ethylhexyl) phthalate	**0.83**	**J**	1.9	0.41	ug/L		04/16/15 12:04	04/21/15 14:10	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		04/16/15 12:04	04/21/15 14:10	1
Butyl benzyl phthalate	**0.63**	**J**	0.93	0.20	ug/L		04/16/15 12:04	04/21/15 14:10	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		04/16/15 12:04	04/21/15 14:10	1
2-Chloronaphthalene	ND		0.19	0.028	ug/L		04/16/15 12:04	04/21/15 14:10	1
2-Chlorophenol	ND		0.93	0.21	ug/L		04/16/15 12:04	04/21/15 14:10	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		04/16/15 12:04	04/21/15 14:10	1
Di-n-butyl phthalate	ND		0.93	0.22	ug/L		04/16/15 12:04	04/21/15 14:10	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		04/16/15 12:04	04/21/15 14:10	1
2,4-Dichlorophenol	ND		0.93	0.062	ug/L		04/16/15 12:04	04/21/15 14:10	1
Diethyl phthalate	ND		0.93	0.27	ug/L		04/16/15 12:04	04/21/15 14:10	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		04/16/15 12:04	04/21/15 14:10	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		04/16/15 12:04	04/21/15 14:10	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		04/16/15 12:04	04/21/15 14:10	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		04/16/15 12:04	04/21/15 14:10	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		04/16/15 12:04	04/21/15 14:10	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		04/16/15 12:04	04/21/15 14:10	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.93	0.11	ug/L		04/16/15 12:04	04/21/15 14:10	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		04/16/15 12:04	04/21/15 14:10	1
Hexachlorobenzene	ND		0.93	0.056	ug/L		04/16/15 12:04	04/21/15 14:10	1
Hexachlorobutadiene	ND		0.93	0.087	ug/L		04/16/15 12:04	04/21/15 14:10	1
Hexachloroethane	ND		0.93	0.13	ug/L		04/16/15 12:04	04/21/15 14:10	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		04/16/15 12:04	04/21/15 14:10	1
Isophorone	ND		0.93	0.068	ug/L		04/16/15 12:04	04/21/15 14:10	1
2-Methylphenol	ND		0.93	0.17	ug/L		04/16/15 12:04	04/21/15 14:10	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		04/16/15 12:04	04/21/15 14:10	1
Nitrobenzene	ND		1.9	0.14	ug/L		04/16/15 12:04	04/21/15 14:10	1
2-Nitrophenol	ND		0.93	0.10	ug/L		04/16/15 12:04	04/21/15 14:10	1
4-Nitrophenol	ND		4.6	0.74	ug/L		04/16/15 12:04	04/21/15 14:10	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		04/16/15 12:04	04/21/15 14:10	1
N-Nitrosodimethylamine	ND		0.93	0.11	ug/L		04/16/15 12:04	04/21/15 14:10	1
N-Nitrosodi-n-propylamine	ND		0.93	0.046	ug/L		04/16/15 12:04	04/21/15 14:10	1
2,2'-oxybis[1-chloropropane]	ND		0.93	0.022	ug/L		04/16/15 12:04	04/21/15 14:10	1
Pentachlorophenol	ND		0.93	0.46	ug/L		04/16/15 12:04	04/21/15 14:10	1
Phenol	ND		0.93	0.051	ug/L		04/16/15 12:04	04/21/15 14:10	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		04/16/15 12:04	04/21/15 14:10	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		04/16/15 12:04	04/21/15 14:10	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		04/16/15 12:04	04/21/15 14:10	1
1-Methylnaphthalene	ND		0.19	0.029	ug/L		04/16/15 12:04	04/21/15 14:10	1
Naphthalene	ND		0.19	0.021	ug/L		04/16/15 12:04	04/21/15 14:10	1
Acenaphthylene	ND		0.19	0.020	ug/L		04/16/15 12:04	04/21/15 14:10	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: EQB-CATCHER
Date Collected: 04/09/15 16:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42930-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.027	ug/L		04/16/15 12:04	04/21/15 14:10	1
Fluorene	ND		0.19	0.022	ug/L		04/16/15 12:04	04/21/15 14:10	1
Phenanthrene	ND		0.19	0.038	ug/L		04/16/15 12:04	04/21/15 14:10	1
Anthracene	ND		0.19	0.018	ug/L		04/16/15 12:04	04/21/15 14:10	1
Fluoranthene	ND		0.19	0.020	ug/L		04/16/15 12:04	04/21/15 14:10	1
Pyrene	ND		0.19	0.021	ug/L		04/16/15 12:04	04/21/15 14:10	1
Benzo[a]anthracene	ND		0.19	0.034	ug/L		04/16/15 12:04	04/21/15 14:10	1
Chrysene	ND		0.19	0.029	ug/L		04/16/15 12:04	04/21/15 14:10	1
Benzo[b]fluoranthene	ND		0.19	0.045	ug/L		04/16/15 12:04	04/21/15 14:10	1
Benzo[k]fluoranthene	ND		0.19	0.028	ug/L		04/16/15 12:04	04/21/15 14:10	1
Benzo[a]pyrene	ND		0.19	0.026	ug/L		04/16/15 12:04	04/21/15 14:10	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.040	ug/L		04/16/15 12:04	04/21/15 14:10	1
Dibenz(a,h)anthracene	ND		0.19	0.025	ug/L		04/16/15 12:04	04/21/15 14:10	1
Benzo[g,h,i]perylene	ND		0.19	0.027	ug/L		04/16/15 12:04	04/21/15 14:10	1
Benzyl alcohol	ND		0.93	0.18	ug/L		04/16/15 12:04	04/21/15 14:10	1
Dibenzofuran	ND		0.93	0.089	ug/L		04/16/15 12:04	04/21/15 14:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*81*		*28 - 109*	*04/16/15 12:04*	*04/21/15 14:10*	*1*
2-Fluorophenol (Surr)	*58*		*20 - 105*	*04/16/15 12:04*	*04/21/15 14:10*	*1*
2,4,6-Tribromophenol (Surr)	*68*		*30 - 118*	*04/16/15 12:04*	*04/21/15 14:10*	*1*
Nitrobenzene-d5 (Surr)	*76*		*27 - 114*	*04/16/15 12:04*	*04/21/15 14:10*	*1*
Phenol-d5 (Surr)	*68*		*25 - 105*	*04/16/15 12:04*	*04/21/15 14:10*	*1*
Terphenyl-d14 (Surr)	*79*		*20 - 118*	*04/16/15 12:04*	*04/21/15 14:10*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: SRM WATER
Date Collected: 04/09/15 00:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42930-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		20	4.7	ug/L		04/16/15 12:04	04/21/15 14:38	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		04/16/15 12:04	04/21/15 14:38	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		04/16/15 12:04	04/21/15 14:38	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		04/16/15 12:04	04/21/15 14:38	1
Benzoic acid	ND		5.0	1.6	ug/L		04/16/15 12:04	04/21/15 14:38	1
Bis(2-chloroethyl)ether	ND		1.0	0.032	ug/L		04/16/15 12:04	04/21/15 14:38	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		04/16/15 12:04	04/21/15 14:38	1
Bis(2-ethylhexyl) phthalate	**0.86**	**J**	2.0	0.44	ug/L		04/16/15 12:04	04/21/15 14:38	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		04/16/15 12:04	04/21/15 14:38	1
Butyl benzyl phthalate	**0.30**	**J**	1.0	0.21	ug/L		04/16/15 12:04	04/21/15 14:38	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		04/16/15 12:04	04/21/15 14:38	1
2-Chloronaphthalene	ND		0.20	0.031	ug/L		04/16/15 12:04	04/21/15 14:38	1
2-Chlorophenol	ND		1.0	0.23	ug/L		04/16/15 12:04	04/21/15 14:38	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		04/16/15 12:04	04/21/15 14:38	1
Di-n-butyl phthalate	ND		1.0	0.24	ug/L		04/16/15 12:04	04/21/15 14:38	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		04/16/15 12:04	04/21/15 14:38	1
2,4-Dichlorophenol	ND		1.0	0.067	ug/L		04/16/15 12:04	04/21/15 14:38	1
Diethyl phthalate	ND		1.0	0.30	ug/L		04/16/15 12:04	04/21/15 14:38	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		04/16/15 12:04	04/21/15 14:38	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		04/16/15 12:04	04/21/15 14:38	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		04/16/15 12:04	04/21/15 14:38	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		04/16/15 12:04	04/21/15 14:38	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		04/16/15 12:04	04/21/15 14:38	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		04/16/15 12:04	04/21/15 14:38	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.12	ug/L		04/16/15 12:04	04/21/15 14:38	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		04/16/15 12:04	04/21/15 14:38	1
Hexachlorobenzene	ND		1.0	0.061	ug/L		04/16/15 12:04	04/21/15 14:38	1
Hexachlorobutadiene	ND		1.0	0.094	ug/L		04/16/15 12:04	04/21/15 14:38	1
Hexachloroethane	ND		1.0	0.14	ug/L		04/16/15 12:04	04/21/15 14:38	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		04/16/15 12:04	04/21/15 14:38	1
Isophorone	ND		1.0	0.074	ug/L		04/16/15 12:04	04/21/15 14:38	1
2-Methylphenol	ND		1.0	0.19	ug/L		04/16/15 12:04	04/21/15 14:38	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		04/16/15 12:04	04/21/15 14:38	1
Nitrobenzene	ND		2.0	0.15	ug/L		04/16/15 12:04	04/21/15 14:38	1
2-Nitrophenol	ND		1.0	0.11	ug/L		04/16/15 12:04	04/21/15 14:38	1
4-Nitrophenol	ND		5.0	0.80	ug/L		04/16/15 12:04	04/21/15 14:38	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		04/16/15 12:04	04/21/15 14:38	1
N-Nitrosodimethylamine	ND		1.0	0.12	ug/L		04/16/15 12:04	04/21/15 14:38	1
N-Nitrosodi-n-propylamine	ND		1.0	0.050	ug/L		04/16/15 12:04	04/21/15 14:38	1
2,2'-oxybis[1-chloropropane]	ND		1.0	0.024	ug/L		04/16/15 12:04	04/21/15 14:38	1
Pentachlorophenol	ND		1.0	0.50	ug/L		04/16/15 12:04	04/21/15 14:38	1
Phenol	ND		1.0	0.055	ug/L		04/16/15 12:04	04/21/15 14:38	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		04/16/15 12:04	04/21/15 14:38	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		04/16/15 12:04	04/21/15 14:38	1
2-Methylnaphthalene	ND		0.20	0.019	ug/L		04/16/15 12:04	04/21/15 14:38	1
1-Methylnaphthalene	ND		0.20	0.031	ug/L		04/16/15 12:04	04/21/15 14:38	1
Naphthalene	**2.3**		0.20	0.023	ug/L		04/16/15 12:04	04/21/15 14:38	1
Acenaphthylene	**1.4**		0.20	0.022	ug/L		04/16/15 12:04	04/21/15 14:38	1
Acenaphthene	**1.1**		0.20	0.029	ug/L		04/16/15 12:04	04/21/15 14:38	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: SRM WATER
Date Collected: 04/09/15 00:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42930-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**1.0**		0.20	0.024	ug/L		04/16/15 12:04	04/21/15 14:38	1
Phenanthrene	**2.9**		0.20	0.042	ug/L		04/16/15 12:04	04/21/15 14:38	1
Anthracene	**0.94**		0.20	0.019	ug/L		04/16/15 12:04	04/21/15 14:38	1
Fluoranthene	**2.5**		0.20	0.021	ug/L		04/16/15 12:04	04/21/15 14:38	1
Pyrene	**2.9**		0.20	0.023	ug/L		04/16/15 12:04	04/21/15 14:38	1
Benzo[a]anthracene	**1.6**		0.20	0.037	ug/L		04/16/15 12:04	04/21/15 14:38	1
Chrysene	**2.5**		0.20	0.031	ug/L		04/16/15 12:04	04/21/15 14:38	1
Benzo[b]fluoranthene	**3.6**		0.20	0.049	ug/L		04/16/15 12:04	04/21/15 14:38	1
Benzo[k]fluoranthene	**0.72**		0.20	0.030	ug/L		04/16/15 12:04	04/21/15 14:38	1
Benzo[a]pyrene	**1.3**		0.20	0.028	ug/L		04/16/15 12:04	04/21/15 14:38	1
Indeno[1,2,3-cd]pyrene	**1.4**		0.20	0.043	ug/L		04/16/15 12:04	04/21/15 14:38	1
Dibenz(a,h)anthracene	**1.9**		0.20	0.027	ug/L		04/16/15 12:04	04/21/15 14:38	1
Benzo[g,h,i]perylene	**1.5**		0.20	0.029	ug/L		04/16/15 12:04	04/21/15 14:38	1
Benzyl alcohol	**2.4**		1.0	0.20	ug/L		04/16/15 12:04	04/21/15 14:38	1
Dibenzofuran	ND		1.0	0.097	ug/L		04/16/15 12:04	04/21/15 14:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*28 - 109*	*04/16/15 12:04*	*04/21/15 14:38*	*1*
2-Fluorophenol (Surr)	*57*		*20 - 105*	*04/16/15 12:04*	*04/21/15 14:38*	*1*
2,4,6-Tribromophenol (Surr)	*74*		*30 - 118*	*04/16/15 12:04*	*04/21/15 14:38*	*1*
Nitrobenzene-d5 (Surr)	*73*		*27 - 114*	*04/16/15 12:04*	*04/21/15 14:38*	*1*
Phenol-d5 (Surr)	*73*		*25 - 105*	*04/16/15 12:04*	*04/21/15 14:38*	*1*
Terphenyl-d14 (Surr)	*87*		*20 - 118*	*04/16/15 12:04*	*04/21/15 14:38*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: EQB-CATCHER
Date Collected: 04/09/15 16:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42930-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00078	ug/L		04/14/15 11:45	04/20/15 12:08	1
alpha-BHC	ND		0.0012	0.00062	ug/L		04/14/15 11:45	04/20/15 12:08	1
beta-BHC	ND		0.0012	0.00094	ug/L		04/14/15 11:45	04/20/15 12:08	1
delta-BHC	**0.00060**	**J p**	0.0012	0.00036	ug/L		04/14/15 11:45	04/20/15 12:08	1
gamma-BHC (Lindane)	ND		0.0012	0.00075	ug/L		04/14/15 11:45	04/20/15 12:08	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		04/14/15 11:45	04/20/15 12:08	1
Chlorobenside	ND		0.0030	0.0014	ug/L		04/14/15 11:45	04/20/15 12:08	1
DCPA	ND		0.0024	0.00032	ug/L		04/14/15 11:45	04/20/15 12:08	1
4,4'-DDD	ND		0.0012	0.00063	ug/L		04/14/15 11:45	04/20/15 12:08	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		04/14/15 11:45	04/20/15 12:08	1
4,4'-DDT	ND		0.0012	0.00070	ug/L		04/14/15 11:45	04/20/15 12:08	1
Dieldrin	ND		0.0012	0.00077	ug/L		04/14/15 11:45	04/20/15 12:08	1
Endosulfan I	ND		0.0012	0.00089	ug/L		04/14/15 11:45	04/20/15 12:08	1
Endosulfan II	ND		0.0012	0.00092	ug/L		04/14/15 11:45	04/20/15 12:08	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		04/14/15 11:45	04/20/15 12:08	1
Endrin	ND		0.0012	0.00091	ug/L		04/14/15 11:45	04/20/15 12:08	1
Endrin aldehyde	ND		0.0012	0.00085	ug/L		04/14/15 11:45	04/20/15 12:08	1
Heptachlor	ND		0.0012	0.00093	ug/L		04/14/15 11:45	04/20/15 12:08	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		04/14/15 11:45	04/20/15 12:08	1
Methoxychlor	ND		0.0024	0.00086	ug/L		04/14/15 11:45	04/20/15 12:08	1
Mirex	ND		0.0012	0.00045	ug/L		04/14/15 11:45	04/20/15 12:08	1
Toxaphene	ND		0.094	0.018	ug/L		04/14/15 11:45	04/20/15 12:08	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		04/14/15 11:45	04/20/15 12:08	1
2,4'-DDE	**0.00021**	**J**	0.0012	0.00014	ug/L		04/14/15 11:45	04/20/15 12:08	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		04/14/15 11:45	04/20/15 12:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*95*		*60 - 111*	*04/14/15 11:45*	*04/20/15 12:08*	*1*
Tetrachloro-m-xylene	*92*		*60 - 111*	*04/14/15 11:45*	*04/20/15 12:08*	*1*
DCB Decachlorobiphenyl (Surr)	*107*		*45 - 122*	*04/14/15 11:45*	*04/20/15 12:08*	*1*
DCB Decachlorobiphenyl (Surr)	*106*		*45 - 122*	*04/14/15 11:45*	*04/20/15 12:08*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: SRM WATER
Date Collected: 04/09/15 00:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42930-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	**0.023**		0.0026	0.0017	ug/L		04/14/15 11:45	04/20/15 12:24	1
alpha-BHC	ND		0.0026	0.0013	ug/L		04/14/15 11:45	04/20/15 12:24	1
beta-BHC	ND		0.0026	0.0020	ug/L		04/14/15 11:45	04/20/15 12:24	1
delta-BHC	ND		0.0026	0.00076	ug/L		04/14/15 11:45	04/20/15 12:24	1
gamma-BHC (Lindane)	**0.032**		0.0026	0.0016	ug/L		04/14/15 11:45	04/20/15 12:24	1
Chlordane (technical)	ND		0.025	0.0033	ug/L		04/14/15 11:45	04/20/15 12:24	1
Chlorobenside	ND		0.0064	0.0030	ug/L		04/14/15 11:45	04/20/15 12:24	1
DCPA	ND		0.0050	0.00068	ug/L		04/14/15 11:45	04/20/15 12:24	1
4,4'-DDD	**0.027**		0.0026	0.0013	ug/L		04/14/15 11:45	04/20/15 12:24	1
4,4'-DDE	**0.034**		0.0026	0.0016	ug/L		04/14/15 11:45	04/20/15 12:24	1
4,4'-DDT	**0.041**		0.0026	0.0015	ug/L		04/14/15 11:45	04/20/15 12:24	1
Dieldrin	**0.038**		0.0026	0.0016	ug/L		04/14/15 11:45	04/20/15 12:24	1
Endosulfan I	ND		0.0026	0.0019	ug/L		04/14/15 11:45	04/20/15 12:24	1
2,4'-DDD	**0.027**	**p**	0.0026	0.00032	ug/L		04/14/15 11:45	04/20/15 12:24	1
Endosulfan II	ND		0.0026	0.0020	ug/L		04/14/15 11:45	04/20/15 12:24	1
Endosulfan sulfate	ND		0.0026	0.0011	ug/L		04/14/15 11:45	04/20/15 12:24	1
2,4'-DDE	**0.024**		0.0026	0.00030	ug/L		04/14/15 11:45	04/20/15 12:24	1
Endrin	ND		0.0026	0.0019	ug/L		04/14/15 11:45	04/20/15 12:24	1
Endrin aldehyde	ND		0.0026	0.0018	ug/L		04/14/15 11:45	04/20/15 12:24	1
2,4'-DDT	**0.025**		0.0026	0.00044	ug/L		04/14/15 11:45	04/20/15 12:24	1
Heptachlor	**0.028**		0.0026	0.0020	ug/L		04/14/15 11:45	04/20/15 12:24	1
Heptachlor epoxide	**0.032**		0.0026	0.0019	ug/L		04/14/15 11:45	04/20/15 12:24	1
Methoxychlor	ND		0.0050	0.0018	ug/L		04/14/15 11:45	04/20/15 12:24	1
Mirex	**0.039**		0.0026	0.00096	ug/L		04/14/15 11:45	04/20/15 12:24	1
Toxaphene	ND		0.20	0.037	ug/L		04/14/15 11:45	04/20/15 12:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*115*	*X*	*60 - 111*	*04/14/15 11:45*	*04/20/15 12:24*	*1*
Tetrachloro-m-xylene	*113*	*X*	*60 - 111*	*04/14/15 11:45*	*04/20/15 12:24*	*1*
DCB Decachlorobiphenyl (Surr)	*124*	*X*	*45 - 122*	*04/14/15 11:45*	*04/20/15 12:24*	*1*
DCB Decachlorobiphenyl (Surr)	*117*		*45 - 122*	*04/14/15 11:45*	*04/20/15 12:24*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: EQB-CATCHER
Date Collected: 04/09/15 16:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42930-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.95	0.31	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-18	ND		0.95	0.18	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-28	ND		0.95	0.22	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-44	ND		0.95	0.073	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-49	ND		0.95	0.14	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-52	ND		0.95	0.14	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-66	ND		0.95	0.12	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-77	**0.96**	**p**	0.95	0.15	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-87	ND		0.95	0.076	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-101	ND		0.95	0.14	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-105	ND		0.95	0.076	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-118	ND		0.95	0.11	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-126	ND		0.95	0.30	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-128	ND		0.95	0.081	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-138	ND		0.95	0.14	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-153	ND		0.95	0.11	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-156	ND		0.95	0.075	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-169	ND		0.95	0.21	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-170	ND		0.95	0.11	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-180	ND		0.95	0.076	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-183	ND		0.95	0.26	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-184	ND		0.95	0.14	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-187	ND		0.95	0.38	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-195	**0.10**	**J p**	0.95	0.098	ng/L		04/15/15 13:00	04/25/15 01:30	1
PCB-206	ND		0.95	0.16	ng/L		04/15/15 13:00	04/25/15 01:30	1
DCB Decachlorobiphenyl	**0.39**	**J**	0.95	0.10	ng/L		04/15/15 13:00	04/25/15 01:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*109*		*35 - 140*	*04/15/15 13:00*	*04/25/15 01:30*	*1*
Tetrachloro-m-xylene (Surr)	*96*		*35 - 140*	*04/15/15 13:00*	*04/25/15 01:30*	*1*
PCB-205 (Surr)	*98*		*35 - 140*	*04/15/15 13:00*	*04/25/15 01:30*	*1*
PCB-205 (Surr)	*101*		*35 - 140*	*04/15/15 13:00*	*04/25/15 01:30*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: SRM WATER
Date Collected: 04/09/15 00:00
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42930-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	13		1.0	0.32	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-18	19		1.0	0.19	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-28	17	p	1.0	0.23	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-44	14	B	1.0	0.077	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-49	ND		1.0	0.15	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-52	15		1.0	0.15	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-66	20		1.0	0.13	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-77	20		1.0	0.16	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-87	ND		1.0	0.079	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-101	16		1.0	0.15	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-105	18		1.0	0.079	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-118	14		1.0	0.12	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-126	19		1.0	0.32	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-128	17		1.0	0.085	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-138	17		1.0	0.15	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-153	16		1.0	0.12	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-156	ND		1.0	0.078	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-169	ND		1.0	0.22	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-170	17		1.0	0.11	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-180	17	B	1.0	0.080	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-183	ND		1.0	0.27	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-184	ND		1.0	0.14	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-187	16		1.0	0.40	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-195	17		1.0	0.10	ng/L		04/15/15 13:00	04/25/15 02:01	1
PCB-206	16		1.0	0.17	ng/L		04/15/15 13:00	04/25/15 02:01	1
DCB Decachlorobiphenyl	17		1.0	0.11	ng/L		04/15/15 13:00	04/25/15 02:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*103*		*35 - 140*	*04/15/15 13:00*	*04/25/15 02:01*	*1*
Tetrachloro-m-xylene (Surr)	*88*		*35 - 140*	*04/15/15 13:00*	*04/25/15 02:01*	*1*
PCB-205 (Surr)	*104*		*35 - 140*	*04/15/15 13:00*	*04/25/15 02:01*	*1*
PCB-205 (Surr)	*99*		*35 - 140*	*04/15/15 13:00*	*04/25/15 02:01*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: EQB-CATCHER
Date Collected: 04/09/15 16:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42930-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.94	0.11	ug/L		04/15/15 13:00	04/16/15 11:02	1
Demeton, Total	ND		1.9	0.16	ug/L		04/15/15 13:00	04/16/15 11:02	1
Malathion	ND		0.94	0.10	ug/L		04/15/15 13:00	04/16/15 11:02	1
Methyl parathion	ND		0.94	0.10	ug/L		04/15/15 13:00	04/16/15 11:02	1
Parathion	ND		0.94	0.15	ug/L		04/15/15 13:00	04/16/15 11:02	1
Bolstar	ND		0.94	0.10	ug/L		04/15/15 13:00	04/16/15 11:02	1
Chlorpyrifos	ND		0.94	0.096	ug/L		04/15/15 13:00	04/16/15 11:02	1
Coumaphos	ND		0.94	0.14	ug/L		04/15/15 13:00	04/16/15 11:02	1
Diazinon	ND		0.94	0.089	ug/L		04/15/15 13:00	04/16/15 11:02	1
Dichlorvos	ND		0.94	0.080	ug/L		04/15/15 13:00	04/16/15 11:02	1
Dimethoate	ND		0.94	0.11	ug/L		04/15/15 13:00	04/16/15 11:02	1
Disulfoton	ND		0.94	0.095	ug/L		04/15/15 13:00	04/16/15 11:02	1
EPN	ND		0.94	0.11	ug/L		04/15/15 13:00	04/16/15 11:02	1
Mocap	ND		0.94	0.095	ug/L		04/15/15 13:00	04/16/15 11:02	1
Famphur	ND		0.94	0.12	ug/L		04/15/15 13:00	04/16/15 11:02	1
Fensulfothion	ND		0.94	0.16	ug/L		04/15/15 13:00	04/16/15 11:02	1
Fenthion	ND		0.94	0.080	ug/L		04/15/15 13:00	04/16/15 11:02	1
Mevinphos	ND		0.94	0.092	ug/L		04/15/15 13:00	04/16/15 11:02	1
Phorate	ND		0.94	0.087	ug/L		04/15/15 13:00	04/16/15 11:02	1
Ronnel	ND		0.94	0.097	ug/L		04/15/15 13:00	04/16/15 11:02	1
Stirophos	ND		0.94	0.090	ug/L		04/15/15 13:00	04/16/15 11:02	1
Sulfotepp	ND		0.94	0.089	ug/L		04/15/15 13:00	04/16/15 11:02	1
Thionazin	ND		0.94	0.095	ug/L		04/15/15 13:00	04/16/15 11:02	1
Tokuthion	ND		0.94	0.088	ug/L		04/15/15 13:00	04/16/15 11:02	1
Trichloronate	ND		0.94	0.094	ug/L		04/15/15 13:00	04/16/15 11:02	1
O,O,O-Triethyl phosphorothioate	ND		0.94	0.094	ug/L		04/15/15 13:00	04/16/15 11:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*91*		*49 - 122*	*04/15/15 13:00*	*04/16/15 11:02*	*1*
Tributyl phosphate	*88*		*49 - 122*	*04/15/15 13:00*	*04/16/15 11:02*	*1*
Triphenylphosphate	*95*		*45 - 145*	*04/15/15 13:00*	*04/16/15 11:02*	*1*
Triphenylphosphate	*96*		*45 - 145*	*04/15/15 13:00*	*04/16/15 11:02*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: EQB-CATCHER
Date Collected: 04/09/15 16:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42930-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.047	0.047	ug/L		04/15/15 09:36	05/04/15 15:38	1
Tributyltin	ND		0.042	0.042	ug/L		04/15/15 09:36	05/04/15 15:38	1
Dibutyltin	ND		0.037	0.037	ug/L		04/15/15 09:36	05/04/15 15:38	1
Monobutyltin	ND	* cn	0.58	0.58	ug/L		04/15/15 09:36	05/04/15 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*72*		*15 - 150*	*04/15/15 09:36*	*05/04/15 15:38*	*1*
Tripentyltin	*73*		*15 - 150*	*04/15/15 09:36*	*05/04/15 15:38*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: EQB-CATCHER
Date Collected: 04/09/15 16:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42930-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**18**	**J**	30	2.6	ug/L		04/21/15 12:22	04/27/15 13:54	1
Arsenic	ND		1.0	0.29	ug/L		04/21/15 12:22	04/27/15 13:54	1
Barium	**0.36**	**J**	10	0.098	ug/L		04/21/15 12:22	04/27/15 13:54	1
Beryllium	ND		1.0	0.037	ug/L		04/21/15 12:22	04/27/15 13:54	1
Cadmium	ND		1.0	0.11	ug/L		04/21/15 12:22	04/27/15 13:54	1
Calcium	**160**	**J B**	500	2.8	ug/L		04/21/15 12:22	04/27/15 13:54	1
Chromium	**3.3**		2.0	0.54	ug/L		04/21/15 12:22	04/27/15 13:54	1
Cobalt	**0.040**	**J**	0.50	0.026	ug/L		04/21/15 12:22	04/27/15 13:54	1
Copper	**0.61**	**J**	2.0	0.24	ug/L		04/21/15 12:22	04/27/15 13:54	1
Iron	**22**	**J**	50	6.1	ug/L		04/21/15 12:22	04/27/15 13:54	1
Silver	ND		1.0	0.036	ug/L		04/21/15 12:22	04/27/15 13:54	1
Potassium	ND		500	5.8	ug/L		04/21/15 12:22	04/27/15 13:54	1
Magnesium	**17**	**J**	500	1.2	ug/L		04/21/15 12:22	04/27/15 13:54	1
Sodium	**380**	**J B**	500	3.8	ug/L		04/21/15 12:22	04/27/15 13:54	1
Nickel	ND		1.0	0.17	ug/L		04/21/15 12:22	04/27/15 13:54	1
Lead	**0.031**	**J**	1.0	0.019	ug/L		04/21/15 12:22	04/27/15 13:54	1
Antimony	ND		2.0	0.019	ug/L		04/21/15 12:22	04/27/15 13:54	1
Selenium	ND		5.0	0.42	ug/L		04/21/15 12:22	04/27/15 13:54	1
Thallium	**0.057**	**J**	1.0	0.015	ug/L		04/21/15 12:22	04/27/15 13:54	1
Zinc	**9.0**		5.0	0.96	ug/L		04/21/15 12:22	04/27/15 13:54	1
Vanadium	ND		1.0	0.082	ug/L		04/21/15 12:22	04/27/15 13:54	1
Manganese	**0.84**	**J**	5.0	0.039	ug/L		04/21/15 12:22	04/27/15 13:54	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: EQB-CATCHER
Date Collected: 04/09/15 16:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42930-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		04/27/15 13:35	04/28/15 14:04	1

General Chemistry

Client Sample ID: EQB-CATCHER
Date Collected: 04/09/15 16:30
Date Received: 04/10/15 09:45

Lab Sample ID: 180-42930-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**0.13**	**F1**	0.10	0.086	mg/L		05/04/15 09:30	05/04/15 13:31	1
Nitrate Nitrite as N	**0.29**		0.10	0.022	mg/L			05/02/15 09:25	1
Cyanide, Total	ND		10	2.5	ug/L		04/22/15 08:00	04/22/15 10:56	1
Sulfide	ND		3.0	0.59	mg/L		04/11/15 05:00	04/11/15 11:56	1
Total Organic Carbon - Duplicates	**2.9**		1.0	0.19	mg/L			04/23/15 23:50	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		04/23/15 05:52	04/23/15 13:49	1
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		04/23/15 11:00	04/24/15 12:41	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
1,2,4-Trichlorobenzene	1.0	0.085	ug/L	8270D LL
1,2-Dichlorobenzene	1.0	0.11	ug/L	8270D LL
1,2-Diphenylhydrazine(as Azobenzene)	1.0	0.12	ug/L	8270D LL
1,3-Dichlorobenzene	1.0	0.075	ug/L	8270D LL
1,4-Dichlorobenzene	1.0	0.16	ug/L	8270D LL
1-Methylnaphthalene	0.20	0.031	ug/L	8270D LL
2,2'-oxybis[1-chloropropane]	1.0	0.024	ug/L	8270D LL
2,4,6-Trichlorophenol	1.0	0.30	ug/L	8270D LL
2,4-Dichlorophenol	1.0	0.067	ug/L	8270D LL
2,4-Dimethylphenol	1.0	0.17	ug/L	8270D LL
2,4-Dinitrophenol	5.0	2.5	ug/L	8270D LL
2,4-Dinitrotoluene	1.0	0.21	ug/L	8270D LL
2,6-Dinitrotoluene	1.0	0.14	ug/L	8270D LL
2-Chloronaphthalene	0.20	0.031	ug/L	8270D LL
2-Chlorophenol	1.0	0.23	ug/L	8270D LL
2-Methylnaphthalene	0.20	0.019	ug/L	8270D LL
2-Methylphenol	1.0	0.19	ug/L	8270D LL
2-Nitrophenol	1.0	0.11	ug/L	8270D LL
3,3'-Dichlorobenzidine	1.0	0.15	ug/L	8270D LL
4,6-Dinitro-2-methylphenol	5.0	1.6	ug/L	8270D LL
4-Bromophenyl phenyl ether	1.0	0.12	ug/L	8270D LL
4-Chloro-3-methylphenol	1.0	0.17	ug/L	8270D LL
4-Chlorophenyl phenyl ether	1.0	0.080	ug/L	8270D LL
4-Nitrophenol	5.0	0.80	ug/L	8270D LL
Acenaphthene	0.20	0.029	ug/L	8270D LL
Acenaphthylene	0.20	0.022	ug/L	8270D LL
Anthracene	0.20	0.019	ug/L	8270D LL
Benzidine	20	4.7	ug/L	8270D LL
Benzo[a]anthracene	0.20	0.037	ug/L	8270D LL
Benzo[a]pyrene	0.20	0.028	ug/L	8270D LL
Benzo[b]fluoranthene	0.20	0.049	ug/L	8270D LL
Benzo[g,h,i]perylene	0.20	0.029	ug/L	8270D LL
Benzo[k]fluoranthene	0.20	0.030	ug/L	8270D LL
Benzoic acid	5.0	1.6	ug/L	8270D LL
Benzyl alcohol	1.0	0.20	ug/L	8270D LL
Bis(2-chloroethoxy)methane	1.0	0.13	ug/L	8270D LL
Bis(2-chloroethyl)ether	1.0	0.032	ug/L	8270D LL
Bis(2-ethylhexyl) phthalate	2.0	0.44	ug/L	8270D LL
Butyl benzyl phthalate	1.0	0.21	ug/L	8270D LL
Chrysene	0.20	0.031	ug/L	8270D LL
Dibenz(a,h)anthracene	0.20	0.027	ug/L	8270D LL
Dibenzofuran	1.0	0.097	ug/L	8270D LL
Diethyl phthalate	1.0	0.30	ug/L	8270D LL
Dimethyl phthalate	1.0	0.18	ug/L	8270D LL
Di-n-butyl phthalate	1.0	0.24	ug/L	8270D LL
Di-n-octyl phthalate	1.0	0.20	ug/L	8270D LL
Fluoranthene	0.20	0.021	ug/L	8270D LL
Fluorene	0.20	0.024	ug/L	8270D LL
Hexachlorobenzene	1.0	0.061	ug/L	8270D LL
Hexachlorobutadiene	1.0	0.094	ug/L	8270D LL
Hexachlorocyclopentadiene	1.0	0.14	ug/L	8270D LL
Hexachloroethane	1.0	0.14	ug/L	8270D LL

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	RL	MDL	Units	Method
Indeno[1,2,3-cd]pyrene	0.20	0.043	ug/L	8270D LL
Isophorone	1.0	0.074	ug/L	8270D LL
Methylphenol, 3 & 4	1.0	0.21	ug/L	8270D LL
Naphthalene	0.20	0.023	ug/L	8270D LL
Nitrobenzene	2.0	0.15	ug/L	8270D LL
N-Nitrosodimethylamine	1.0	0.12	ug/L	8270D LL
N-Nitrosodi-n-propylamine	1.0	0.050	ug/L	8270D LL
N-Nitrosodiphenylamine	1.0	0.12	ug/L	8270D LL
Pentachlorophenol	1.0	0.50	ug/L	8270D LL
Phenanthrene	0.20	0.042	ug/L	8270D LL
Phenol	1.0	0.055	ug/L	8270D LL
Pyrene	0.20	0.023	ug/L	8270D LL

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.0013	0.00016	ug/L	8081B_LL
2,4'-DDE	0.0013	0.00015	ug/L	8081B_LL
2,4'-DDT	0.0013	0.00022	ug/L	8081B_LL
4,4'-DDD	0.0013	0.00067	ug/L	8081B_LL
4,4'-DDE	0.0013	0.00079	ug/L	8081B_LL
4,4'-DDT	0.0013	0.00074	ug/L	8081B_LL
Aldrin	0.0013	0.00083	ug/L	8081B_LL
alpha-BHC	0.0013	0.00066	ug/L	8081B_LL
beta-BHC	0.0013	0.0010	ug/L	8081B_LL
Chlordane (technical)	0.013	0.0017	ug/L	8081B_LL
Chlorobenside	0.0032	0.0015	ug/L	8081B_LL
DCPA	0.0025	0.00034	ug/L	8081B_LL
delta-BHC	0.0013	0.00038	ug/L	8081B_LL
Dieldrin	0.0013	0.00082	ug/L	8081B_LL
Endosulfan I	0.0013	0.00094	ug/L	8081B_LL
Endosulfan II	0.0013	0.00098	ug/L	8081B_LL
Endosulfan sulfate	0.0013	0.00057	ug/L	8081B_LL
Endrin	0.0013	0.00096	ug/L	8081B_LL
Endrin aldehyde	0.0013	0.00090	ug/L	8081B_LL
gamma-BHC (Lindane)	0.0013	0.00080	ug/L	8081B_LL
Heptachlor	0.0013	0.00099	ug/L	8081B_LL
Heptachlor epoxide	0.0013	0.00097	ug/L	8081B_LL
Methoxychlor	0.0025	0.00091	ug/L	8081B_LL
Mirex	0.0013	0.00048	ug/L	8081B_LL
Toxaphene	0.10	0.019	ug/L	8081B_LL

Method: 8082A - PCB Congeners (GC)

Analyte	RL	MDL	Units	Method
DCB Decachlorobiphenyl	1.0	0.11	ng/L	8082A
PCB-101	1.0	0.15	ng/L	8082A
PCB-105	1.0	0.079	ng/L	8082A
PCB-118	1.0	0.12	ng/L	8082A
PCB-126	1.0	0.32	ng/L	8082A
PCB-128	1.0	0.085	ng/L	8082A
PCB-138	1.0	0.15	ng/L	8082A

Method: 8082A - PCB Congeners (GC) (Continued)

Analyte	RL	MDL	Units	Method
PCB-153	1.0	0.12	ng/L	8082A
PCB-156	1.0	0.078	ng/L	8082A
PCB-169	1.0	0.22	ng/L	8082A
PCB-170	1.0	0.11	ng/L	8082A
PCB-18	1.0	0.19	ng/L	8082A
PCB-180	1.0	0.080	ng/L	8082A
PCB-183	1.0	0.27	ng/L	8082A
PCB-184	1.0	0.14	ng/L	8082A
PCB-187	1.0	0.40	ng/L	8082A
PCB-195	1.0	0.10	ng/L	8082A
PCB-206	1.0	0.17	ng/L	8082A
PCB-28	1.0	0.23	ng/L	8082A
PCB-44	1.0	0.077	ng/L	8082A
PCB-49	1.0	0.15	ng/L	8082A
PCB-52	1.0	0.15	ng/L	8082A
PCB-66	1.0	0.13	ng/L	8082A
PCB-77	1.0	0.16	ng/L	8082A
PCB-8	1.0	0.32	ng/L	8082A
PCB-87	1.0	0.079	ng/L	8082A

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
Azinphos-methyl	1.0	0.11	ug/L	8141B
Bolstar	1.0	0.11	ug/L	8141B
Chlorpyrifos	1.0	0.10	ug/L	8141B
Coumaphos	1.0	0.15	ug/L	8141B
Demeton, Total	2.0	0.16	ug/L	8141B
Diazinon	1.0	0.094	ug/L	8141B
Dichlorvos	1.0	0.085	ug/L	8141B
Dimethoate	1.0	0.12	ug/L	8141B
Disulfoton	1.0	0.10	ug/L	8141B
EPN	1.0	0.12	ug/L	8141B
Famphur	1.0	0.12	ug/L	8141B
Fensulfothion	1.0	0.17	ug/L	8141B
Fenthion	1.0	0.085	ug/L	8141B
Malathion	1.0	0.11	ug/L	8141B
Methyl parathion	1.0	0.11	ug/L	8141B
Mevinphos	1.0	0.098	ug/L	8141B
Mocap	1.0	0.10	ug/L	8141B
O,O,O-Triethyl phosphorothioate	1.0	0.10	ug/L	8141B
Parathion	1.0	0.16	ug/L	8141B
Phorate	1.0	0.092	ug/L	8141B
Ronnel	1.0	0.10	ug/L	8141B
Stirophos	1.0	0.096	ug/L	8141B
Sulfotepp	1.0	0.095	ug/L	8141B
Thionazin	1.0	0.10	ug/L	8141B
Tokuthion	1.0	0.094	ug/L	8141B
Trichloronate	1.0	0.099	ug/L	8141B

Method: Organotins/GC - Organotins (GC/FPD)

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42930-1

Method: Organotins/GC - Organotins (GC/FPD)

Analyte	RL	MDL	Units	Method
Dibutyltin	0.039	0.039	ug/L	Organotins/GC
Monobutyltin	0.62	0.62	ug/L	Organotins/GC
Tetrabutyltin	0.050	0.050	ug/L	Organotins/GC
Tributyltin	0.045	0.045	ug/L	Organotins/GC

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	RL	MDL	Units	Method
Aluminum	30	2.6	ug/L	6020A
Antimony	2.0	0.019	ug/L	6020A
Arsenic	1.0	0.29	ug/L	6020A
Barium	10	0.098	ug/L	6020A
Beryllium	1.0	0.037	ug/L	6020A
Cadmium	1.0	0.11	ug/L	6020A
Calcium	500	2.8	ug/L	6020A
Chromium	2.0	0.54	ug/L	6020A
Cobalt	0.50	0.026	ug/L	6020A
Copper	2.0	0.24	ug/L	6020A
Iron	50	6.1	ug/L	6020A
Lead	1.0	0.019	ug/L	6020A
Magnesium	500	1.2	ug/L	6020A
Manganese	5.0	0.039	ug/L	6020A
Nickel	1.0	0.17	ug/L	6020A
Potassium	500	5.8	ug/L	6020A
Selenium	5.0	0.42	ug/L	6020A
Silver	1.0	0.036	ug/L	6020A
Sodium	500	3.8	ug/L	6020A
Thallium	1.0	0.015	ug/L	6020A
Vanadium	1.0	0.082	ug/L	6020A
Zinc	5.0	0.96	ug/L	6020A

Method: 7470A - Mercury (CVAA)

Analyte	RL	MDL	Units	Method
Mercury	0.20	0.078	ug/L	7470A

General Chemistry

Analyte	RL	MDL	Units	Method
Ammonia, distilled	0.10	0.086	mg/L	350.1
Nitrate Nitrite as N	0.10	0.022	mg/L	353.2
Cyanide, Total	10	2.5	ug/L	9014
Sulfide	3.0	0.59	mg/L	9034
Total Organic Carbon - Duplicates	1.0	0.19	mg/L	SM 5310C
Total Phosphorus as P	0.10	0.050	mg/L	SM4500 P E-1999
Nitrogen, Kjeldahl	5.0	1.7	mg/L	SM4500_NH3_E

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42930-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(28-109)	(20-105)	(30-118)	(27-114)	(25-105)	(20-118)
180-42930-1	EQB-CATCHER	81	58	68	76	68	79
180-42930-2	SRM WATER	80	57	74	73	73	87
LCS 180-138729/2-A	Lab Control Sample	69	67	72	68	69	71
LCSD 180-138729/3-A	Lab Control Sample Dup	62	64	64	62	66	63
MB 180-138729/1-A	Method Blank	67	70	64	63	70	67

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(60-111)	(60-111)	(45-122)	(45-122)
180-42930-1	EQB-CATCHER	95	92	107	106
180-42930-2	SRM WATER	115 X	113 X	124 X	117
LCS 180-138488/2-A	Lab Control Sample	98	91	104	100
LCSD 180-138488/3-A	Lab Control Sample Dup	99	90	103	102
MB 180-138488/1-A	Method Blank	93	88	102	95

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
180-42930-1	EQB-CATCHER	109	96	98	101
180-42930-2	SRM WATER	103	88	104	99
LCS 180-138629/2-A	Lab Control Sample	84	81	88	83
LCSD 180-138629/3-A	Lab Control Sample Dup	88	85	84	93
MB 180-138629/1-A	Method Blank	77	76	80	82

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-42930-1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(49-122)	(49-122)	(45-145)	(45-145)
180-42930-1	EQB-CATCHER	91	88	95	96
LCS 180-138630/2-A	Lab Control Sample	99	100	98	99
LCSD 180-138630/3-A	Lab Control Sample Dup	98	100	96	98
MB 180-138630/1-A	Method Blank	91	89	94	95

Surrogate Legend

TBPH = Tributyl phosphate

TPP = Triphenylphosphate

Method: Organotins/GC - Organotins (GC/FPD)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TPT1	TPT2
Lab Sample ID	Client Sample ID	(15-150)	(15-150)
180-42930-1	EQB-CATCHER	72	73
LCS 200-86884/2-A	Lab Control Sample	81	67
MB 200-86884/1-A	Method Blank	78	90

Surrogate Legend

TPT = Tripentyltin

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-138729/1-A
Matrix: Water
Analysis Batch: 139123

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138729

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		20	4.7	ug/L		04/16/15 12:04	04/21/15 11:51	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		04/16/15 12:04	04/21/15 11:51	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		04/16/15 12:04	04/21/15 11:51	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		04/16/15 12:04	04/21/15 11:51	1
Benzoic acid	ND		5.0	1.6	ug/L		04/16/15 12:04	04/21/15 11:51	1
Bis(2-chloroethyl)ether	ND		1.0	0.032	ug/L		04/16/15 12:04	04/21/15 11:51	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		04/16/15 12:04	04/21/15 11:51	1
Bis(2-ethylhexyl) phthalate	ND		2.0	0.44	ug/L		04/16/15 12:04	04/21/15 11:51	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		04/16/15 12:04	04/21/15 11:51	1
Butyl benzyl phthalate	ND		1.0	0.21	ug/L		04/16/15 12:04	04/21/15 11:51	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		04/16/15 12:04	04/21/15 11:51	1
2-Chloronaphthalene	ND		0.20	0.031	ug/L		04/16/15 12:04	04/21/15 11:51	1
2-Chlorophenol	ND		1.0	0.23	ug/L		04/16/15 12:04	04/21/15 11:51	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		04/16/15 12:04	04/21/15 11:51	1
Di-n-butyl phthalate	ND		1.0	0.24	ug/L		04/16/15 12:04	04/21/15 11:51	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		04/16/15 12:04	04/21/15 11:51	1
2,4-Dichlorophenol	ND		1.0	0.067	ug/L		04/16/15 12:04	04/21/15 11:51	1
Diethyl phthalate	ND		1.0	0.30	ug/L		04/16/15 12:04	04/21/15 11:51	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		04/16/15 12:04	04/21/15 11:51	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		04/16/15 12:04	04/21/15 11:51	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		04/16/15 12:04	04/21/15 11:51	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		04/16/15 12:04	04/21/15 11:51	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		04/16/15 12:04	04/21/15 11:51	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		04/16/15 12:04	04/21/15 11:51	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.12	ug/L		04/16/15 12:04	04/21/15 11:51	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		04/16/15 12:04	04/21/15 11:51	1
Hexachlorobenzene	ND		1.0	0.061	ug/L		04/16/15 12:04	04/21/15 11:51	1
Hexachlorobutadiene	ND		1.0	0.094	ug/L		04/16/15 12:04	04/21/15 11:51	1
Hexachloroethane	ND		1.0	0.14	ug/L		04/16/15 12:04	04/21/15 11:51	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		04/16/15 12:04	04/21/15 11:51	1
Isophorone	ND		1.0	0.074	ug/L		04/16/15 12:04	04/21/15 11:51	1
2-Methylphenol	ND		1.0	0.19	ug/L		04/16/15 12:04	04/21/15 11:51	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		04/16/15 12:04	04/21/15 11:51	1
Nitrobenzene	ND		2.0	0.15	ug/L		04/16/15 12:04	04/21/15 11:51	1
2-Nitrophenol	ND		1.0	0.11	ug/L		04/16/15 12:04	04/21/15 11:51	1
4-Nitrophenol	ND		5.0	0.80	ug/L		04/16/15 12:04	04/21/15 11:51	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		04/16/15 12:04	04/21/15 11:51	1
N-Nitrosodimethylamine	ND		1.0	0.12	ug/L		04/16/15 12:04	04/21/15 11:51	1
N-Nitrosodi-n-propylamine	ND		1.0	0.050	ug/L		04/16/15 12:04	04/21/15 11:51	1
2,2'-oxybis[1-chloropropane]	ND		1.0	0.024	ug/L		04/16/15 12:04	04/21/15 11:51	1
Pentachlorophenol	ND		1.0	0.50	ug/L		04/16/15 12:04	04/21/15 11:51	1
Phenol	ND		1.0	0.055	ug/L		04/16/15 12:04	04/21/15 11:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		04/16/15 12:04	04/21/15 11:51	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		04/16/15 12:04	04/21/15 11:51	1
2-Methylnaphthalene	ND		0.20	0.019	ug/L		04/16/15 12:04	04/21/15 11:51	1
1-Methylnaphthalene	ND		0.20	0.031	ug/L		04/16/15 12:04	04/21/15 11:51	1
Naphthalene	ND		0.20	0.023	ug/L		04/16/15 12:04	04/21/15 11:51	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-138729/1-A
Matrix: Water
Analysis Batch: 139123

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138729

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		0.20	0.022	ug/L		04/16/15 12:04	04/21/15 11:51	1
Acenaphthene	ND		0.20	0.029	ug/L		04/16/15 12:04	04/21/15 11:51	1
Fluorene	ND		0.20	0.024	ug/L		04/16/15 12:04	04/21/15 11:51	1
Phenanthrene	ND		0.20	0.042	ug/L		04/16/15 12:04	04/21/15 11:51	1
Anthracene	ND		0.20	0.019	ug/L		04/16/15 12:04	04/21/15 11:51	1
Fluoranthene	ND		0.20	0.021	ug/L		04/16/15 12:04	04/21/15 11:51	1
Pyrene	ND		0.20	0.023	ug/L		04/16/15 12:04	04/21/15 11:51	1
Benzo[a]anthracene	ND		0.20	0.037	ug/L		04/16/15 12:04	04/21/15 11:51	1
Chrysene	ND		0.20	0.031	ug/L		04/16/15 12:04	04/21/15 11:51	1
Benzo[b]fluoranthene	ND		0.20	0.049	ug/L		04/16/15 12:04	04/21/15 11:51	1
Benzo[k]fluoranthene	ND		0.20	0.030	ug/L		04/16/15 12:04	04/21/15 11:51	1
Benzo[a]pyrene	ND		0.20	0.028	ug/L		04/16/15 12:04	04/21/15 11:51	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.043	ug/L		04/16/15 12:04	04/21/15 11:51	1
Dibenz(a,h)anthracene	ND		0.20	0.027	ug/L		04/16/15 12:04	04/21/15 11:51	1
Benzo[g,h,i]perylene	ND		0.20	0.029	ug/L		04/16/15 12:04	04/21/15 11:51	1
Benzyl alcohol	ND		1.0	0.20	ug/L		04/16/15 12:04	04/21/15 11:51	1
Dibenzofuran	ND		1.0	0.097	ug/L		04/16/15 12:04	04/21/15 11:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*28 - 109*	*04/16/15 12:04*	*04/21/15 11:51*	*1*
2-Fluorophenol (Surr)	*70*		*20 - 105*	*04/16/15 12:04*	*04/21/15 11:51*	*1*
2,4,6-Tribromophenol (Surr)	*64*		*30 - 118*	*04/16/15 12:04*	*04/21/15 11:51*	*1*
Nitrobenzene-d5 (Surr)	*63*		*27 - 114*	*04/16/15 12:04*	*04/21/15 11:51*	*1*
Phenol-d5 (Surr)	*70*		*25 - 105*	*04/16/15 12:04*	*04/21/15 11:51*	*1*
Terphenyl-d14 (Surr)	*67*		*20 - 118*	*04/16/15 12:04*	*04/21/15 11:51*	*1*

Lab Sample ID: LCS 180-138729/2-A
Matrix: Water
Analysis Batch: 139123

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138729

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	20.0	6.11	J	ug/L		31	10 - 100
1,2-Dichlorobenzene	20.0	12.5		ug/L		63	40 - 100
1,3-Dichlorobenzene	20.0	13.2		ug/L		66	38 - 100
1,4-Dichlorobenzene	20.0	11.9		ug/L		59	39 - 100
Benzoic acid	20.0	16.1		ug/L		81	
Bis(2-chloroethyl)ether	20.0	12.1		ug/L		60	42 - 100
Bis(2-chloroethoxy)methane	20.0	13.5		ug/L		67	45 - 100
Bis(2-ethylhexyl) phthalate	20.0	16.8		ug/L		84	35 - 118
4-Bromophenyl phenyl ether	20.0	15.8		ug/L		79	46 - 100
Butyl benzyl phthalate	20.0	16.4		ug/L		82	45 - 105
4-Chloro-3-methylphenol	20.0	14.7		ug/L		74	47 - 100
2-Chloronaphthalene	20.0	13.7		ug/L		69	42 - 100
2-Chlorophenol	20.0	13.6		ug/L		68	41 - 100
4-Chlorophenyl phenyl ether	20.0	15.2		ug/L		76	48 - 100
Di-n-butyl phthalate	20.0	16.1		ug/L		81	49 - 101
3,3'-Dichlorobenzidine	20.0	14.4		ug/L		72	41 - 100
2,4-Dichlorophenol	20.0	15.8		ug/L		79	45 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-138729/2-A
Matrix: Water
Analysis Batch: 139123

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138729

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diethyl phthalate	20.0	15.2		ug/L		76	48 - 100
4,6-Dinitro-2-methylphenol	40.0	28.9		ug/L		72	46 - 100
2,4-Dimethylphenol	20.0	14.5		ug/L		73	45 - 100
Dimethyl phthalate	20.0	14.7		ug/L		74	49 - 100
2,4-Dinitrophenol	40.0	26.5		ug/L		66	36 - 100
2,4-Dinitrotoluene	20.0	16.0		ug/L		80	49 - 100
2,6-Dinitrotoluene	20.0	15.9		ug/L		80	50 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	14.1		ug/L		70	49 - 100
Di-n-octyl phthalate	20.0	16.6		ug/L		83	40 - 105
Hexachlorobenzene	20.0	14.4		ug/L		72	45 - 100
Hexachlorobutadiene	20.0	13.4		ug/L		67	42 - 100
Hexachloroethane	20.0	12.4		ug/L		62	39 - 100
Hexachlorocyclopentadiene	20.0	14.4		ug/L		72	37 - 109
Isophorone	20.0	13.8		ug/L		69	48 - 100
2-Methylphenol	20.0	14.5		ug/L		72	43 - 100
Methylphenol, 3 & 4	20.0	13.5		ug/L		67	41 - 100
Nitrobenzene	20.0	13.4		ug/L		67	47 - 100
2-Nitrophenol	20.0	15.7		ug/L		79	45 - 100
4-Nitrophenol	40.0	35.3		ug/L		88	44 - 129
N-Nitrosodiphenylamine	40.0	33.2		ug/L		83	48 - 100
N-Nitrosodimethylamine	20.0	11.6		ug/L		58	41 - 100
N-Nitrosodi-n-propylamine	20.0	12.7		ug/L		63	42 - 100
2,2'-oxybis[1-chloropropane]	20.0	11.6		ug/L		58	38 - 100
Pentachlorophenol	40.0	28.9		ug/L		72	36 - 105
Phenol	20.0	13.2		ug/L		66	43 - 100
1,2,4-Trichlorobenzene	20.0	13.6		ug/L		68	43 - 100
2,4,6-Trichlorophenol	20.0	16.9		ug/L		84	47 - 101
2-Methylnaphthalene	20.0	15.3		ug/L		77	44 - 100
1-Methylnaphthalene	20.0	14.2		ug/L		71	43 - 100
Naphthalene	20.0	14.0		ug/L		70	44 - 100
Acenaphthylene	20.0	15.0		ug/L		75	47 - 100
Acenaphthene	20.0	14.4		ug/L		72	47 - 100
Fluorene	20.0	15.6		ug/L		78	48 - 100
Phenanthrene	20.0	15.3		ug/L		76	48 - 100
Anthracene	20.0	15.2		ug/L		76	49 - 100
Fluoranthene	20.0	15.8		ug/L		79	48 - 100
Pyrene	20.0	15.5		ug/L		78	44 - 100
Benzo[a]anthracene	20.0	15.5		ug/L		78	50 - 100
Chrysene	20.0	15.0		ug/L		75	49 - 100
Benzo[b]fluoranthene	20.0	16.7		ug/L		84	43 - 100
Benzo[k]fluoranthene	20.0	15.5		ug/L		77	47 - 100
Benzo[a]pyrene	20.0	17.1		ug/L		85	47 - 100
Indeno[1,2,3-cd]pyrene	20.0	16.7		ug/L		83	47 - 100
Dibenz(a,h)anthracene	20.0	16.9		ug/L		84	48 - 100
Benzo[g,h,i]perylene	20.0	16.2		ug/L		81	48 - 100
Benzyl alcohol	20.0	13.6		ug/L		68	41 - 100
Dibenzofuran	20.0	14.8		ug/L		74	47 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-138729/2-A
Matrix: Water
Analysis Batch: 139123

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138729

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*28 - 109*
2-Fluorophenol (Surr)	*67*		*20 - 105*
2,4,6-Tribromophenol (Surr)	*72*		*30 - 118*
Nitrobenzene-d5 (Surr)	*68*		*27 - 114*
Phenol-d5 (Surr)	*69*		*25 - 105*
Terphenyl-d14 (Surr)	*71*		*20 - 118*

Lab Sample ID: LCSD 180-138729/3-A
Matrix: Water
Analysis Batch: 139123

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138729

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzidine			20.0	5.49	J	ug/L		27	10 - 100	11	35
1,2-Dichlorobenzene			20.0	11.8		ug/L		59	40 - 100	6	20
1,3-Dichlorobenzene			20.0	12.3		ug/L		61	38 - 100	7	17
1,4-Dichlorobenzene			20.0	11.6		ug/L		58	39 - 100	2	18
Benzoic acid			20.0	13.8		ug/L		69		15	20
Bis(2-chloroethyl)ether			20.0	11.1		ug/L		56	42 - 100	8	28
Bis(2-chloroethoxy)methane			20.0	12.5		ug/L		62	45 - 100	8	28
Bis(2-ethylhexyl) phthalate			20.0	14.7		ug/L		74	35 - 118	13	35
4-Bromophenyl phenyl ether			20.0	14.1		ug/L		70	46 - 100	11	22
Butyl benzyl phthalate			20.0	14.5		ug/L		72	45 - 105	12	23
4-Chloro-3-methylphenol			20.0	13.1		ug/L		66	47 - 100	12	27
2-Chloronaphthalene			20.0	12.1		ug/L		61	42 - 100	13	26
2-Chlorophenol			20.0	13.3		ug/L		66	41 - 100	3	28
4-Chlorophenyl phenyl ether			20.0	13.1		ug/L		65	48 - 100	15	25
Di-n-butyl phthalate			20.0	14.0		ug/L		70	49 - 101	14	21
3,3'-Dichlorobenzidine			20.0	13.1		ug/L		65	41 - 100	10	28
2,4-Dichlorophenol			20.0	14.0		ug/L		70	45 - 100	12	29
Diethyl phthalate			20.0	13.3		ug/L		67	48 - 100	13	20
4,6-Dinitro-2-methylphenol			40.0	27.1		ug/L		68	46 - 100	6	19
2,4-Dimethylphenol			20.0	13.4		ug/L		67	45 - 100	8	25
Dimethyl phthalate			20.0	13.2		ug/L		66	49 - 100	11	24
2,4-Dinitrophenol			40.0	23.7		ug/L		59	36 - 100	11	18
2,4-Dinitrotoluene			20.0	13.7		ug/L		69	49 - 100	15	21
2,6-Dinitrotoluene			20.0	13.6		ug/L		68	50 - 100	16	23
1,2-Diphenylhydrazine(as Azobenzene)			20.0	12.5		ug/L		63	49 - 100	12	22
Di-n-octyl phthalate			20.0	14.7		ug/L		73	40 - 105	12	23
Hexachlorobenzene			20.0	13.0		ug/L		65	45 - 100	11	19
Hexachlorobutadiene			20.0	12.1		ug/L		61	42 - 100	10	18
Hexachloroethane			20.0	11.6		ug/L		58	39 - 100	7	16
Hexachlorocyclopentadiene			20.0	13.1		ug/L		65	37 - 109	10	16
Isophorone			20.0	13.0		ug/L		65	48 - 100	6	30
2-Methylphenol			20.0	13.6		ug/L		68	43 - 100	6	28
Methylphenol, 3 & 4			20.0	12.9		ug/L		64	41 - 100	4	28
Nitrobenzene			20.0	12.1		ug/L		60	47 - 100	10	27
2-Nitrophenol			20.0	14.1		ug/L		71	45 - 100	11	31

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 180-138729/3-A
Matrix: Water
Analysis Batch: 139123

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138729

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Nitrophenol	40.0	30.1		ug/L		75	44 - 129	16	21
N-Nitrosodiphenylamine	40.0	29.0		ug/L		72	48 - 100	14	21
N-Nitrosodimethylamine	20.0	11.1		ug/L		56	41 - 100	4	30
N-Nitrosodi-n-propylamine	20.0	12.0		ug/L		60	42 - 100	6	27
2,2'-oxybis[1-chloropropane]	20.0	11.1		ug/L		56	38 - 100	4	28
Pentachlorophenol	40.0	25.2		ug/L		63	36 - 105	14	15
Phenol	20.0	12.9		ug/L		65	43 - 100	2	25
1,2,4-Trichlorobenzene	20.0	12.4		ug/L		62	43 - 100	10	22
2,4,6-Trichlorophenol	20.0	14.6		ug/L		73	47 - 101	14	28
2-Methylnaphthalene	20.0	13.4		ug/L		67	44 - 100	13	27
1-Methylnaphthalene	20.0	12.5		ug/L		63	43 - 100	12	27
Naphthalene	20.0	12.3		ug/L		61	44 - 100	13	25
Acenaphthylene	20.0	13.3		ug/L		67	47 - 100	12	26
Acenaphthene	20.0	12.9		ug/L		64	47 - 100	11	25
Fluorene	20.0	13.9		ug/L		70	48 - 100	11	22
Phenanthrene	20.0	13.7		ug/L		68	48 - 100	11	20
Anthracene	20.0	13.6		ug/L		68	49 - 100	11	20
Fluoranthene	20.0	14.2		ug/L		71	48 - 100	10	20
Pyrene	20.0	13.5		ug/L		68	44 - 100	14	20
Benzo[a]anthracene	20.0	14.1		ug/L		70	50 - 100	10	20
Chrysene	20.0	13.2		ug/L		66	49 - 100	13	20
Benzo[b]fluoranthene	20.0	14.3		ug/L		71	43 - 100	16	22
Benzo[k]fluoranthene	20.0	13.9		ug/L		69	47 - 100	11	24
Benzo[a]pyrene	20.0	14.9		ug/L		75	47 - 100	13	22
Indeno[1,2,3-cd]pyrene	20.0	14.8		ug/L		74	47 - 100	12	21
Dibenz(a,h)anthracene	20.0	15.1		ug/L		75	48 - 100	11	21
Benzo[g,h,i]perylene	20.0	14.7		ug/L		74	48 - 100	10	21
Benzyl alcohol	20.0	12.1		ug/L		60	41 - 100	12	32
Dibenzofuran	20.0	12.8		ug/L		64	47 - 100	15	24

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*62*		*28 - 109*
2-Fluorophenol (Surr)	*64*		*20 - 105*
2,4,6-Tribromophenol (Surr)	*64*		*30 - 118*
Nitrobenzene-d5 (Surr)	*62*		*27 - 114*
Phenol-d5 (Surr)	*66*		*25 - 105*
Terphenyl-d14 (Surr)	*63*		*20 - 118*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-138488/1-A
Matrix: Water
Analysis Batch: 139019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138488

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00083	ug/L		04/14/15 11:45	04/20/15 11:22	1
alpha-BHC	ND		0.0013	0.00066	ug/L		04/14/15 11:45	04/20/15 11:22	1
beta-BHC	ND		0.0013	0.0010	ug/L		04/14/15 11:45	04/20/15 11:22	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 180-138488/1-A
Matrix: Water
Analysis Batch: 139019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138488

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
delta-BHC	ND		0.0013	0.00038	ug/L		04/14/15 11:45	04/20/15 11:22	1
gamma-BHC (Lindane)	ND		0.0013	0.00080	ug/L		04/14/15 11:45	04/20/15 11:22	1
Chlordane (technical)	ND		0.013	0.0017	ug/L		04/14/15 11:45	04/20/15 11:22	1
Chlorobenside	ND		0.0032	0.0015	ug/L		04/14/15 11:45	04/20/15 11:22	1
DCPA	ND		0.0025	0.00034	ug/L		04/14/15 11:45	04/20/15 11:22	1
4,4'-DDD	ND		0.0013	0.00067	ug/L		04/14/15 11:45	04/20/15 11:22	1
4,4'-DDE	ND		0.0013	0.00079	ug/L		04/14/15 11:45	04/20/15 11:22	1
4,4'-DDT	ND		0.0013	0.00074	ug/L		04/14/15 11:45	04/20/15 11:22	1
Dieldrin	ND		0.0013	0.00082	ug/L		04/14/15 11:45	04/20/15 11:22	1
Endosulfan I	ND		0.0013	0.00094	ug/L		04/14/15 11:45	04/20/15 11:22	1
Endosulfan II	ND		0.0013	0.00098	ug/L		04/14/15 11:45	04/20/15 11:22	1
Endosulfan sulfate	ND		0.0013	0.00057	ug/L		04/14/15 11:45	04/20/15 11:22	1
Endrin	ND		0.0013	0.00096	ug/L		04/14/15 11:45	04/20/15 11:22	1
Endrin aldehyde	ND		0.0013	0.00090	ug/L		04/14/15 11:45	04/20/15 11:22	1
Heptachlor	ND		0.0013	0.00099	ug/L		04/14/15 11:45	04/20/15 11:22	1
Heptachlor epoxide	ND		0.0013	0.00097	ug/L		04/14/15 11:45	04/20/15 11:22	1
Methoxychlor	ND		0.0025	0.00091	ug/L		04/14/15 11:45	04/20/15 11:22	1
Mirex	ND		0.0013	0.00048	ug/L		04/14/15 11:45	04/20/15 11:22	1
Toxaphene	ND		0.10	0.019	ug/L		04/14/15 11:45	04/20/15 11:22	1
2,4'-DDD	ND		0.0013	0.00016	ug/L		04/14/15 11:45	04/20/15 11:22	1
2,4'-DDE	ND		0.0013	0.00015	ug/L		04/14/15 11:45	04/20/15 11:22	1
2,4'-DDT	ND		0.0013	0.00022	ug/L		04/14/15 11:45	04/20/15 11:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*93*		*60 - 111*	*04/14/15 11:45*	*04/20/15 11:22*	*1*
Tetrachloro-m-xylene	*88*		*60 - 111*	*04/14/15 11:45*	*04/20/15 11:22*	*1*
DCB Decachlorobiphenyl (Surr)	*102*		*45 - 122*	*04/14/15 11:45*	*04/20/15 11:22*	*1*
DCB Decachlorobiphenyl (Surr)	*95*		*45 - 122*	*04/14/15 11:45*	*04/20/15 11:22*	*1*

Lab Sample ID: LCS 180-138488/2-A
Matrix: Water
Analysis Batch: 139019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138488

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0250	0.0247		ug/L		99	62 - 113
alpha-BHC	0.0250	0.0210		ug/L		84	58 - 114
beta-BHC	0.0250	0.0206		ug/L		82	37 - 133
delta-BHC	0.0250	0.0160		ug/L		64	20 - 137
gamma-BHC (Lindane)	0.0250	0.0218		ug/L		87	57 - 120
4,4'-DDD	0.0250	0.0223		ug/L		89	48 - 120
4,4'-DDE	0.0250	0.0241		ug/L		96	47 - 120
4,4'-DDT	0.0250	0.0244		ug/L		98	39 - 131
Dieldrin	0.0250	0.0239		ug/L		96	51 - 121
Endosulfan I	0.0250	0.0229		ug/L		92	53 - 117
Endosulfan II	0.0250	0.0201		ug/L		81	44 - 122
Endosulfan sulfate	0.0250	0.0204		ug/L		82	42 - 122
Endrin	0.0250	0.0246		ug/L		98	31 - 138
Endrin aldehyde	0.0250	0.0244		ug/L		98	41 - 116

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-138488/2-A
Matrix: Water
Analysis Batch: 139019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138488

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Heptachlor			0.0250	0.0239		ug/L		96	63 - 120		
Heptachlor epoxide			0.0250	0.0235		ug/L		94	60 - 120		
Methoxychlor			0.0250	0.0244		ug/L		98	35 - 137		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*98*		*60 - 111*
Tetrachloro-m-xylene	*91*		*60 - 111*
DCB Decachlorobiphenyl (Surr)	*104*		*45 - 122*
DCB Decachlorobiphenyl (Surr)	*100*		*45 - 122*

Lab Sample ID: LCSD 180-138488/3-A
Matrix: Water
Analysis Batch: 139019

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138488

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.0250	0.0257		ug/L		103	62 - 113	4	22
alpha-BHC			0.0250	0.0223		ug/L		89	58 - 114	6	20
beta-BHC			0.0250	0.0232		ug/L		93	37 - 133	12	24
delta-BHC			0.0250	0.0168		ug/L		67	20 - 137	5	26
gamma-BHC (Lindane)			0.0250	0.0238		ug/L		95	57 - 120	9	21
4,4'-DDD			0.0250	0.0243		ug/L		97	48 - 120	8	24
4,4'-DDE			0.0250	0.0257		ug/L		103	47 - 120	7	20
4,4'-DDT			0.0250	0.0263		ug/L		105	39 - 131	7	24
Dieldrin			0.0250	0.0256		ug/L		102	51 - 121	7	20
Endosulfan I			0.0250	0.0243		ug/L		97	53 - 117	6	22
Endosulfan II			0.0250	0.0213		ug/L		85	44 - 122	5	21
Endosulfan sulfate			0.0250	0.0213		ug/L		85	42 - 122	4	21
Endrin			0.0250	0.0262		ug/L		105	31 - 138	6	24
Endrin aldehyde			0.0250	0.0252		ug/L		101	41 - 116	3	25
Heptachlor			0.0250	0.0251		ug/L		100	63 - 120	5	25
Heptachlor epoxide			0.0250	0.0257		ug/L		103	60 - 120	9	20
Methoxychlor			0.0250	0.0256		ug/L		102	35 - 137	5	27

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*99*		*60 - 111*
Tetrachloro-m-xylene	*90*		*60 - 111*
DCB Decachlorobiphenyl (Surr)	*103*		*45 - 122*
DCB Decachlorobiphenyl (Surr)	*102*		*45 - 122*

Method: 8082A - PCB Congeners (GC)

Lab Sample ID: MB 180-138629/1-A
Matrix: Water
Analysis Batch: 139547

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138629

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		1.0	0.32	ng/L		04/15/15 13:00	04/24/15 23:57	1

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: MB 180-138629/1-A
Matrix: Water
Analysis Batch: 139547

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138629

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-18	ND		1.0	0.19	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-28	ND		1.0	0.23	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-44	0.553	J p	1.0	0.077	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-49	0.153	J p	1.0	0.15	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-52	ND		1.0	0.15	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-66	ND		1.0	0.13	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-77	ND		1.0	0.16	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-87	ND		1.0	0.079	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-101	ND		1.0	0.15	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-105	ND		1.0	0.079	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-118	ND		1.0	0.12	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-126	ND		1.0	0.32	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-128	ND		1.0	0.085	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-138	ND		1.0	0.15	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-153	ND		1.0	0.12	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-156	ND		1.0	0.078	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-169	ND		1.0	0.22	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-170	ND		1.0	0.11	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-180	0.350	J	1.0	0.080	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-183	ND		1.0	0.27	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-184	ND		1.0	0.14	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-187	ND		1.0	0.40	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-195	ND		1.0	0.10	ng/L		04/15/15 13:00	04/24/15 23:57	1
PCB-206	ND		1.0	0.17	ng/L		04/15/15 13:00	04/24/15 23:57	1
DCB Decachlorobiphenyl	ND		1.0	0.11	ng/L		04/15/15 13:00	04/24/15 23:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*77*		*35 - 140*	*04/15/15 13:00*	*04/24/15 23:57*	*1*
Tetrachloro-m-xylene (Surr)	*76*		*35 - 140*	*04/15/15 13:00*	*04/24/15 23:57*	*1*
PCB-205 (Surr)	*80*		*35 - 140*	*04/15/15 13:00*	*04/24/15 23:57*	*1*
PCB-205 (Surr)	*82*		*35 - 140*	*04/15/15 13:00*	*04/24/15 23:57*	*1*

Lab Sample ID: LCS 180-138629/2-A
Matrix: Water
Analysis Batch: 139547

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138629

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	20.0	18.0		ng/L		90	40 - 140
PCB-18	20.0	18.0		ng/L		90	40 - 140
PCB-28	20.0	21.1		ng/L		105	40 - 140
PCB-44	20.0	16.0		ng/L		80	40 - 140
PCB-49	20.0	17.5		ng/L		88	40 - 140
PCB-52	20.0	16.9		ng/L		84	40 - 140
PCB-66	20.0	20.7		ng/L		103	40 - 140
PCB-77	20.0	22.0		ng/L		110	40 - 140
PCB-87	20.0	20.3		ng/L		102	40 - 140
PCB-101	20.0	17.6		ng/L		88	40 - 140
PCB-105	20.0	17.7		ng/L		89	40 - 140

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: LCS 180-138629/2-A
Matrix: Water
Analysis Batch: 139547

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138629

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-118	20.0	19.0		ng/L		95	40 - 140
PCB-126	20.0	16.8		ng/L		84	40 - 140
PCB-128	20.0	16.5		ng/L		83	40 - 140
PCB-138	20.0	17.3		ng/L		87	40 - 140
PCB-153	20.0	19.0		ng/L		95	40 - 140
PCB-156	20.0	18.0		ng/L		90	40 - 140
PCB-169	20.0	16.3		ng/L		81	40 - 140
PCB-170	20.0	16.9		ng/L		85	40 - 140
PCB-180	20.0	17.4		ng/L		87	40 - 140
PCB-183	20.0	15.6		ng/L		78	40 - 140
PCB-184	20.0	19.1		ng/L		96	40 - 140
PCB-187	20.0	16.5		ng/L		83	40 - 140
PCB-195	20.0	16.2		ng/L		81	40 - 140
PCB-206	20.0	15.0		ng/L		75	40 - 140
DCB Decachlorobiphenyl	20.0	16.1		ng/L		80	40 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*84*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*81*		*35 - 140*
PCB-205 (Surr)	*88*		*35 - 140*
PCB-205 (Surr)	*83*		*35 - 140*

Lab Sample ID: LCSD 180-138629/3-A
Matrix: Water
Analysis Batch: 139547

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138629

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-8	20.0	19.7		ng/L		99	40 - 140	9	35
PCB-18	20.0	18.0		ng/L		90	40 - 140	0	35
PCB-28	20.0	21.8		ng/L		109	40 - 140	3	35
PCB-44	20.0	17.0		ng/L		85	40 - 140	6	35
PCB-49	20.0	17.8		ng/L		89	40 - 140	1	35
PCB-52	20.0	17.1		ng/L		85	40 - 140	1	35
PCB-66	20.0	22.4		ng/L		112	40 - 140	8	35
PCB-77	20.0	24.5		ng/L		123	40 - 140	11	35
PCB-87	20.0	22.0		ng/L		110	40 - 140	8	35
PCB-101	20.0	18.8		ng/L		94	40 - 140	6	35
PCB-105	20.0	19.5		ng/L		97	40 - 140	9	35
PCB-118	20.0	20.0		ng/L		100	40 - 140	5	35
PCB-126	20.0	17.0		ng/L		85	40 - 140	1	35
PCB-128	20.0	17.6		ng/L		88	40 - 140	6	35
PCB-138	20.0	17.7		ng/L		89	40 - 140	2	35
PCB-153	20.0	18.9		ng/L		94	40 - 140	1	35
PCB-156	20.0	19.3		ng/L		96	40 - 140	7	35
PCB-169	20.0	18.3		ng/L		92	40 - 140	12	35
PCB-170	20.0	17.3		ng/L		87	40 - 140	2	35
PCB-180	20.0	18.2		ng/L		91	40 - 140	5	35
PCB-183	20.0	17.0		ng/L		85	40 - 140	9	35

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: LCSD 180-138629/3-A
Matrix: Water
Analysis Batch: 139547

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138629

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-184			20.0	19.8		ng/L		99	40 - 140	3	35
PCB-187			20.0	17.5		ng/L		87	40 - 140	6	35
PCB-195			20.0	17.7		ng/L		89	40 - 140	9	35
PCB-206			20.0	15.8		ng/L		79	40 - 140	5	35
DCB Decachlorobiphenyl			20.0	17.1		ng/L		86	40 - 140	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*88*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*85*		*35 - 140*
PCB-205 (Surr)	*84*		*35 - 140*
PCB-205 (Surr)	*93*		*35 - 140*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Lab Sample ID: MB 180-138630/1-A
Matrix: Water
Analysis Batch: 138668

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138630

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		1.0	0.11	ug/L		04/15/15 13:00	04/16/15 10:29	1
Demeton, Total	ND		2.0	0.16	ug/L		04/15/15 13:00	04/16/15 10:29	1
Malathion	ND		1.0	0.11	ug/L		04/15/15 13:00	04/16/15 10:29	1
Methyl parathion	ND		1.0	0.11	ug/L		04/15/15 13:00	04/16/15 10:29	1
Parathion	ND		1.0	0.16	ug/L		04/15/15 13:00	04/16/15 10:29	1
Bolstar	ND		1.0	0.11	ug/L		04/15/15 13:00	04/16/15 10:29	1
Chlorpyrifos	ND		1.0	0.10	ug/L		04/15/15 13:00	04/16/15 10:29	1
Coumaphos	ND		1.0	0.15	ug/L		04/15/15 13:00	04/16/15 10:29	1
Diazinon	ND		1.0	0.094	ug/L		04/15/15 13:00	04/16/15 10:29	1
Dichlorvos	ND		1.0	0.085	ug/L		04/15/15 13:00	04/16/15 10:29	1
Dimethoate	ND		1.0	0.12	ug/L		04/15/15 13:00	04/16/15 10:29	1
Disulfoton	ND		1.0	0.10	ug/L		04/15/15 13:00	04/16/15 10:29	1
EPN	ND		1.0	0.12	ug/L		04/15/15 13:00	04/16/15 10:29	1
Mocap	ND		1.0	0.10	ug/L		04/15/15 13:00	04/16/15 10:29	1
Famphur	ND		1.0	0.12	ug/L		04/15/15 13:00	04/16/15 10:29	1
Fensulfothion	ND		1.0	0.17	ug/L		04/15/15 13:00	04/16/15 10:29	1
Fenthion	ND		1.0	0.085	ug/L		04/15/15 13:00	04/16/15 10:29	1
Mevinphos	ND		1.0	0.098	ug/L		04/15/15 13:00	04/16/15 10:29	1
Phorate	ND		1.0	0.092	ug/L		04/15/15 13:00	04/16/15 10:29	1
Ronnel	ND		1.0	0.10	ug/L		04/15/15 13:00	04/16/15 10:29	1
Stirophos	ND		1.0	0.096	ug/L		04/15/15 13:00	04/16/15 10:29	1
Sulfotepp	ND		1.0	0.095	ug/L		04/15/15 13:00	04/16/15 10:29	1
Thionazin	ND		1.0	0.10	ug/L		04/15/15 13:00	04/16/15 10:29	1
Tokuthion	ND		1.0	0.094	ug/L		04/15/15 13:00	04/16/15 10:29	1
Trichloronate	ND		1.0	0.099	ug/L		04/15/15 13:00	04/16/15 10:29	1
O,O,O-Triethyl phosphorothioate	ND		1.0	0.10	ug/L		04/15/15 13:00	04/16/15 10:29	1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: MB 180-138630/1-A
Matrix: Water
Analysis Batch: 138668

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138630

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	91		49 - 122	04/15/15 13:00	04/16/15 10:29	1
Tributyl phosphate	89		49 - 122	04/15/15 13:00	04/16/15 10:29	1
Triphenylphosphate	94		45 - 145	04/15/15 13:00	04/16/15 10:29	1
Triphenylphosphate	95		45 - 145	04/15/15 13:00	04/16/15 10:29	1

Lab Sample ID: LCS 180-138630/2-A
Matrix: Water
Analysis Batch: 138668

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138630

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	10.0	9.13		ug/L		91	40 - 150
Malathion	10.0	9.86		ug/L		99	50 - 150
Methyl parathion	10.0	9.35		ug/L		93	41 - 148
Parathion	10.0	9.64		ug/L		96	56 - 125
Bolstar	10.0	9.82		ug/L		98	50 - 150
Chlorpyrifos	10.0	9.72		ug/L		97	50 - 130
Coumaphos	10.0	9.53		ug/L		95	50 - 150
Diazinon	10.0	9.63		ug/L		96	50 - 150
Dichlorvos	10.0	11.0		ug/L		110	30 - 150
Dimethoate	10.0	10.6		ug/L		106	26 - 136
Disulfoton	10.0	9.68		ug/L		97	45 - 124
EPN	10.0	9.14		ug/L		91	50 - 150
Mocap	10.0	9.86		ug/L		99	40 - 150
Famphur	10.0	9.49		ug/L		95	52 - 131
Fensulfothion	10.0	10.6		ug/L		106	38 - 150
Fenthion	10.0	9.59		ug/L		96	10 - 150
Mevinphos	10.0	9.54		ug/L		95	30 - 150
Phorate	10.0	9.82		ug/L		98	41 - 135
Ronnel	10.0	9.48		ug/L		95	50 - 150
Stirophos	10.0	9.30		ug/L		93	50 - 150
Sulfotepp	10.0	9.80		ug/L		98	56 - 128
Thionazin	10.0	9.77		ug/L		98	44 - 128
Tokuthion	10.0	9.57		ug/L		96	50 - 150
Trichloronate	10.0	9.76		ug/L		98	10 - 150
O,O,O-Triethyl phosphorothioate	10.0	9.40		ug/L		94	31 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tributyl phosphate	99		49 - 122
Tributyl phosphate	100		49 - 122
Triphenylphosphate	98		45 - 145
Triphenylphosphate	99		45 - 145

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCSD 180-138630/3-A
Matrix: Water
Analysis Batch: 138668

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138630

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	10.0	9.24		ug/L		92	40 - 150	1	30
Malathion	10.0	9.99		ug/L		100	50 - 150	1	30
Methyl parathion	10.0	9.39		ug/L		94	41 - 148	0	30
Parathion	10.0	9.68		ug/L		97	56 - 125	0	21
Bolstar	10.0	10.1		ug/L		101	50 - 150	2	30
Chlorpyrifos	10.0	10.0		ug/L		100	50 - 130	3	25
Coumaphos	10.0	9.64		ug/L		96	50 - 150	1	30
Diazinon	10.0	9.75		ug/L		98	50 - 150	1	30
Dichlorvos	10.0	11.1		ug/L		111	30 - 150	1	30
Dimethoate	10.0	10.8		ug/L		108	26 - 136	1	22
Disulfoton	10.0	9.89		ug/L		99	45 - 124	2	30
EPN	10.0	9.26		ug/L		93	50 - 150	1	30
Mocap	10.0	9.98		ug/L		100	40 - 150	1	30
Famphur	10.0	9.65		ug/L		97	52 - 131	2	24
Fensulfothion	10.0	10.8		ug/L		108	38 - 150	2	30
Fenthion	10.0	9.95		ug/L		99	10 - 150	4	30
Mevinphos	10.0	9.66		ug/L		97	30 - 150	1	30
Phorate	10.0	10.0		ug/L		100	41 - 135	2	24
Ronnel	10.0	9.56		ug/L		96	50 - 150	1	30
Stirophos	10.0	9.33		ug/L		93	50 - 150	0	30
Sulfotepp	10.0	10.0		ug/L		100	56 - 128	2	23
Thionazin	10.0	9.91		ug/L		99	44 - 128	1	21
Tokuthion	10.0	9.72		ug/L		97	50 - 150	2	30
Trichloronate	10.0	9.83		ug/L		98	10 - 150	1	30
O,O,O-Triethyl phosphorothioate	10.0	9.54		ug/L		95	31 - 131	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tributyl phosphate	*98*		*49 - 122*
Tributyl phosphate	*100*		*49 - 122*
Triphenylphosphate	*96*		*45 - 145*
Triphenylphosphate	*98*		*45 - 145*

Method: Organotins/GC - Organotins (GC/FPD)

Lab Sample ID: MB 200-86884/1-A
Matrix: Water
Analysis Batch: 87797

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 86884

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.050	0.050	ug/L		04/15/15 09:36	05/04/15 15:08	1
Tributyltin	ND		0.045	0.045	ug/L		04/15/15 09:36	05/04/15 15:08	1
Dibutyltin	ND		0.039	0.039	ug/L		04/15/15 09:36	05/04/15 15:08	1
Monobutyltin	ND	cn	0.62	0.62	ug/L		04/15/15 09:36	05/04/15 15:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*78*		*15 - 150*	*04/15/15 09:36*	*05/04/15 15:08*	*1*

Method: Organotins/GC - Organotins (GC/FPD) (Continued)

Lab Sample ID: MB 200-86884/1-A
Matrix: Water
Analysis Batch: 87797

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 86884

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tripentyltin	90		15 - 150	04/15/15 09:36	05/04/15 15:08	1

Lab Sample ID: LCS 200-86884/2-A
Matrix: Water
Analysis Batch: 87797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 86884

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Tetrabutyltin			0.500	0.284		ug/L		57	30 - 150		
Tributyltin			0.445	0.363		ug/L		82	30 - 150		
Dibutyltin			0.385	0.214		ug/L		56	30 - 150		
Monobutyltin			1.55	ND	* cn	ug/L		4	10 - 48		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tripentyltin	81		15 - 150
Tripentyltin	67		15 - 150

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-139169/1-A
Matrix: Water
Analysis Batch: 139903

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 139169

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		30	2.6	ug/L		04/21/15 12:22	04/27/15 13:44	1
Arsenic	ND		1.0	0.29	ug/L		04/21/15 12:22	04/27/15 13:44	1
Barium	ND		10	0.098	ug/L		04/21/15 12:22	04/27/15 13:44	1
Beryllium	ND		1.0	0.037	ug/L		04/21/15 12:22	04/27/15 13:44	1
Cadmium	ND		1.0	0.11	ug/L		04/21/15 12:22	04/27/15 13:44	1
Calcium	14.3	J	500	2.8	ug/L		04/21/15 12:22	04/27/15 13:44	1
Chromium	ND		2.0	0.54	ug/L		04/21/15 12:22	04/27/15 13:44	1
Cobalt	ND		0.50	0.026	ug/L		04/21/15 12:22	04/27/15 13:44	1
Copper	ND		2.0	0.24	ug/L		04/21/15 12:22	04/27/15 13:44	1
Iron	ND		50	6.1	ug/L		04/21/15 12:22	04/27/15 13:44	1
Silver	ND		1.0	0.036	ug/L		04/21/15 12:22	04/27/15 13:44	1
Potassium	9.89	J	500	5.8	ug/L		04/21/15 12:22	04/27/15 13:44	1
Magnesium	ND		500	1.2	ug/L		04/21/15 12:22	04/27/15 13:44	1
Sodium	51.9	J	500	3.8	ug/L		04/21/15 12:22	04/27/15 13:44	1
Nickel	ND		1.0	0.17	ug/L		04/21/15 12:22	04/27/15 13:44	1
Lead	ND		1.0	0.019	ug/L		04/21/15 12:22	04/27/15 13:44	1
Antimony	ND		2.0	0.019	ug/L		04/21/15 12:22	04/27/15 13:44	1
Selenium	ND		5.0	0.42	ug/L		04/21/15 12:22	04/27/15 13:44	1
Thallium	ND		1.0	0.015	ug/L		04/21/15 12:22	04/27/15 13:44	1
Zinc	ND		5.0	0.96	ug/L		04/21/15 12:22	04/27/15 13:44	1
Vanadium	ND		1.0	0.082	ug/L		04/21/15 12:22	04/27/15 13:44	1
Manganese	ND		5.0	0.039	ug/L		04/21/15 12:22	04/27/15 13:44	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-139169/2-A
Matrix: Water
Analysis Batch: 139903

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 139169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	1720		ug/L		86	80 - 120
Arsenic	40.0	37.8		ug/L		95	80 - 120
Barium	2000	1810		ug/L		90	80 - 120
Beryllium	50.0	44.5		ug/L		89	80 - 120
Cadmium	50.0	47.0		ug/L		94	80 - 120
Calcium	50000	46500		ug/L		93	80 - 120
Chromium	200	187		ug/L		93	80 - 120
Cobalt	500	459		ug/L		92	80 - 120
Copper	250	231		ug/L		92	80 - 120
Iron	1000	922		ug/L		92	80 - 120
Silver	50.0	46.9		ug/L		94	80 - 120
Potassium	50000	46400		ug/L		93	80 - 120
Magnesium	50000	42700		ug/L		85	80 - 120
Sodium	50000	44900		ug/L		90	80 - 120
Nickel	500	460		ug/L		92	80 - 120
Lead	20.0	19.7		ug/L		99	80 - 120
Antimony	500	463		ug/L		93	80 - 120
Selenium	10.0	10.5		ug/L		105	80 - 120
Thallium	50.0	48.6		ug/L		97	80 - 120
Zinc	500	452		ug/L		90	80 - 120
Vanadium	500	462		ug/L		92	80 - 120
Manganese	500	430		ug/L		86	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-139783/1-A
Matrix: Water
Analysis Batch: 139925

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139783

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		04/27/15 13:35	04/28/15 13:16	1

Lab Sample ID: LCS 180-139783/2-A
Matrix: Water
Analysis Batch: 139925

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139783

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.60		ug/L		104	80 - 120

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 180-140373/1-A
Matrix: Water
Analysis Batch: 140521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140373

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		0.10	0.086	mg/L		05/04/15 09:30	05/04/15 13:28	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 180-140373/2-A
Matrix: Water
Analysis Batch: 140521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140373

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	2.00	1.99		mg/L		100	90 - 110

Lab Sample ID: 180-42930-1 MS
Matrix: Water
Analysis Batch: 140521

Client Sample ID: EQB-CATCHER
Prep Type: Total/NA
Prep Batch: 140373

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	0.13	F1	2.00	1.99		mg/L		93	90 - 110

Lab Sample ID: 180-42930-1 MSD
Matrix: Water
Analysis Batch: 140521

Client Sample ID: EQB-CATCHER
Prep Type: Total/NA
Prep Batch: 140373

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia, distilled	0.13	F1	2.00	1.88	F1	mg/L		87	90 - 110	6	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 180-140363/52
Matrix: Water
Analysis Batch: 140363

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/02/15 09:10	1

Lab Sample ID: LCS 180-140363/51
Matrix: Water
Analysis Batch: 140363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	4.00	4.02		mg/L		101	90 - 110

Method: 9014 - Cyanide

Lab Sample ID: MB 180-139129/4-A
Matrix: Water
Analysis Batch: 139285

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139129

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		10	2.5	ug/L		04/22/15 08:00	04/22/15 10:19	1

Lab Sample ID: HLCS 180-139129/2-A
Matrix: Water
Analysis Batch: 139285

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139129

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	250	241		ug/L		96	90 - 110

Method: 9014 - Cyanide (Continued)

Lab Sample ID: LCS 180-139129/3-A
Matrix: Water
Analysis Batch: 139285

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139129

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	200	188		ug/L		94	85 - 115

Lab Sample ID: LLCS 180-139129/1-A
Matrix: Water
Analysis Batch: 139285

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139129

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	50.0	47.3		ug/L		95	90 - 110

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-138206/1-A
Matrix: Water
Analysis Batch: 138377

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138206

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		3.0	0.59	mg/L		04/11/15 05:00	04/11/15 11:37	1

Lab Sample ID: LCS 180-138206/2-A
Matrix: Water
Analysis Batch: 138377

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138206

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	19.2	16.9		mg/L		88	85 - 115

Method: SM 5310C - TOC

Lab Sample ID: MB 180-139630/29
Matrix: Water
Analysis Batch: 139630

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1.0	0.19	mg/L			04/23/15 21:37	1

Lab Sample ID: LCS 180-139630/27
Matrix: Water
Analysis Batch: 139630

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	20.0	19.2		mg/L		96	80 - 120

Lab Sample ID: LCSD 180-139630/28
Matrix: Water
Analysis Batch: 139630

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	20.0	19.2		mg/L		96	80 - 120	0	20

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-177537/10-A
Matrix: Water
Analysis Batch: 177697

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 177537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		0.10	0.050	mg/L		04/23/15 05:37	04/23/15 13:45	1

Lab Sample ID: LCS 240-177537/11-A
Matrix: Water
Analysis Batch: 177697

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 177537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	1.69	1.81		mg/L		107	53 - 134

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total

Lab Sample ID: MB 240-177633/1-A
Matrix: Water
Analysis Batch: 177881

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 177633

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		04/23/15 11:00	04/24/15 12:29	1

Lab Sample ID: LCS 240-177633/2-A
Matrix: Water
Analysis Batch: 177881

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 177633

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	7.77	7.68		mg/L		99	65 - 144

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-42930-1

CBBT Thimble Shoal

Lot #: H5D140417

Carrie Gamber

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TESTAMERICA LABORATORIES, INC.

Bruce Wagner

Bruce Wagner
Project Manager

April 27, 2015

ANALYTICAL METHODS SUMMARY

H5D140417

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

SAMPLE SUMMARY

H5D140417

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M6K5D	001	EQB-CATCHER	04/09/15	16:30

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
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The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the

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concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

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Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration

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W = amount of sample extracted (grams or liters)
S = percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: EQB-CATCHER

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D140417 - 001	**Work Order #....:**	M6K5D1AA	**Matrix.....:**	WH
Date Sampled....:	04/09/15	**Date Received....:**	04/14/15	**Units....:**	pg/L
Prep Date....:	04/16/15			**Dilution Factor:**	1
Prep Batch # ....:	5106027				
Initial Wgt/Vol :	1055 mL	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/23/15	1	ND	9.5	0.40	1.0	0.40
1,2,3,7,8-PeCDD	4/23/15	1	ND	47	0.23	0.5	0.12
1,2,3,4,7,8-HxCDD	4/23/15	1	ND	47	0.33	0.1	0.033
1,2,3,6,7,8-HxCDD	4/23/15	1	ND	47	0.34	0.1	0.034
1,2,3,7,8,9-HxCDD	4/23/15	1	ND	47	0.31	0.1	0.031
1,2,3,4,6,7,8-HpCDD	**4/23/15**	**1**	**2.5 B J**	**47**	**0.55**	**0.01**	**0.025**
OCDD	**4/23/15**	**1**	**12 Q B J**	**95**	**0.71**	**0.001**	**0.012**
2,3,7,8-TCDF	4/23/15	1	ND	9.5	0.28	0.1	0.028
1,2,3,7,8-PeCDF	4/23/15	1	ND	47	0.32	0.05	0.016
2,3,4,7,8-PeCDF	4/23/15	1	ND	47	0.32	0.5	0.16
1,2,3,4,7,8-HxCDF	4/23/15	1	ND	47	0.29	0.1	0.029
1,2,3,6,7,8-HxCDF	4/23/15	1	ND	47	0.27	0.1	0.027
2,3,4,6,7,8-HxCDF	4/23/15	1	ND	47	0.28	0.1	0.028
1,2,3,7,8,9-HxCDF	4/23/15	1	ND	47	0.33	0.1	0.033
1,2,3,4,6,7,8-HpCDF	**4/23/15**	**1**	**1.3 Q B J**	**47**	**0.24**	**0.01**	**0.013**
1,2,3,4,7,8,9-HpCDF	**4/23/15**	**1**	**1.1 Q B J**	**47**	**0.31**	**0.01**	**0.011**
OCDF	**4/23/15**	**1**	**6.0 Q B J**	**95**	**0.27**	**0.001**	**0.0060**
Total TEQ Concentration							**1.0**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	82	(25 - 164)
13C-1,2,3,7,8-PeCDD	80	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	88	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	96	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	106	(23 - 140)
13C-OCDD	92	(17 - 157)
13C-2,3,7,8-TCDF	85	(24 - 169)
13C-1,2,3,7,8-PeCDF	87	(24 - 185)
13C-2,3,4,7,8-PeCDF	79	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	87	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	83	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	93	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	97	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	92	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	102	(26 - 138)
13C-OCDF	92	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: EQB-CATCHER

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	103	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D160000 - 027B	**Work Order #....:**	M6L021AA	**Matrix....:**	WATER
Dilution Factor:	1				
Prep Date....:	04/16/15	**Analysis Date....:**	04/21/15		
Prep Batch # ....:	5106027				
Initial Wgt/Vol :	1000 mL	**Instrument ID....:**	D11A	**Method:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	0.27	pg/L
1,2,3,7,8-PeCDD	**0.32**	**Q J**	**50**	**0.22**	**pg/L**
1,2,3,4,7,8-HxCDD	ND		50	0.35	pg/L
1,2,3,6,7,8-HxCDD	ND		50	0.35	pg/L
1,2,3,7,8,9-HxCDD	ND		50	0.32	pg/L
1,2,3,4,6,7,8-HpCDD	**4.8**	**J**	**50**	**0.45**	**pg/L**
OCDD	**23**	**J**	**100**	**0.44**	**pg/L**
2,3,7,8-TCDF	ND		10	0.25	pg/L
1,2,3,7,8-PeCDF	ND		50	0.26	pg/L
2,3,4,7,8-PeCDF	ND		50	0.24	pg/L
1,2,3,4,7,8-HxCDF	ND		50	0.30	pg/L
1,2,3,6,7,8-HxCDF	**0.72**	**Q J**	**50**	**0.30**	**pg/L**
2,3,4,6,7,8-HxCDF	ND		50	0.30	pg/L
1,2,3,7,8,9-HxCDF	**0.81**	**Q J**	**50**	**0.31**	**pg/L**
1,2,3,4,6,7,8-HpCDF	**3.1**	**J**	**50**	**0.21**	**pg/L**
1,2,3,4,7,8,9-HpCDF	**2.5**	**J**	**50**	**0.27**	**pg/L**
OCDF	**12**	**J**	**100**	**0.14**	**pg/L**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	84	25 - 164
13C-1,2,3,7,8-PeCDD	78	25 - 181
13C-1,2,3,4,7,8-HxCDD	89	32 - 141
13C-1,2,3,6,7,8-HxCDD	87	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	113	23 - 140
13C-OCDD	104	17 - 157
13C-2,3,7,8-TCDF	92	24 - 169
13C-1,2,3,7,8-PeCDF	80	24 - 185
13C-2,3,4,7,8-PeCDF	77	21 - 178
13C-1,2,3,4,7,8-HxCDF	90	26 - 152
13C-1,2,3,6,7,8-HxCDF	87	26 - 123
13C-2,3,4,6,7,8-HxCDF	93	28 - 136
13C-1,2,3,7,8,9-HxCDF	111	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	104	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	120	26 - 138
13C-OCDF	119	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D160000 - 027B	**Work Order #....:**	M6L021AA	**Matrix....:**	WATER
Dilution Factor:	1				
Prep Date....:	04/16/15	**Analysis Date....:**	04/21/15		
Prep Batch # ....:	5106027				
Initial Wgt/Vol :	1000 mL	**Instrument ID....:**	D11A	**Method:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	108	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D140417	**Work Order # ...:**	M6L021AC-LCS M6L021AD-LCSD	**Matrix .....:**	WATER
LCS Lot-Sample# :	H5D160000 - 027				
Prep Date .....:	04/16/15	**Analysis Date ..:**	04/21/15		
Prep Batch # ...:	5106027				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D11A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	1000 mL				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	**200**	**212**	**pg/L**	**106**		**(67 - 158)**		
	200	**219**	**pg/L**	**109**		**(67 - 158)**	**3.2**	**(0 - 25)**
1,2,3,7,8-PeCDD	**1000**	**1070**	**pg/L**	**107**	**B**	**(70 - 142)**		
	1000	**1100**	**pg/L**	**110**	**B**	**(70 - 142)**	**3.3**	**(0 - 25)**
1,2,3,4,7,8-HxCDD	**1000**	**987**	**pg/L**	**99**		**(70 - 164)**		
	1000	**1050**	**pg/L**	**105**		**(70 - 164)**	**6.2**	**(0 - 25)**
1,2,3,6,7,8-HxCDD	**1000**	**978**	**pg/L**	**98**		**(76 - 134)**		
	1000	**1080**	**pg/L**	**108**		**(76 - 134)**	**9.8**	**(0 - 25)**
1,2,3,7,8,9-HxCDD	**1000**	**1050**	**pg/L**	**105**		**(64 - 162)**		
	1000	**1130**	**pg/L**	**113**		**(64 - 162)**	**7.6**	**(0 - 25)**
1,2,3,4,6,7,8-HpCDD	**1000**	**929**	**pg/L**	**93**	**B**	**(70 - 140)**		
	1000	**992**	**pg/L**	**99**	**B**	**(70 - 140)**	**6.6**	**(0 - 25)**
OCDD	**2000**	**1950**	**pg/L**	**97**	**B**	**(78 - 144)**		
	2000	**2000**	**pg/L**	**100**	**B**	**(78 - 144)**	**2.5**	**(0 - 25)**
2,3,7,8-TCDF	**200**	**202**	**pg/L**	**101**		**(75 - 158)**		
	200	**216**	**pg/L**	**108**		**(75 - 158)**	**6.4**	**(0 - 25)**
1,2,3,7,8-PeCDF	**1000**	**980**	**pg/L**	**98**		**(80 - 134)**		
	1000	**1000**	**pg/L**	**100**		**(80 - 134)**	**2.4**	**(0 - 25)**
2,3,4,7,8-PeCDF	**1000**	**1020**	**pg/L**	**102**		**(68 - 160)**		
	1000	**1060**	**pg/L**	**106**		**(68 - 160)**	**3.3**	**(0 - 25)**
1,2,3,4,7,8-HxCDF	**1000**	**955**	**pg/L**	**96**		**(72 - 134)**		
	1000	**1020**	**pg/L**	**102**		**(72 - 134)**	**6.3**	**(0 - 25)**
1,2,3,6,7,8-HxCDF	**1000**	**960**	**pg/L**	**96**	**B**	**(84 - 130)**		
	1000	**995**	**pg/L**	**99**	**B**	**(84 - 130)**	**3.6**	**(0 - 25)**
2,3,4,6,7,8-HxCDF	**1000**	**969**	**pg/L**	**97**		**(70 - 156)**		
	1000	**1030**	**pg/L**	**103**		**(70 - 156)**	**5.8**	**(0 - 25)**
1,2,3,7,8,9-HxCDF	**1000**	**896**	**pg/L**	**90**	**B**	**(78 - 130)**		
	1000	**987**	**pg/L**	**99**	**B**	**(78 - 130)**	**9.6**	**(0 - 25)**
1,2,3,4,6,7,8-HpCDF	**1000**	**921**	**pg/L**	**92**	**B**	**(82 - 122)**		
	1000	**983**	**pg/L**	**98**	**B**	**(82 - 122)**	**6.4**	**(0 - 25)**
1,2,3,4,7,8,9-HpCDF	**1000**	**943**	**pg/L**	**94**	**B**	**(78 - 138)**		
	1000	**1010**	**pg/L**	**101**	**B**	**(78 - 138)**	**7.0**	**(0 - 25)**
OCDF	**2000**	**1820**	**pg/L**	**91**	**B**	**(63 - 170)**		
	2000	**1940**	**pg/L**	**97**	**B**	**(63 - 170)**	**6.3**	**(0 - 25)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	85	(20 - 175)
	82	(20 - 175)
13C-1,2,3,7,8-PeCDD	78	(21 - 227)
	73	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	90	(21 - 193)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H5D140417 **Work Order # ...:** M6L021AC-LCS **Matrix .....:** WATER
LCS Lot-Sample# : H5D160000 - 027 M6L021AD-LCSD

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
	86	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	90	(25 - 163)
	83	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	111	(26 - 166)
	111	(26 - 166)
13C-OCDD	101	(13 - 199)
	102	(13 - 199)
13C-2,3,7,8-TCDF	92	(22 - 152)
	88	(22 - 152)
13C-1,2,3,7,8-PeCDF	83	(21 - 192)
	84	(21 - 192)
13C-2,3,4,7,8-PeCDF	80	(13 - 328)
	76	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	91	(19 - 202)
	85	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	86	(21 - 159)
	85	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	94	(22 - 176)
	90	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	108	(17 - 205)
	105	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	105	(21 - 158)
	97	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	109	(20 - 186)
	105	(20 - 186)
13C-OCDF	110	(13 - 199)
	108	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	102	(31 - 191)
	104	(31 - 191)

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Sample Receipt Documentation

HSD140417

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195491.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-42930-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/4/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EQB-CATCHER (180-42930-1)	4/9/15	16:30 Eastern		Water			X	4	pc/NA pH 7

CUSTODY SEALS INTACT
RECEIVED AT AT 0.3, 2.5 / CT 0.3, 2.5 C
DKN 4-14-15
2 COOLERS FEDEX # 568237254730

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Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
				4-14-15 09:30	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

17 of 378

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSN1404117

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☑ 1g Other:	IC, COC LIST 4 CONTAINERS, ONLY RECEIVED 2
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID: 565 Correction factor: 0.0	✓			☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____ ☐ 2c Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ 3a See box 3A for pH Preservation ☐ 3b Other:	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	✓			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?			✓	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: 4252 2017/07	✓			☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ 10a Holding time expired	**Labeling Verified by:** **Date:**
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?	✓			If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	**pH test strip lot number:** HC432654
13. Are the shipping containers intact?	✓			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	✓			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?		✓		☐ 19a Other	

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: _____

Sample Receiving Associate: _____ Date: 4-14-15

QA026R29.doc, 041115

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSD140417

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195491.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-42930-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/4/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EQB-CATCHER (180-42930-1)	4/9/15	16:30 Eastern		Water			X	4	RC/NA PH 7

CUSTODY SEALS INTACT
RECEIVED AT RT 0.3, 2.5 / CT 0.3, 2.5 C
DMA 4-14-15
2 COOLERS FEDEX # 568237254730

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4/14/15			4-14-15 09:30	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSN140417

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☑ 1g Other:	1g, COC LIST 4 CONTAINERS, ONLY RECEIVED 2
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID: 5057 Correction factor: 0.0	✓			☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____ ☐ 2c Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ 3a See box 3A for pH Preservation ☐ 3b Other:	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	✓			☐ 5a Samples received-not on COC ☐ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?			✓	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: 4252 2017/07	✓			☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ 10a Holding time expired	**Labeling Verified by:** **Date:**
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?	✓			If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	**pH test strip lot number:** HC432654
13. Are the shipping containers intact?	✓			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	✓			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?		✓		☐ 19a Other	

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: _____

Sample Receiving Associate: _____ Date: 4-14-15

QA026R29.doc, 041115

Subcontract Data

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement — TestAmerica Quote #: 18010105

Billing (Project #, phase): 15204.01, 0007

Page 1 of 1

Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Semivolatiles and PAHs SW846 8270C	Metals SW846 6020/7471A	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Butyl Tins Unger Method	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon	Remarks
4/9/15	1630	X		EQB-CATCHER	19	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SEE PROJECT SPECIFIC ANALYTE LIST

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

180-42930 Chain of Custody

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
	4/9/15 1630		
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time
	4/9/15 1700		4/10/15 945

OCEAN WATER
Parallel Thimble Shoal Tunnel

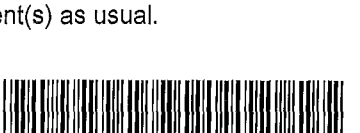
UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.



180-42930 Waybill

FOLD HERE

MARTHA MCCAULEY
4105847000
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

60 LBS 1 OF 1

SHIP TO:
CARRIE GAMBER
TESTAMERICA - PITTSBURGH
301 ALPHA DRIVE
PITTSBURGH PA 15238-2907

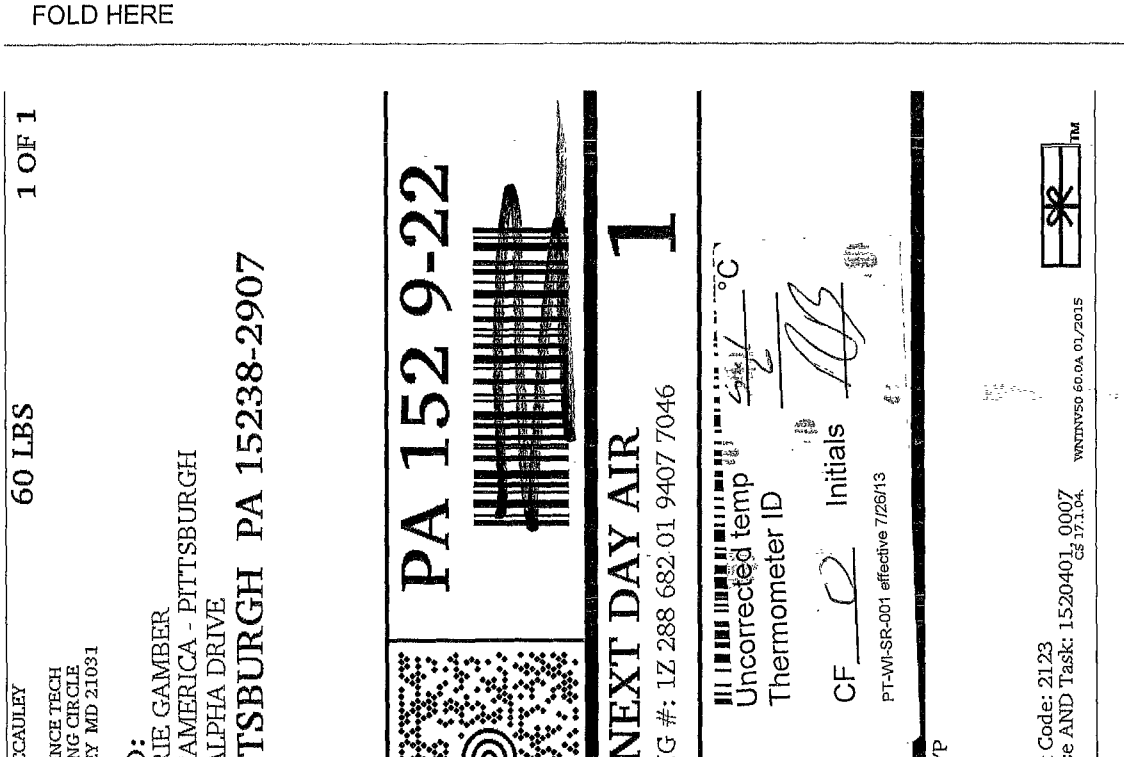
PA 152 9-22

UPS NEXT DAY AIR 1
TRACKING #: 1Z 288 682 01 9407 7046

Uncorrected temp 2 °C
Thermometer ID
CF 0 Initials
PT-WI-SR-001 effective 7/26/13

BILLING: P/P

Department Code: 2123
Project Phase AND Task: 1520401_0007
CS 17.1.04. WNTNV50 60.0A 01/2015



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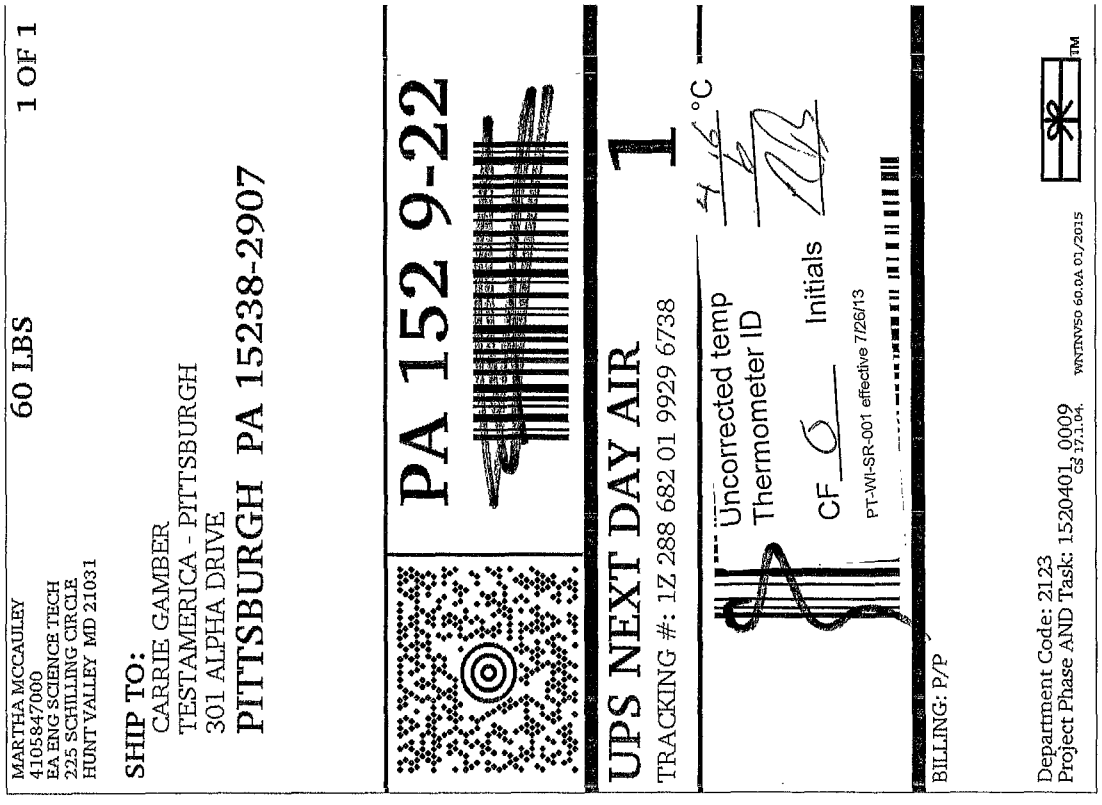
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE



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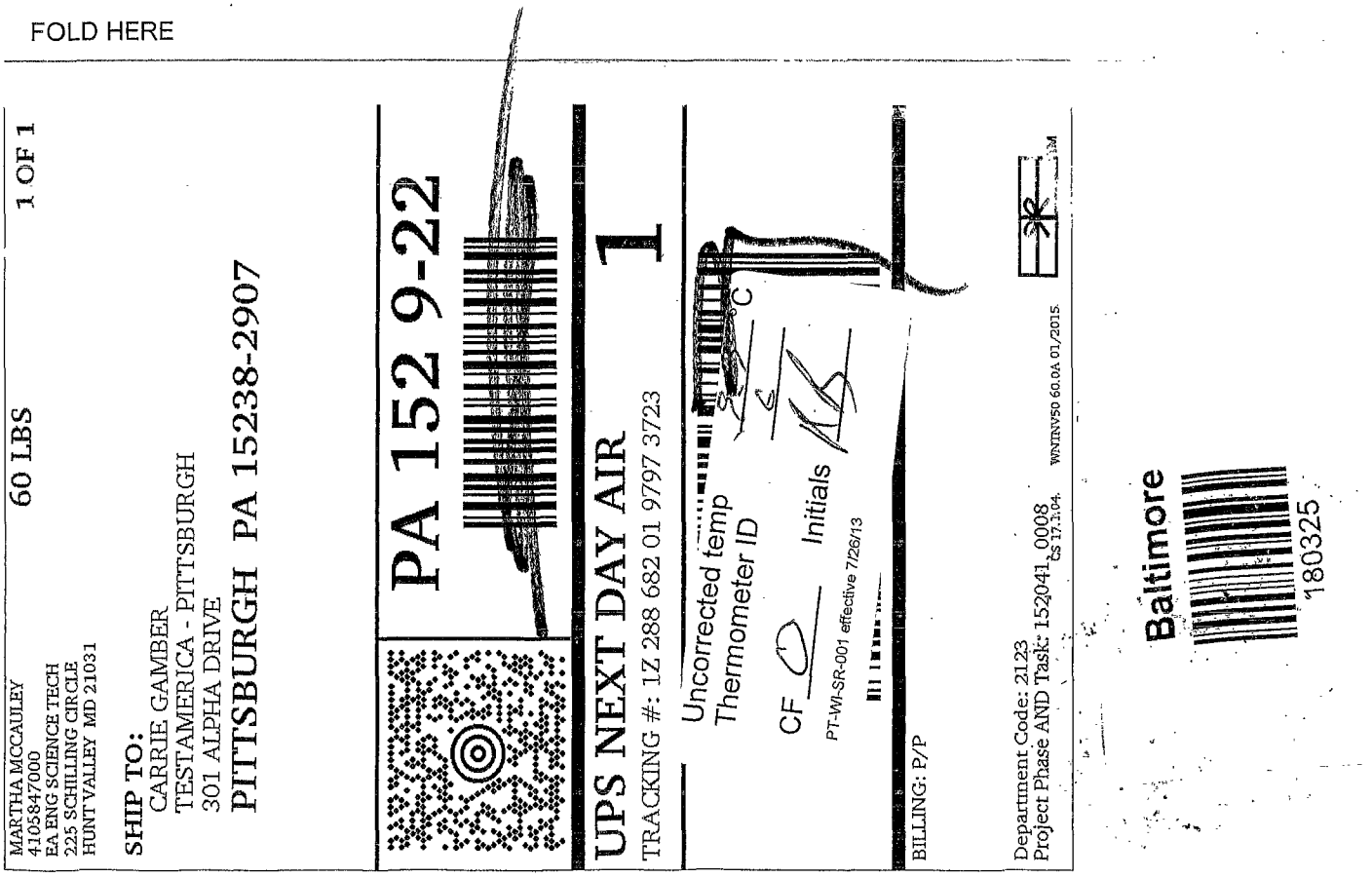
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE



Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-42930-1

Login Number: 42930
List Number: 1
Creator: Kovitch, Christina M

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-42930-1

Login Number: 42930
List Number: 2
Creator: Atherton, Joel E

List Source: TestAmerica Burlington
List Creation: 04/14/15 12:20 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	TAMPER EVIDENT TAPE
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.6ºC, 2.8ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

180-42930 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	COC No: 180-195497.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.			Job #: 180-42930-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 5/4/2015		
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email:	WO #:		
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_GC/3510C_14d Organotins (GC/FPD)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EQB-CATCHER (180-42930-1)	4/9/15	16:30 Eastern		Water			X	2	

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 4/13/15	Company	Received by:	Date/Time: 4/14/15 1020	Company TABV
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

ORIGIN ID:AGCA (412) 963-7058
SAMPLE RECEIVING
TEST AMERICA LABORATORIES INC
301 ALPHA DR

PITTSBURGH, PA 152381330
UNITED STATES US

SHIP DATE
ACTWGT: 5
CAD: 7417

BILL RECIP

RT 716
FZ 717
1
10:30

TO SHIPPING/RECEIVING
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: S180-23515

FedEx Express

E

J141214073001uv

1 of 2
TRK# 0201 5682 3725 4752
MASTER

XH BTVA

TUE - 14 APR 10:30A
PRIORITY OVERNIGHT

05403
VT-US BTV

TUE - 14 APR 10:30A
PRIORITY OVERNIGHT
05403
VT-US
BTV

ORIGIN ID:AGCA (412) 963-7058
SAMPLE RECEIVING
TEST AMERICA LABORATORIES INC
301 ALPHA DR

PITTSBURGH, PA 152381330
UNITED STATES US

SHIP DATE: 13APR15
ACTWGT: 50.0 LB MAN
CAD: 741733/CAFE2807

BILL RECIPIENT

TO SHIPPING/RECEIVING
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: S180-23515

FedEx Express

E

J141214073001uv

2 of 2
MPS# 0263 5682 3725 4763
Mstr# 5682 3725 4752 0201

XH BTVA

TUE - 14 APR 10:30A
PRIORITY OVERNIGHT

05403
VT-US BTV

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195487.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-42930-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 5/4/2015			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

C 015

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_P_E/365_Prep Total Phosphorus as P	SM4500Norg_C/SM4500Norg_C_P Nitrogen-Total Kjeldahl	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EQB-CATCHER (180-42930-1)	4/9/15	16:30 Eastern		Water			X	X	1	500(5)

Page 2170 of 2178

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/13/15			4/14/15 9:45	TAL Canton
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client TA/PiH Site Name _____ Cooler unpacked by: [signature]

Cooler Received on 4/14/15 Opened on 4/14/15

FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt
   - ~~IR GUN# A (CF +4.0 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C~~
   - IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
   - ~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C~~
   - IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C

   ☒ See Multiple Cooler Form
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
   - -Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
   - -Were custody seals on the bottle(s)? Yes No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the sampler(s) clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# **HC425511**
12. Were VOAs on the COC? Yes No
13. Were air bubbles >6 mm in any VOA vials? Yes No NA
14. Was a trip blank present in the cooler(s)? Trip Blank Lot #_____ Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: [signature]

15. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

Ref: SOP NC-SC-0005, Sample Receiving
X:\Document Control\SOPs\Work Instructions\Word Version Work Instructions\WI-NC-099P-020915 Cooler Receipt Form.doc djl

TestAmerica Multiple Cooler Receipt Form/Narrative Login # : _____
Canton Facility

Cooler #	IR Gun #	Observed Temp °C	Corrected Temp °C	Coolant
Client	4	-13.2	-12.7	DRY ICE
		1.6	2.1	ICE
		3.2	3.7	
		2.2	2.7	

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195490.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-42954-1
Address: 4101 Shuffel Street NW,	Due Date Requested: 4/28/2015			Preservation Codes:
City: North Canton	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: OH, 44720	PO #:			
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	WO #:			Other:
Email:	Project #: 18014348			
Project Name: Confined Aquatic Disposal (CAD) Pilot St	SSOW#:			
Site:				

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_P_E/365_Prep Total Phosphorus as P	SM4500Norg_C/SM4500Norg_C_P Nitrogen, Total Kjeldahl	Total Number of containers	Special Instructions/Note:
			Preservation Code:							C015
BH15-FTM-WAT (180-42954-1)	4/9/15	14:43 Eastern		Water			X	X	1	(1X500ml) 1
BH15-SGT-WAT (180-42954-2)	4/9/15	15:44 Eastern		Water			X	X	1	

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4/13/15			4/14/15 9:45	TAHCanton
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative Login # : _____
Canton Facility

Client TA/Pitt Site Name _____ Cooler unpacked by:

Cooler Received on 4/14/15 Opened on 4/14/15

FedEx: 1st Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ Foam Box (Client Cooler) Box Other _____

Packing material used: ~~Bubble Wrap~~ Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

~~IR GUN# A (CF +4.0 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C~~

IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C~~

IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

☒ See Multiple Cooler Form

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 (Yes) No
   -Were custody seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   -Were custody seals on the bottle(s)? Yes (No)
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the sampler(s) clearly identified on the COC? (Yes) No
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels be reconciled with the COC? (Yes) No
9. Were correct bottle(s) used for the test(s) indicated? (Yes) No
10. Sufficient quantity received to perform indicated analyses? (Yes) No
11. Were sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# **HC425511**
12. Were VOAs on the COC? Yes (No)
13. Were air bubbles >6 mm in any VOA vials? Yes No (NA)
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes (No)

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

15. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

TestAmerica Multiple Cooler Receipt Form/Narrative Login # : _____
Canton Facility

Cooler #	IR Gun #	Observed Temp °C	Corrected Temp °C	Coolant
Client	4	-13.2	-12.7	DRY ICE
1	1	1.6	2.1	ICE
1	1	3.2	3.7	1
1	1	2.2	2.7	1

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195490.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-42961-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 4/28/2015			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Confined Aquatic Disposal (CAD) Pilot St	Project #: 18014348			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

C010

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_P_E/365_Prep Total Phosphorus as P	SM4500Norg_C/SM4500Norg_C_P Nitrogen, Total Kjeldahl	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
BH15-FTM1 (180-42961-1)	4/9/15	10:00 Eastern		Sediment			X	X	1	1X100ml.
BH15-FTM2 (180-42961-2)	4/9/15	10:42 Eastern		Sediment			X	X	1	
BH15-FTM3 (180-42961-3)	4/9/15	11:12 Eastern		Sediment			X	X	1	
BH15-FTM-SED (180-42961-4)	4/9/15	11:24 Eastern		Sediment			X	X	1	
BH15-FTM-SED (180-42961-4MS)	4/9/15	11:24 Eastern	MS	Sediment			X	X	1	3X100ml.
BH15-FTM-SED (180-42961-4MSD)	4/9/15	11:24 Eastern	MSD	Sediment			X	X	1	
BH15-SGT1 (180-42961-5)	4/9/15	12:17 Eastern		Sediment			X	X	1	1X100ml.
BH15-SGT2 (180-42961-6)	4/9/15	12:39 Eastern		Sediment			X	X	1	
BH15-SGT3 (180-42961-7)	4/9/15	12:57 Eastern		Sediment			X	X	1	
BH15-SGT-SED (180-42961-8)	4/9/15	13:04 Eastern		Sediment			X	X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4/13/15		[signature]	4/14/15 9:45	TA Canton

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative Login # :
Canton Facility

Client TA/Pitt Site Name Cooler unpacked by:

Cooler Received on 4/14/15 Opened on 4/14/15

FedEx: 1st Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # Foam Box (Client Cooler) Box Other

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

~~IR GUN# A (CF +4.0 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

☑ See Multiple Cooler Form

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 (Yes) No
   -Were custody seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   -Were custody seals on the bottle(s)? Yes (No)
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the sampler(s) clearly identified on the COC? (Yes) No
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels be reconciled with the COC? (Yes) No
9. Were correct bottle(s) used for the test(s) indicated? (Yes) No
10. Sufficient quantity received to perform indicated analyses? (Yes) No
11. Were sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# HC425511
12. Were VOAs on the COC? Yes (No)
13. Were air bubbles >6 mm in any VOA vials? Yes No (NA)
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # Yes (No)

Contacted PM Date by via Verbal Voice Mail Other
Concerning

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

15. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.
Time preserved: Preservative(s) added/Lot number(s):

TestAmerica Multiple Cooler Receipt Form/Narrative — Login # : _____
Canton Facility

Cooler #	IR Gun #	Observed Temp °C	Corrected Temp °C	Coolant
Client	4	-13.2	-12.7	DRY ICE
"	"	1.6	2.1	ICE
"	"	3.2	3.7	"
"	"	2.2	2.7	"

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-43119-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/10/2015 4:18 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/10/2015
Revision: 1

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
cn	Refer to Case Narrative for further detail

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-43119-1 REVISED

NOTE: This report has been revised to include Manganese per EA Engineering's request.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/15/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.3 C.

SEMIVOLATILES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PESTICIDES
The continuing calibration verification (CCV) associated with batch 139113 recovered above the upper control limit for Mirex. The samples associated with this CCV were non-detect for the affected analytes; therefore, the data have been reported.

The continuing calibration verification (CCV) associated with batch 139019 recovered above the upper control limit for Endrin Ketone, 4,4-DDT, Methoxychlor and Mirex on MR-1 column and also 4,4-DDT and Methoxychlor on MR-2 column . The samples associated with this CCV were non-detect for the affected analytes; therefore, the data have been reported.

PCB CONGENERS
PCB-101 was detected in method blank MB 180-138917/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

ORGANOPHOSPHORUS PESTICIDES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ORGANOTINS
The samples in this delivery group were analyzed for alkyltins. The samples were analyzed using an internal standard method of analysis with tetra-n-propyltin as the internal standard. Peak areas were used to measure the instrument response in performing calibration and quantification. The analytical report forms correctly list the alkyltin analytes as unsubstituted alkyltin compounds. The analysis of three of the compounds employed the use of alkyltin chlorides. The results from the alkyltin chlorides required conversion factors to reflect the concentrations of the unsubstituted forms. For instance, tributyltin chloride was converted to tributyltin using a conversion factor of 0.89. Dibutyltin dichloride was converted to dibutyltin using a factor of 0.77. Monobutyltin trichloride was converted to monobutyltin using a factor of 0.62 and the surrogate, tripentyltin chloride was converted to tripentyltin using a factor of 0.90.

Monobutyltin has poor extraction efficiency exhibiting a mean recovery of typically less than 5%. The low mean recovery is typical of routine implementation of this method. Although the laboratory has reported control limits of 10-48% for this analyte these control limits are not based on historical performance and do not indicate expected performance of this analyte by this method. The laboratory does not use the recovery or performance of this compound as a basis for acceptance of the analytical batch. All analytical results, both positive and non-detects are considered qualitative values and are flagged with a cn qualifier.
EQB-CUTTER (180-43119-1), (LCS 200-87292/2-A) and (MB 200-87292/1-A)

METALS
Calcium, Potassium and Sodium were detected in method blank MB 180-139169/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

GENERAL CHEMISTRY

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SUBCONTRACT WORK

Method 1613 B Dioxins/Furans + TEQs (EA criteria): This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43119-1

Client Sample ID: EQB-CUTTER

Lab Sample ID: 180-43119-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	0.70	J	1.9	0.41	ug/L	1		8270D LL	Total/NA
Di-n-butyl phthalate	0.28	J	0.93	0.22	ug/L	1		8270D LL	Total/NA
delta-BHC	0.0022	p	0.0012	0.00036	ug/L	1		8081B_LL	Total/NA
2,4'-DDE	0.00019	J p	0.0012	0.00014	ug/L	1		8081B_LL	Total/NA
PCB-87	0.11	J p	0.94	0.075	ng/L	1		8082A	Total/NA
PCB-195	0.29	J	0.94	0.097	ng/L	1		8082A	Total/NA
Aluminum	16	J	30	2.6	ug/L	1		6020A	Total Recoverable
Calcium	110	J B	500	2.8	ug/L	1		6020A	Total Recoverable
Chromium	7.7		2.0	0.54	ug/L	1		6020A	Total Recoverable
Cobalt	0.39	J	0.50	0.026	ug/L	1		6020A	Total Recoverable
Copper	0.89	J	2.0	0.24	ug/L	1		6020A	Total Recoverable
Iron	640		50	6.1	ug/L	1		6020A	Total Recoverable
Magnesium	5.1	J	500	1.2	ug/L	1		6020A	Total Recoverable
Sodium	310	J B	500	3.8	ug/L	1		6020A	Total Recoverable
Nickel	0.66	J	1.0	0.17	ug/L	1		6020A	Total Recoverable
Vanadium	0.35	J	1.0	0.082	ug/L	1		6020A	Total Recoverable
Zinc	4.5	J	5.0	0.96	ug/L	1		6020A	Total Recoverable
Manganese	13		5.0	0.039	ug/L	1		6020A	Total Recoverable
Nitrate Nitrite as N	0.11		0.10	0.022	mg/L	1		353.2	Total/NA
Total Organic Carbon - Duplicates	0.50	J	1.0	0.19	mg/L	1		SM 5310C	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: EQB-CUTTER
Date Collected: 04/14/15 14:45
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43119-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.4	ug/L		04/20/15 12:37	04/24/15 18:07	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		04/20/15 12:37	04/24/15 18:07	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		04/20/15 12:37	04/24/15 18:07	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		04/20/15 12:37	04/24/15 18:07	1
Benzoic acid	ND		4.6	1.5	ug/L		04/20/15 12:37	04/24/15 18:07	1
Bis(2-chloroethyl)ether	ND		0.93	0.029	ug/L		04/20/15 12:37	04/24/15 18:07	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		04/20/15 12:37	04/24/15 18:07	1
Bis(2-ethylhexyl) phthalate	**0.70**	**J**	1.9	0.41	ug/L		04/20/15 12:37	04/24/15 18:07	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		04/20/15 12:37	04/24/15 18:07	1
Butyl benzyl phthalate	ND		0.93	0.20	ug/L		04/20/15 12:37	04/24/15 18:07	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		04/20/15 12:37	04/24/15 18:07	1
2-Chloronaphthalene	ND		0.19	0.028	ug/L		04/20/15 12:37	04/24/15 18:07	1
2-Chlorophenol	ND		0.93	0.21	ug/L		04/20/15 12:37	04/24/15 18:07	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		04/20/15 12:37	04/24/15 18:07	1
Di-n-butyl phthalate	**0.28**	**J**	0.93	0.22	ug/L		04/20/15 12:37	04/24/15 18:07	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		04/20/15 12:37	04/24/15 18:07	1
2,4-Dichlorophenol	ND		0.93	0.062	ug/L		04/20/15 12:37	04/24/15 18:07	1
Diethyl phthalate	ND		0.93	0.27	ug/L		04/20/15 12:37	04/24/15 18:07	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		04/20/15 12:37	04/24/15 18:07	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		04/20/15 12:37	04/24/15 18:07	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		04/20/15 12:37	04/24/15 18:07	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		04/20/15 12:37	04/24/15 18:07	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		04/20/15 12:37	04/24/15 18:07	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		04/20/15 12:37	04/24/15 18:07	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.93	0.11	ug/L		04/20/15 12:37	04/24/15 18:07	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		04/20/15 12:37	04/24/15 18:07	1
Hexachlorobenzene	ND		0.93	0.056	ug/L		04/20/15 12:37	04/24/15 18:07	1
Hexachlorobutadiene	ND		0.93	0.087	ug/L		04/20/15 12:37	04/24/15 18:07	1
Hexachloroethane	ND		0.93	0.13	ug/L		04/20/15 12:37	04/24/15 18:07	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		04/20/15 12:37	04/24/15 18:07	1
Isophorone	ND		0.93	0.068	ug/L		04/20/15 12:37	04/24/15 18:07	1
2-Methylphenol	ND		0.93	0.17	ug/L		04/20/15 12:37	04/24/15 18:07	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		04/20/15 12:37	04/24/15 18:07	1
Nitrobenzene	ND		1.9	0.14	ug/L		04/20/15 12:37	04/24/15 18:07	1
2-Nitrophenol	ND		0.93	0.10	ug/L		04/20/15 12:37	04/24/15 18:07	1
4-Nitrophenol	ND		4.6	0.74	ug/L		04/20/15 12:37	04/24/15 18:07	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		04/20/15 12:37	04/24/15 18:07	1
N-Nitrosodimethylamine	ND		0.93	0.11	ug/L		04/20/15 12:37	04/24/15 18:07	1
N-Nitrosodi-n-propylamine	ND		0.93	0.046	ug/L		04/20/15 12:37	04/24/15 18:07	1
2,2'-oxybis[1-chloropropane]	ND		0.93	0.022	ug/L		04/20/15 12:37	04/24/15 18:07	1
Pentachlorophenol	ND		0.93	0.46	ug/L		04/20/15 12:37	04/24/15 18:07	1
Phenol	ND		0.93	0.051	ug/L		04/20/15 12:37	04/24/15 18:07	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		04/20/15 12:37	04/24/15 18:07	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		04/20/15 12:37	04/24/15 18:07	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		04/20/15 12:37	04/24/15 18:07	1
1-Methylnaphthalene	ND		0.19	0.029	ug/L		04/20/15 12:37	04/24/15 18:07	1
Naphthalene	ND		0.19	0.021	ug/L		04/20/15 12:37	04/24/15 18:07	1
Acenaphthylene	ND		0.19	0.020	ug/L		04/20/15 12:37	04/24/15 18:07	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: EQB-CUTTER
Date Collected: 04/14/15 14:45
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43119-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.027	ug/L		04/20/15 12:37	04/24/15 18:07	1
Fluorene	ND		0.19	0.022	ug/L		04/20/15 12:37	04/24/15 18:07	1
Phenanthrene	ND		0.19	0.038	ug/L		04/20/15 12:37	04/24/15 18:07	1
Anthracene	ND		0.19	0.018	ug/L		04/20/15 12:37	04/24/15 18:07	1
Fluoranthene	ND		0.19	0.020	ug/L		04/20/15 12:37	04/24/15 18:07	1
Pyrene	ND		0.19	0.021	ug/L		04/20/15 12:37	04/24/15 18:07	1
Benzo[a]anthracene	ND		0.19	0.034	ug/L		04/20/15 12:37	04/24/15 18:07	1
Chrysene	ND		0.19	0.029	ug/L		04/20/15 12:37	04/24/15 18:07	1
Benzo[b]fluoranthene	ND		0.19	0.045	ug/L		04/20/15 12:37	04/24/15 18:07	1
Benzo[k]fluoranthene	ND		0.19	0.028	ug/L		04/20/15 12:37	04/24/15 18:07	1
Benzo[a]pyrene	ND		0.19	0.026	ug/L		04/20/15 12:37	04/24/15 18:07	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.040	ug/L		04/20/15 12:37	04/24/15 18:07	1
Dibenz(a,h)anthracene	ND		0.19	0.025	ug/L		04/20/15 12:37	04/24/15 18:07	1
Benzo[g,h,i]perylene	ND		0.19	0.027	ug/L		04/20/15 12:37	04/24/15 18:07	1
Benzyl alcohol	ND		0.93	0.18	ug/L		04/20/15 12:37	04/24/15 18:07	1
Dibenzofuran	ND		0.93	0.089	ug/L		04/20/15 12:37	04/24/15 18:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*28 - 109*	*04/20/15 12:37*	*04/24/15 18:07*	*1*
2-Fluorophenol (Surr)	*82*		*20 - 105*	*04/20/15 12:37*	*04/24/15 18:07*	*1*
2,4,6-Tribromophenol (Surr)	*115*		*30 - 118*	*04/20/15 12:37*	*04/24/15 18:07*	*1*
Nitrobenzene-d5 (Surr)	*82*		*27 - 114*	*04/20/15 12:37*	*04/24/15 18:07*	*1*
Phenol-d5 (Surr)	*87*		*25 - 105*	*04/20/15 12:37*	*04/24/15 18:07*	*1*
Terphenyl-d14 (Surr)	*107*		*20 - 118*	*04/20/15 12:37*	*04/24/15 18:07*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: EQB-CUTTER
Date Collected: 04/14/15 14:45
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43119-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00078	ug/L		04/16/15 14:45	04/20/15 18:05	1
alpha-BHC	ND		0.0012	0.00062	ug/L		04/16/15 14:45	04/20/15 18:05	1
beta-BHC	ND		0.0012	0.00094	ug/L		04/16/15 14:45	04/20/15 18:05	1
delta-BHC	**0.0022**	**p**	0.0012	0.00036	ug/L		04/16/15 14:45	04/20/15 18:05	1
gamma-BHC (Lindane)	ND		0.0012	0.00075	ug/L		04/16/15 14:45	04/20/15 18:05	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		04/16/15 14:45	04/20/15 18:05	1
Chlorobenside	ND		0.0030	0.0014	ug/L		04/16/15 14:45	04/21/15 11:42	1
DCPA	ND		0.0024	0.00032	ug/L		04/16/15 14:45	04/21/15 11:42	1
4,4'-DDD	ND		0.0012	0.00063	ug/L		04/16/15 14:45	04/20/15 18:05	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		04/16/15 14:45	04/20/15 18:05	1
4,4'-DDT	ND		0.0012	0.00070	ug/L		04/16/15 14:45	04/20/15 18:05	1
Dieldrin	ND		0.0012	0.00077	ug/L		04/16/15 14:45	04/20/15 18:05	1
Endosulfan I	ND		0.0012	0.00089	ug/L		04/16/15 14:45	04/20/15 18:05	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		04/16/15 14:45	04/21/15 11:42	1
Endosulfan II	ND		0.0012	0.00092	ug/L		04/16/15 14:45	04/20/15 18:05	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		04/16/15 14:45	04/20/15 18:05	1
2,4'-DDE	**0.00019**	**J p**	0.0012	0.00014	ug/L		04/16/15 14:45	04/21/15 11:42	1
Endrin	ND		0.0012	0.00091	ug/L		04/16/15 14:45	04/20/15 18:05	1
Endrin aldehyde	ND		0.0012	0.00085	ug/L		04/16/15 14:45	04/20/15 18:05	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		04/16/15 14:45	04/21/15 11:42	1
Heptachlor	ND		0.0012	0.00093	ug/L		04/16/15 14:45	04/20/15 18:05	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		04/16/15 14:45	04/20/15 18:05	1
Methoxychlor	ND		0.0024	0.00086	ug/L		04/16/15 14:45	04/20/15 18:05	1
Mirex	ND		0.0012	0.00045	ug/L		04/16/15 14:45	04/21/15 11:42	1
Toxaphene	ND		0.094	0.018	ug/L		04/16/15 14:45	04/20/15 18:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*101*		*60 - 111*	*04/16/15 14:45*	*04/20/15 18:05*	*1*
Tetrachloro-m-xylene	*97*		*60 - 111*	*04/16/15 14:45*	*04/20/15 18:05*	*1*
Tetrachloro-m-xylene	*102*		*60 - 111*	*04/16/15 14:45*	*04/21/15 11:42*	*1*
Tetrachloro-m-xylene	*97*		*60 - 111*	*04/16/15 14:45*	*04/21/15 11:42*	*1*
DCB Decachlorobiphenyl (Surr)	*109*		*45 - 122*	*04/16/15 14:45*	*04/20/15 18:05*	*1*
DCB Decachlorobiphenyl (Surr)	*102*		*45 - 122*	*04/16/15 14:45*	*04/20/15 18:05*	*1*
DCB Decachlorobiphenyl (Surr)	*109*		*45 - 122*	*04/16/15 14:45*	*04/21/15 11:42*	*1*
DCB Decachlorobiphenyl (Surr)	*106*		*45 - 122*	*04/16/15 14:45*	*04/21/15 11:42*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: EQB-CUTTER
Date Collected: 04/14/15 14:45
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43119-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.94	0.30	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-18	ND		0.94	0.18	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-28	ND		0.94	0.22	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-44	ND		0.94	0.073	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-49	ND		0.94	0.14	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-52	ND		0.94	0.14	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-66	ND		0.94	0.12	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-77	ND		0.94	0.15	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-87	**0.11**	**J p**	0.94	0.075	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-101	ND		0.94	0.14	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-105	ND		0.94	0.075	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-118	ND		0.94	0.11	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-126	ND		0.94	0.30	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-128	ND		0.94	0.080	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-138	ND		0.94	0.14	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-153	ND		0.94	0.11	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-156	ND		0.94	0.074	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-169	ND		0.94	0.21	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-170	ND		0.94	0.11	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-180	ND		0.94	0.075	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-183	ND		0.94	0.25	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-184	ND		0.94	0.13	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-187	ND		0.94	0.38	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-195	**0.29**	**J**	0.94	0.097	ng/L		04/17/15 15:15	04/24/15 20:50	1
PCB-206	ND		0.94	0.16	ng/L		04/17/15 15:15	04/24/15 20:50	1
DCB Decachlorobiphenyl	ND		0.94	0.099	ng/L		04/17/15 15:15	04/24/15 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*112*		*35 - 140*	*04/17/15 15:15*	*04/24/15 20:50*	*1*
Tetrachloro-m-xylene (Surr)	*97*		*35 - 140*	*04/17/15 15:15*	*04/24/15 20:50*	*1*
PCB-205 (Surr)	*94*		*35 - 140*	*04/17/15 15:15*	*04/24/15 20:50*	*1*
PCB-205 (Surr)	*97*		*35 - 140*	*04/17/15 15:15*	*04/24/15 20:50*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: EQB-CUTTER
Date Collected: 04/14/15 14:45
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43119-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.94	0.11	ug/L		04/17/15 14:10	04/20/15 21:59	1
Demeton, Total	ND		1.9	0.16	ug/L		04/17/15 14:10	04/20/15 21:59	1
Malathion	ND		0.94	0.10	ug/L		04/17/15 14:10	04/20/15 21:59	1
Methyl parathion	ND		0.94	0.10	ug/L		04/17/15 14:10	04/20/15 21:59	1
Parathion	ND		0.94	0.15	ug/L		04/17/15 14:10	04/20/15 21:59	1
Bolstar	ND		0.94	0.10	ug/L		04/17/15 14:10	04/20/15 21:59	1
Chlorpyrifos	ND		0.94	0.096	ug/L		04/17/15 14:10	04/20/15 21:59	1
Coumaphos	ND		0.94	0.14	ug/L		04/17/15 14:10	04/20/15 21:59	1
Diazinon	ND		0.94	0.089	ug/L		04/17/15 14:10	04/20/15 21:59	1
Dichlorvos	ND		0.94	0.080	ug/L		04/17/15 14:10	04/20/15 21:59	1
Dimethoate	ND		0.94	0.11	ug/L		04/17/15 14:10	04/20/15 21:59	1
Disulfoton	ND		0.94	0.095	ug/L		04/17/15 14:10	04/20/15 21:59	1
EPN	ND		0.94	0.11	ug/L		04/17/15 14:10	04/20/15 21:59	1
Mocap	ND		0.94	0.095	ug/L		04/17/15 14:10	04/20/15 21:59	1
Famphur	ND		0.94	0.12	ug/L		04/17/15 14:10	04/20/15 21:59	1
Fensulfothion	ND		0.94	0.16	ug/L		04/17/15 14:10	04/20/15 21:59	1
Fenthion	ND		0.94	0.080	ug/L		04/17/15 14:10	04/20/15 21:59	1
Mevinphos	ND		0.94	0.092	ug/L		04/17/15 14:10	04/20/15 21:59	1
Phorate	ND		0.94	0.087	ug/L		04/17/15 14:10	04/20/15 21:59	1
Ronnel	ND		0.94	0.097	ug/L		04/17/15 14:10	04/20/15 21:59	1
Stirophos	ND		0.94	0.090	ug/L		04/17/15 14:10	04/20/15 21:59	1
Sulfotepp	ND		0.94	0.089	ug/L		04/17/15 14:10	04/20/15 21:59	1
Thionazin	ND		0.94	0.095	ug/L		04/17/15 14:10	04/20/15 21:59	1
Tokuthion	ND		0.94	0.088	ug/L		04/17/15 14:10	04/20/15 21:59	1
Trichloronate	ND		0.94	0.094	ug/L		04/17/15 14:10	04/20/15 21:59	1
O,O,O-Triethyl phosphorothioate	ND		0.94	0.094	ug/L		04/17/15 14:10	04/20/15 21:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*99*		*49 - 122*	*04/17/15 14:10*	*04/20/15 21:59*	*1*
Tributyl phosphate	*96*		*49 - 122*	*04/17/15 14:10*	*04/20/15 21:59*	*1*
Triphenylphosphate	*101*		*45 - 145*	*04/17/15 14:10*	*04/20/15 21:59*	*1*
Triphenylphosphate	*105*		*45 - 145*	*04/17/15 14:10*	*04/20/15 21:59*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: EQB-CUTTER
Date Collected: 04/14/15 14:45
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43119-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.051	0.051	ug/L		04/24/15 09:33	05/05/15 00:08	1
Tributyltin	ND		0.046	0.046	ug/L		04/24/15 09:33	05/05/15 00:08	1
Dibutyltin	ND		0.040	0.040	ug/L		04/24/15 09:33	05/05/15 00:08	1
Monobutyltin	ND	* cn	0.63	0.63	ug/L		04/24/15 09:33	05/05/15 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*62*		*15 - 150*	*04/24/15 09:33*	*05/05/15 00:08*	*1*
Tripentyltin	*67*		*15 - 150*	*04/24/15 09:33*	*05/05/15 00:08*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: EQB-CUTTER
Date Collected: 04/14/15 14:45
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43119-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**16**	**J**	30	2.6	ug/L		04/21/15 12:22	04/27/15 15:19	1
Arsenic	ND		1.0	0.29	ug/L		04/21/15 12:22	04/27/15 15:19	1
Barium	ND		10	0.098	ug/L		04/21/15 12:22	04/27/15 15:19	1
Beryllium	ND		1.0	0.037	ug/L		04/21/15 12:22	04/27/15 15:19	1
Cadmium	ND		1.0	0.11	ug/L		04/21/15 12:22	04/27/15 15:19	1
Calcium	**110**	**J B**	500	2.8	ug/L		04/21/15 12:22	04/27/15 15:19	1
Chromium	**7.7**		2.0	0.54	ug/L		04/21/15 12:22	04/27/15 15:19	1
Cobalt	**0.39**	**J**	0.50	0.026	ug/L		04/21/15 12:22	04/27/15 15:19	1
Copper	**0.89**	**J**	2.0	0.24	ug/L		04/21/15 12:22	04/27/15 15:19	1
Iron	**640**		50	6.1	ug/L		04/21/15 12:22	04/27/15 15:19	1
Silver	ND		1.0	0.036	ug/L		04/21/15 12:22	04/27/15 15:19	1
Potassium	ND		500	5.8	ug/L		04/21/15 12:22	04/27/15 15:19	1
Magnesium	**5.1**	**J**	500	1.2	ug/L		04/21/15 12:22	04/27/15 15:19	1
Sodium	**310**	**J B**	500	3.8	ug/L		04/21/15 12:22	04/27/15 15:19	1
Nickel	**0.66**	**J**	1.0	0.17	ug/L		04/21/15 12:22	04/27/15 15:19	1
Lead	ND		1.0	0.019	ug/L		04/21/15 12:22	04/27/15 15:19	1
Antimony	ND		2.0	0.019	ug/L		04/21/15 12:22	04/27/15 15:19	1
Selenium	ND		5.0	0.42	ug/L		04/21/15 12:22	04/27/15 15:19	1
Thallium	ND		1.0	0.015	ug/L		04/21/15 12:22	04/27/15 15:19	1
Vanadium	**0.35**	**J**	1.0	0.082	ug/L		04/21/15 12:22	04/27/15 15:19	1
Zinc	**4.5**	**J**	5.0	0.96	ug/L		04/21/15 12:22	04/27/15 15:19	1
Manganese	**13**		5.0	0.039	ug/L		04/21/15 12:22	04/27/15 15:19	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: EQB-CUTTER
Date Collected: 04/14/15 14:45
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43119-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		04/27/15 13:35	04/28/15 14:06	1

General Chemistry

Client Sample ID: EQB-CUTTER
Date Collected: 04/14/15 14:45
Date Received: 04/15/15 09:40

Lab Sample ID: 180-43119-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		0.10	0.086	mg/L		05/06/15 14:45	05/08/15 14:13	1
Nitrate Nitrite as N	**0.11**		0.10	0.022	mg/L			05/02/15 09:46	1
Cyanide, Total	ND		10	2.5	ug/L		04/22/15 12:00	04/22/15 13:59	1
Sulfide	ND		3.0	0.59	mg/L		04/16/15 11:30	04/16/15 17:17	1
Total Organic Carbon - Duplicates	**0.50**	**J**	1.0	0.19	mg/L			04/24/15 00:03	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/01/15 05:01	05/01/15 10:55	1
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		04/23/15 11:00	04/24/15 12:35	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
1,2,4-Trichlorobenzene	1.0	0.085	ug/L	8270D LL
1,2-Dichlorobenzene	1.0	0.11	ug/L	8270D LL
1,2-Diphenylhydrazine(as Azobenzene)	1.0	0.12	ug/L	8270D LL
1,3-Dichlorobenzene	1.0	0.075	ug/L	8270D LL
1,4-Dichlorobenzene	1.0	0.16	ug/L	8270D LL
1-Methylnaphthalene	0.20	0.031	ug/L	8270D LL
2,2'-oxybis[1-chloropropane]	1.0	0.024	ug/L	8270D LL
2,4,6-Trichlorophenol	1.0	0.30	ug/L	8270D LL
2,4-Dichlorophenol	1.0	0.067	ug/L	8270D LL
2,4-Dimethylphenol	1.0	0.17	ug/L	8270D LL
2,4-Dinitrophenol	5.0	2.5	ug/L	8270D LL
2,4-Dinitrotoluene	1.0	0.21	ug/L	8270D LL
2,6-Dinitrotoluene	1.0	0.14	ug/L	8270D LL
2-Chloronaphthalene	0.20	0.031	ug/L	8270D LL
2-Chlorophenol	1.0	0.23	ug/L	8270D LL
2-Methylnaphthalene	0.20	0.019	ug/L	8270D LL
2-Methylphenol	1.0	0.19	ug/L	8270D LL
2-Nitrophenol	1.0	0.11	ug/L	8270D LL
3,3'-Dichlorobenzidine	1.0	0.15	ug/L	8270D LL
4,6-Dinitro-2-methylphenol	5.0	1.6	ug/L	8270D LL
4-Bromophenyl phenyl ether	1.0	0.12	ug/L	8270D LL
4-Chloro-3-methylphenol	1.0	0.17	ug/L	8270D LL
4-Chlorophenyl phenyl ether	1.0	0.080	ug/L	8270D LL
4-Nitrophenol	5.0	0.80	ug/L	8270D LL
Acenaphthene	0.20	0.029	ug/L	8270D LL
Acenaphthylene	0.20	0.022	ug/L	8270D LL
Anthracene	0.20	0.019	ug/L	8270D LL
Benzidine	20	4.7	ug/L	8270D LL
Benzo[a]anthracene	0.20	0.037	ug/L	8270D LL
Benzo[a]pyrene	0.20	0.028	ug/L	8270D LL
Benzo[b]fluoranthene	0.20	0.049	ug/L	8270D LL
Benzo[g,h,i]perylene	0.20	0.029	ug/L	8270D LL
Benzo[k]fluoranthene	0.20	0.030	ug/L	8270D LL
Benzoic acid	5.0	1.6	ug/L	8270D LL
Benzyl alcohol	1.0	0.20	ug/L	8270D LL
Bis(2-chloroethoxy)methane	1.0	0.13	ug/L	8270D LL
Bis(2-chloroethyl)ether	1.0	0.032	ug/L	8270D LL
Bis(2-ethylhexyl) phthalate	2.0	0.44	ug/L	8270D LL
Butyl benzyl phthalate	1.0	0.21	ug/L	8270D LL
Chrysene	0.20	0.031	ug/L	8270D LL
Dibenz(a,h)anthracene	0.20	0.027	ug/L	8270D LL
Dibenzofuran	1.0	0.097	ug/L	8270D LL
Diethyl phthalate	1.0	0.30	ug/L	8270D LL
Dimethyl phthalate	1.0	0.18	ug/L	8270D LL
Di-n-butyl phthalate	1.0	0.24	ug/L	8270D LL
Di-n-octyl phthalate	1.0	0.20	ug/L	8270D LL
Fluoranthene	0.20	0.021	ug/L	8270D LL
Fluorene	0.20	0.024	ug/L	8270D LL
Hexachlorobenzene	1.0	0.061	ug/L	8270D LL
Hexachlorobutadiene	1.0	0.094	ug/L	8270D LL
Hexachlorocyclopentadiene	1.0	0.14	ug/L	8270D LL
Hexachloroethane	1.0	0.14	ug/L	8270D LL

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	RL	MDL	Units	Method
Indeno[1,2,3-cd]pyrene	0.20	0.043	ug/L	8270D LL
Isophorone	1.0	0.074	ug/L	8270D LL
Methylphenol, 3 & 4	1.0	0.21	ug/L	8270D LL
Naphthalene	0.20	0.023	ug/L	8270D LL
Nitrobenzene	2.0	0.15	ug/L	8270D LL
N-Nitrosodimethylamine	1.0	0.12	ug/L	8270D LL
N-Nitrosodi-n-propylamine	1.0	0.050	ug/L	8270D LL
N-Nitrosodiphenylamine	1.0	0.12	ug/L	8270D LL
Pentachlorophenol	1.0	0.50	ug/L	8270D LL
Phenanthrene	0.20	0.042	ug/L	8270D LL
Phenol	1.0	0.055	ug/L	8270D LL
Pyrene	0.20	0.023	ug/L	8270D LL

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.0013	0.00016	ug/L	8081B_LL
2,4'-DDE	0.0013	0.00015	ug/L	8081B_LL
2,4'-DDT	0.0013	0.00022	ug/L	8081B_LL
4,4'-DDD	0.0013	0.00067	ug/L	8081B_LL
4,4'-DDE	0.0013	0.00079	ug/L	8081B_LL
4,4'-DDT	0.0013	0.00074	ug/L	8081B_LL
Aldrin	0.0013	0.00083	ug/L	8081B_LL
alpha-BHC	0.0013	0.00066	ug/L	8081B_LL
beta-BHC	0.0013	0.0010	ug/L	8081B_LL
Chlordane (technical)	0.013	0.0017	ug/L	8081B_LL
Chlorobenside	0.0032	0.0015	ug/L	8081B_LL
DCPA	0.0025	0.00034	ug/L	8081B_LL
delta-BHC	0.0013	0.00038	ug/L	8081B_LL
Dieldrin	0.0013	0.00082	ug/L	8081B_LL
Endosulfan I	0.0013	0.00094	ug/L	8081B_LL
Endosulfan II	0.0013	0.00098	ug/L	8081B_LL
Endosulfan sulfate	0.0013	0.00057	ug/L	8081B_LL
Endrin	0.0013	0.00096	ug/L	8081B_LL
Endrin aldehyde	0.0013	0.00090	ug/L	8081B_LL
gamma-BHC (Lindane)	0.0013	0.00080	ug/L	8081B_LL
Heptachlor	0.0013	0.00099	ug/L	8081B_LL
Heptachlor epoxide	0.0013	0.00097	ug/L	8081B_LL
Methoxychlor	0.0025	0.00091	ug/L	8081B_LL
Mirex	0.0013	0.00048	ug/L	8081B_LL
Toxaphene	0.10	0.019	ug/L	8081B_LL

Method: 8082A - PCB Congeners (GC)

Analyte	RL	MDL	Units	Method
DCB Decachlorobiphenyl	1.0	0.11	ng/L	8082A
PCB-101	1.0	0.15	ng/L	8082A
PCB-105	1.0	0.079	ng/L	8082A
PCB-118	1.0	0.12	ng/L	8082A
PCB-126	1.0	0.32	ng/L	8082A
PCB-128	1.0	0.085	ng/L	8082A
PCB-138	1.0	0.15	ng/L	8082A

Method: 8082A - PCB Congeners (GC) (Continued)

Analyte	RL	MDL	Units	Method
PCB-153	1.0	0.12	ng/L	8082A
PCB-156	1.0	0.078	ng/L	8082A
PCB-169	1.0	0.22	ng/L	8082A
PCB-170	1.0	0.11	ng/L	8082A
PCB-18	1.0	0.19	ng/L	8082A
PCB-180	1.0	0.080	ng/L	8082A
PCB-183	1.0	0.27	ng/L	8082A
PCB-184	1.0	0.14	ng/L	8082A
PCB-187	1.0	0.40	ng/L	8082A
PCB-195	1.0	0.10	ng/L	8082A
PCB-206	1.0	0.17	ng/L	8082A
PCB-28	1.0	0.23	ng/L	8082A
PCB-44	1.0	0.077	ng/L	8082A
PCB-49	1.0	0.15	ng/L	8082A
PCB-52	1.0	0.15	ng/L	8082A
PCB-66	1.0	0.13	ng/L	8082A
PCB-77	1.0	0.16	ng/L	8082A
PCB-8	1.0	0.32	ng/L	8082A
PCB-87	1.0	0.079	ng/L	8082A

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
Azinphos-methyl	1.0	0.11	ug/L	8141B
Bolstar	1.0	0.11	ug/L	8141B
Chlorpyrifos	1.0	0.10	ug/L	8141B
Coumaphos	1.0	0.15	ug/L	8141B
Demeton, Total	2.0	0.16	ug/L	8141B
Diazinon	1.0	0.094	ug/L	8141B
Dichlorvos	1.0	0.085	ug/L	8141B
Dimethoate	1.0	0.12	ug/L	8141B
Disulfoton	1.0	0.10	ug/L	8141B
EPN	1.0	0.12	ug/L	8141B
Famphur	1.0	0.12	ug/L	8141B
Fensulfothion	1.0	0.17	ug/L	8141B
Fenthion	1.0	0.085	ug/L	8141B
Malathion	1.0	0.11	ug/L	8141B
Methyl parathion	1.0	0.11	ug/L	8141B
Mevinphos	1.0	0.098	ug/L	8141B
Mocap	1.0	0.10	ug/L	8141B
O,O,O-Triethyl phosphorothioate	1.0	0.10	ug/L	8141B
Parathion	1.0	0.16	ug/L	8141B
Phorate	1.0	0.092	ug/L	8141B
Ronnel	1.0	0.10	ug/L	8141B
Stirophos	1.0	0.096	ug/L	8141B
Sulfotepp	1.0	0.095	ug/L	8141B
Thionazin	1.0	0.10	ug/L	8141B
Tokuthion	1.0	0.094	ug/L	8141B
Trichloronate	1.0	0.099	ug/L	8141B

Method: Organotins/GC - Organotins (GC/FPD)

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43119-1

Method: Organotins/GC - Organotins (GC/FPD)

Analyte	RL	MDL	Units	Method
Dibutyltin	0.039	0.039	ug/L	Organotins/GC
Monobutyltin	0.62	0.62	ug/L	Organotins/GC
Tetrabutyltin	0.050	0.050	ug/L	Organotins/GC
Tributyltin	0.045	0.045	ug/L	Organotins/GC

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	RL	MDL	Units	Method
Aluminum	30	2.6	ug/L	6020A
Antimony	2.0	0.019	ug/L	6020A
Arsenic	1.0	0.29	ug/L	6020A
Barium	10	0.098	ug/L	6020A
Beryllium	1.0	0.037	ug/L	6020A
Cadmium	1.0	0.11	ug/L	6020A
Calcium	500	2.8	ug/L	6020A
Chromium	2.0	0.54	ug/L	6020A
Cobalt	0.50	0.026	ug/L	6020A
Copper	2.0	0.24	ug/L	6020A
Iron	50	6.1	ug/L	6020A
Lead	1.0	0.019	ug/L	6020A
Magnesium	500	1.2	ug/L	6020A
Manganese	5.0	0.039	ug/L	6020A
Nickel	1.0	0.17	ug/L	6020A
Potassium	500	5.8	ug/L	6020A
Selenium	5.0	0.42	ug/L	6020A
Silver	1.0	0.036	ug/L	6020A
Sodium	500	3.8	ug/L	6020A
Thallium	1.0	0.015	ug/L	6020A
Vanadium	1.0	0.082	ug/L	6020A
Zinc	5.0	0.96	ug/L	6020A

Method: 7470A - Mercury (CVAA)

Analyte	RL	MDL	Units	Method
Mercury	0.20	0.078	ug/L	7470A

General Chemistry

Analyte	RL	MDL	Units	Method
Ammonia, distilled	0.10	0.086	mg/L	350.1
Nitrate Nitrite as N	0.10	0.022	mg/L	353.2
Cyanide, Total	10	2.5	ug/L	9014
Sulfide	3.0	0.59	mg/L	9034
Total Organic Carbon - Duplicates	1.0	0.19	mg/L	SM 5310C
Total Phosphorus as P	0.10	0.050	mg/L	SM4500 P E-1999
Nitrogen, Kjeldahl	5.0	1.7	mg/L	SM4500_NH3_E

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43119-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(28-109)	(20-105)	(30-118)	(27-114)	(25-105)	(20-118)
180-43119-1	EQB-CUTTER	84	82	115	82	87	107
LCS 180-139062/2-A	Lab Control Sample	74	68	84	75	69	72
LCSD 180-139062/3-A	Lab Control Sample Dup	78	71	90	77	73	73
MB 180-139062/1-A	Method Blank	85	82	85	89	82	86

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(60-111)	(60-111)	(45-122)	(45-122)
180-43119-1	EQB-CUTTER	101	97	109	102
180-43119-1	EQB-CUTTER	102	97	109	106
LCS 180-138786/2-A	Lab Control Sample	108	98	110	104
MB 180-138786/1-A	Method Blank	101	99	112	106

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
180-43119-1	EQB-CUTTER	112	97	94	97
LCS 180-138917/2-A	Lab Control Sample	82	81	90	88
MB 180-138917/1-A	Method Blank	79	75	90	86

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(49-122)	(49-122)	(45-145)	(45-145)
180-43119-1	EQB-CUTTER	99	96	101	105

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(49-122)	(49-122)	(45-145)	(45-145)
LCS 180-138915/2-A	Lab Control Sample	103	107	103	106
LCSD 180-138915/3-A	Lab Control Sample Dup	103	106	101	103
MB 180-138915/1-A	Method Blank	96	92	96	100

Surrogate Legend

TBPH = Tributyl phosphate

TPP = Triphenylphosphate

Method: Organotins/GC - Organotins (GC/FPD)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TPT1	TPT2
Lab Sample ID	Client Sample ID	(15-150)	(15-150)
180-43119-1	EQB-CUTTER	62	67
LCS 200-87292/2-A	Lab Control Sample	45	54
MB 200-87292/1-A	Method Blank	54	52

Surrogate Legend

TPT = Tripentyltin

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-139062/1-A
Matrix: Water
Analysis Batch: 139524

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		20	4.7	ug/L		04/20/15 12:37	04/24/15 15:22	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		04/20/15 12:37	04/24/15 15:22	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		04/20/15 12:37	04/24/15 15:22	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		04/20/15 12:37	04/24/15 15:22	1
Benzoic acid	ND		5.0	1.6	ug/L		04/20/15 12:37	04/24/15 15:22	1
Bis(2-chloroethyl)ether	ND		1.0	0.032	ug/L		04/20/15 12:37	04/24/15 15:22	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		04/20/15 12:37	04/24/15 15:22	1
Bis(2-ethylhexyl) phthalate	ND		2.0	0.44	ug/L		04/20/15 12:37	04/24/15 15:22	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		04/20/15 12:37	04/24/15 15:22	1
Butyl benzyl phthalate	ND		1.0	0.21	ug/L		04/20/15 12:37	04/24/15 15:22	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		04/20/15 12:37	04/24/15 15:22	1
2-Chloronaphthalene	ND		0.20	0.031	ug/L		04/20/15 12:37	04/24/15 15:22	1
2-Chlorophenol	ND		1.0	0.23	ug/L		04/20/15 12:37	04/24/15 15:22	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		04/20/15 12:37	04/24/15 15:22	1
Di-n-butyl phthalate	ND		1.0	0.24	ug/L		04/20/15 12:37	04/24/15 15:22	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		04/20/15 12:37	04/24/15 15:22	1
2,4-Dichlorophenol	ND		1.0	0.067	ug/L		04/20/15 12:37	04/24/15 15:22	1
Diethyl phthalate	ND		1.0	0.30	ug/L		04/20/15 12:37	04/24/15 15:22	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		04/20/15 12:37	04/24/15 15:22	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		04/20/15 12:37	04/24/15 15:22	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		04/20/15 12:37	04/24/15 15:22	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		04/20/15 12:37	04/24/15 15:22	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		04/20/15 12:37	04/24/15 15:22	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		04/20/15 12:37	04/24/15 15:22	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.12	ug/L		04/20/15 12:37	04/24/15 15:22	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		04/20/15 12:37	04/24/15 15:22	1
Hexachlorobenzene	ND		1.0	0.061	ug/L		04/20/15 12:37	04/24/15 15:22	1
Hexachlorobutadiene	ND		1.0	0.094	ug/L		04/20/15 12:37	04/24/15 15:22	1
Hexachloroethane	ND		1.0	0.14	ug/L		04/20/15 12:37	04/24/15 15:22	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		04/20/15 12:37	04/24/15 15:22	1
Isophorone	ND		1.0	0.074	ug/L		04/20/15 12:37	04/24/15 15:22	1
2-Methylphenol	ND		1.0	0.19	ug/L		04/20/15 12:37	04/24/15 15:22	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		04/20/15 12:37	04/24/15 15:22	1
Nitrobenzene	ND		2.0	0.15	ug/L		04/20/15 12:37	04/24/15 15:22	1
2-Nitrophenol	ND		1.0	0.11	ug/L		04/20/15 12:37	04/24/15 15:22	1
4-Nitrophenol	ND		5.0	0.80	ug/L		04/20/15 12:37	04/24/15 15:22	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		04/20/15 12:37	04/24/15 15:22	1
N-Nitrosodimethylamine	ND		1.0	0.12	ug/L		04/20/15 12:37	04/24/15 15:22	1
N-Nitrosodi-n-propylamine	ND		1.0	0.050	ug/L		04/20/15 12:37	04/24/15 15:22	1
2,2'-oxybis[1-chloropropane]	ND		1.0	0.024	ug/L		04/20/15 12:37	04/24/15 15:22	1
Pentachlorophenol	ND		1.0	0.50	ug/L		04/20/15 12:37	04/24/15 15:22	1
Phenol	ND		1.0	0.055	ug/L		04/20/15 12:37	04/24/15 15:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		04/20/15 12:37	04/24/15 15:22	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		04/20/15 12:37	04/24/15 15:22	1
2-Methylnaphthalene	ND		0.20	0.019	ug/L		04/20/15 12:37	04/24/15 15:22	1
1-Methylnaphthalene	ND		0.20	0.031	ug/L		04/20/15 12:37	04/24/15 15:22	1
Naphthalene	ND		0.20	0.023	ug/L		04/20/15 12:37	04/24/15 15:22	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-139062/1-A
Matrix: Water
Analysis Batch: 139524

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		0.20	0.022	ug/L		04/20/15 12:37	04/24/15 15:22	1
Acenaphthene	ND		0.20	0.029	ug/L		04/20/15 12:37	04/24/15 15:22	1
Fluorene	ND		0.20	0.024	ug/L		04/20/15 12:37	04/24/15 15:22	1
Phenanthrene	ND		0.20	0.042	ug/L		04/20/15 12:37	04/24/15 15:22	1
Anthracene	ND		0.20	0.019	ug/L		04/20/15 12:37	04/24/15 15:22	1
Fluoranthene	ND		0.20	0.021	ug/L		04/20/15 12:37	04/24/15 15:22	1
Pyrene	ND		0.20	0.023	ug/L		04/20/15 12:37	04/24/15 15:22	1
Benzo[a]anthracene	ND		0.20	0.037	ug/L		04/20/15 12:37	04/24/15 15:22	1
Chrysene	ND		0.20	0.031	ug/L		04/20/15 12:37	04/24/15 15:22	1
Benzo[b]fluoranthene	ND		0.20	0.049	ug/L		04/20/15 12:37	04/24/15 15:22	1
Benzo[k]fluoranthene	ND		0.20	0.030	ug/L		04/20/15 12:37	04/24/15 15:22	1
Benzo[a]pyrene	ND		0.20	0.028	ug/L		04/20/15 12:37	04/24/15 15:22	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.043	ug/L		04/20/15 12:37	04/24/15 15:22	1
Dibenz(a,h)anthracene	ND		0.20	0.027	ug/L		04/20/15 12:37	04/24/15 15:22	1
Benzo[g,h,i]perylene	ND		0.20	0.029	ug/L		04/20/15 12:37	04/24/15 15:22	1
Benzyl alcohol	ND		1.0	0.20	ug/L		04/20/15 12:37	04/24/15 15:22	1
Dibenzofuran	ND		1.0	0.097	ug/L		04/20/15 12:37	04/24/15 15:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*85*		*28 - 109*	*04/20/15 12:37*	*04/24/15 15:22*	*1*
2-Fluorophenol (Surr)	*82*		*20 - 105*	*04/20/15 12:37*	*04/24/15 15:22*	*1*
2,4,6-Tribromophenol (Surr)	*85*		*30 - 118*	*04/20/15 12:37*	*04/24/15 15:22*	*1*
Nitrobenzene-d5 (Surr)	*89*		*27 - 114*	*04/20/15 12:37*	*04/24/15 15:22*	*1*
Phenol-d5 (Surr)	*82*		*25 - 105*	*04/20/15 12:37*	*04/24/15 15:22*	*1*
Terphenyl-d14 (Surr)	*86*		*20 - 118*	*04/20/15 12:37*	*04/24/15 15:22*	*1*

Lab Sample ID: LCS 180-139062/2-A
Matrix: Water
Analysis Batch: 139524

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	20.0	5.92	J	ug/L		30	10 - 100
1,2-Dichlorobenzene	20.0	13.3		ug/L		66	40 - 100
1,3-Dichlorobenzene	20.0	13.2		ug/L		66	38 - 100
1,4-Dichlorobenzene	20.0	13.4		ug/L		67	39 - 100
Benzoic acid	20.0	14.9		ug/L		74	
Bis(2-chloroethyl)ether	20.0	12.9		ug/L		65	42 - 100
Bis(2-chloroethoxy)methane	20.0	13.1		ug/L		66	45 - 100
Bis(2-ethylhexyl) phthalate	20.0	15.5		ug/L		78	35 - 118
4-Bromophenyl phenyl ether	20.0	16.7		ug/L		83	46 - 100
Butyl benzyl phthalate	20.0	14.8		ug/L		74	45 - 105
4-Chloro-3-methylphenol	20.0	12.6		ug/L		63	47 - 100
2-Chloronaphthalene	20.0	14.2		ug/L		71	42 - 100
2-Chlorophenol	20.0	13.6		ug/L		68	41 - 100
4-Chlorophenyl phenyl ether	20.0	14.5		ug/L		73	48 - 100
Di-n-butyl phthalate	20.0	14.9		ug/L		74	49 - 101
3,3'-Dichlorobenzidine	20.0	13.5		ug/L		68	41 - 100
2,4-Dichlorophenol	20.0	14.7		ug/L		73	45 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139062/2-A
Matrix: Water
Analysis Batch: 139524

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diethyl phthalate	20.0	13.6		ug/L		68	48 - 100
4,6-Dinitro-2-methylphenol	40.0	27.1		ug/L		68	46 - 100
2,4-Dimethylphenol	20.0	14.1		ug/L		71	45 - 100
Dimethyl phthalate	20.0	13.9		ug/L		70	49 - 100
2,4-Dinitrophenol	40.0	21.7		ug/L		54	36 - 100
2,4-Dinitrotoluene	20.0	13.6		ug/L		68	49 - 100
2,6-Dinitrotoluene	20.0	13.9		ug/L		69	50 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	14.5		ug/L		73	49 - 100
Di-n-octyl phthalate	20.0	13.6		ug/L		68	40 - 105
Hexachlorobenzene	20.0	16.4		ug/L		82	45 - 100
Hexachlorobutadiene	20.0	15.8		ug/L		79	42 - 100
Hexachloroethane	20.0	13.8		ug/L		69	39 - 100
Hexachlorocyclopentadiene	20.0	17.2		ug/L		86	37 - 109
Isophorone	20.0	14.3		ug/L		72	48 - 100
2-Methylphenol	20.0	14.1		ug/L		70	43 - 100
Methylphenol, 3 & 4	20.0	12.0		ug/L		60	41 - 100
Nitrobenzene	20.0	14.3		ug/L		71	47 - 100
2-Nitrophenol	20.0	14.9		ug/L		75	45 - 100
4-Nitrophenol	40.0	26.7		ug/L		67	44 - 129
N-Nitrosodiphenylamine	40.0	31.1		ug/L		78	48 - 100
N-Nitrosodimethylamine	20.0	13.9		ug/L		70	41 - 100
N-Nitrosodi-n-propylamine	20.0	13.6		ug/L		68	42 - 100
2,2'-oxybis[1-chloropropane]	20.0	11.9		ug/L		60	38 - 100
Pentachlorophenol	40.0	26.8		ug/L		67	36 - 105
Phenol	20.0	13.2		ug/L		66	43 - 100
1,2,4-Trichlorobenzene	20.0	14.3		ug/L		72	43 - 100
2,4,6-Trichlorophenol	20.0	16.8		ug/L		84	47 - 101
2-Methylnaphthalene	20.0	14.0		ug/L		70	44 - 100
1-Methylnaphthalene	20.0	12.7		ug/L		64	43 - 100
Naphthalene	20.0	13.4		ug/L		67	44 - 100
Acenaphthylene	20.0	14.7		ug/L		73	47 - 100
Acenaphthene	20.0	14.0		ug/L		70	47 - 100
Fluorene	20.0	14.4		ug/L		72	48 - 100
Phenanthrene	20.0	14.8		ug/L		74	48 - 100
Anthracene	20.0	14.7		ug/L		74	49 - 100
Fluoranthene	20.0	14.0		ug/L		70	48 - 100
Pyrene	20.0	15.2		ug/L		76	44 - 100
Benzo[a]anthracene	20.0	14.8		ug/L		74	50 - 100
Chrysene	20.0	14.5		ug/L		72	49 - 100
Benzo[b]fluoranthene	20.0	13.5		ug/L		67	43 - 100
Benzo[k]fluoranthene	20.0	13.2		ug/L		66	47 - 100
Benzo[a]pyrene	20.0	14.1		ug/L		71	47 - 100
Indeno[1,2,3-cd]pyrene	20.0	15.6		ug/L		78	47 - 100
Dibenz(a,h)anthracene	20.0	16.0		ug/L		80	48 - 100
Benzo[g,h,i]perylene	20.0	15.6		ug/L		78	48 - 100
Benzyl alcohol	20.0	10.1		ug/L		51	41 - 100
Dibenzofuran	20.0	14.0		ug/L		70	47 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139062/2-A
Matrix: Water
Analysis Batch: 139524

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139062

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*74*		*28 - 109*
2-Fluorophenol (Surr)	*68*		*20 - 105*
2,4,6-Tribromophenol (Surr)	*84*		*30 - 118*
Nitrobenzene-d5 (Surr)	*75*		*27 - 114*
Phenol-d5 (Surr)	*69*		*25 - 105*
Terphenyl-d14 (Surr)	*72*		*20 - 118*

Lab Sample ID: LCSD 180-139062/3-A
Matrix: Water
Analysis Batch: 139524

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 139062

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzidine	20.0	5.71	J	ug/L		29	10 - 100	4	35
1,2-Dichlorobenzene	20.0	13.3		ug/L		67	40 - 100	0	20
1,3-Dichlorobenzene	20.0	14.0		ug/L		70	38 - 100	6	17
1,4-Dichlorobenzene	20.0	13.7		ug/L		69	39 - 100	3	18
Benzoic acid	20.0	15.3		ug/L		77		3	20
Bis(2-chloroethyl)ether	20.0	12.7		ug/L		64	42 - 100	2	28
Bis(2-chloroethoxy)methane	20.0	14.1		ug/L		70	45 - 100	7	28
Bis(2-ethylhexyl) phthalate	20.0	15.8		ug/L		79	35 - 118	2	35
4-Bromophenyl phenyl ether	20.0	16.4		ug/L		82	46 - 100	2	22
Butyl benzyl phthalate	20.0	15.1		ug/L		76	45 - 105	2	23
4-Chloro-3-methylphenol	20.0	13.7		ug/L		68	47 - 100	8	27
2-Chloronaphthalene	20.0	14.5		ug/L		73	42 - 100	3	26
2-Chlorophenol	20.0	13.9		ug/L		70	41 - 100	3	28
4-Chlorophenyl phenyl ether	20.0	15.4		ug/L		77	48 - 100	6	25
Di-n-butyl phthalate	20.0	15.1		ug/L		75	49 - 101	1	21
3,3'-Dichlorobenzidine	20.0	14.0		ug/L		70	41 - 100	3	28
2,4-Dichlorophenol	20.0	15.2		ug/L		76	45 - 100	4	29
Diethyl phthalate	20.0	14.8		ug/L		74	48 - 100	8	20
4,6-Dinitro-2-methylphenol	40.0	27.9		ug/L		70	46 - 100	3	19
2,4-Dimethylphenol	20.0	15.9		ug/L		79	45 - 100	12	25
Dimethyl phthalate	20.0	14.5		ug/L		72	49 - 100	4	24
2,4-Dinitrophenol	40.0	22.8		ug/L		57	36 - 100	5	18
2,4-Dinitrotoluene	20.0	14.0		ug/L		70	49 - 100	3	21
2,6-Dinitrotoluene	20.0	14.3		ug/L		72	50 - 100	3	23
1,2-Diphenylhydrazine(as Azobenzene)	20.0	15.1		ug/L		75	49 - 100	4	22
Di-n-octyl phthalate	20.0	15.0		ug/L		75	40 - 105	10	23
Hexachlorobenzene	20.0	16.7		ug/L		84	45 - 100	2	19
Hexachlorobutadiene	20.0	16.1		ug/L		80	42 - 100	2	18
Hexachloroethane	20.0	14.7		ug/L		73	39 - 100	6	16
Hexachlorocyclopentadiene	20.0	17.8		ug/L		89	37 - 109	3	16
Isophorone	20.0	15.6		ug/L		78	48 - 100	8	30
2-Methylphenol	20.0	14.9		ug/L		75	43 - 100	6	28
Methylphenol, 3 & 4	20.0	12.8		ug/L		64	41 - 100	7	28
Nitrobenzene	20.0	14.8		ug/L		74	47 - 100	4	27
2-Nitrophenol	20.0	15.7		ug/L		79	45 - 100	5	31

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 180-139062/3-A
Matrix: Water
Analysis Batch: 139524

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 139062

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Nitrophenol	40.0	29.9		ug/L		75	44 - 129	11	21
N-Nitrosodiphenylamine	40.0	32.6		ug/L		82	48 - 100	5	21
N-Nitrosodimethylamine	20.0	14.1		ug/L		70	41 - 100	1	30
N-Nitrosodi-n-propylamine	20.0	14.6		ug/L		73	42 - 100	7	27
2,2'-oxybis[1-chloropropane]	20.0	12.6		ug/L		63	38 - 100	6	28
Pentachlorophenol	40.0	27.3		ug/L		68	36 - 105	2	15
Phenol	20.0	14.0		ug/L		70	43 - 100	5	25
1,2,4-Trichlorobenzene	20.0	14.5		ug/L		72	43 - 100	1	22
2,4,6-Trichlorophenol	20.0	17.1		ug/L		85	47 - 101	2	28
2-Methylnaphthalene	20.0	15.1		ug/L		75	44 - 100	8	27
1-Methylnaphthalene	20.0	13.6		ug/L		68	43 - 100	7	27
Naphthalene	20.0	14.0		ug/L		70	44 - 100	5	25
Acenaphthylene	20.0	15.4		ug/L		77	47 - 100	5	26
Acenaphthene	20.0	14.9		ug/L		74	47 - 100	6	25
Fluorene	20.0	15.3		ug/L		77	48 - 100	6	22
Phenanthrene	20.0	15.2		ug/L		76	48 - 100	2	20
Anthracene	20.0	15.1		ug/L		76	49 - 100	2	20
Fluoranthene	20.0	14.8		ug/L		74	48 - 100	5	20
Pyrene	20.0	15.2		ug/L		76	44 - 100	1	20
Benzo[a]anthracene	20.0	14.8		ug/L		74	50 - 100	0	20
Chrysene	20.0	14.3		ug/L		71	49 - 100	2	20
Benzo[b]fluoranthene	20.0	14.7		ug/L		74	43 - 100	9	22
Benzo[k]fluoranthene	20.0	13.5		ug/L		67	47 - 100	2	24
Benzo[a]pyrene	20.0	14.9		ug/L		75	47 - 100	6	22
Indeno[1,2,3-cd]pyrene	20.0	16.5		ug/L		82	47 - 100	5	21
Dibenz(a,h)anthracene	20.0	16.8		ug/L		84	48 - 100	5	21
Benzo[g,h,i]perylene	20.0	16.1		ug/L		81	48 - 100	3	21
Benzyl alcohol	20.0	10.7		ug/L		54	41 - 100	6	32
Dibenzofuran	20.0	14.7		ug/L		73	47 - 100	5	24

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*28 - 109*
2-Fluorophenol (Surr)	*71*		*20 - 105*
2,4,6-Tribromophenol (Surr)	*90*		*30 - 118*
Nitrobenzene-d5 (Surr)	*77*		*27 - 114*
Phenol-d5 (Surr)	*73*		*25 - 105*
Terphenyl-d14 (Surr)	*73*		*20 - 118*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-138786/1-A
Matrix: Water
Analysis Batch: 139019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138786

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00083	ug/L		04/16/15 14:45	04/20/15 12:40	1
alpha-BHC	ND		0.0013	0.00066	ug/L		04/16/15 14:45	04/20/15 12:40	1
beta-BHC	ND		0.0013	0.0010	ug/L		04/16/15 14:45	04/20/15 12:40	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 180-138786/1-A
Matrix: Water
Analysis Batch: 139019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138786

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
delta-BHC	ND		0.0013	0.00038	ug/L		04/16/15 14:45	04/20/15 12:40	1
gamma-BHC (Lindane)	ND		0.0013	0.00080	ug/L		04/16/15 14:45	04/20/15 12:40	1
Chlordane (technical)	ND		0.013	0.0017	ug/L		04/16/15 14:45	04/20/15 12:40	1
Chlorobenside	ND		0.0032	0.0015	ug/L		04/16/15 14:45	04/20/15 12:40	1
DCPA	ND		0.0025	0.00034	ug/L		04/16/15 14:45	04/20/15 12:40	1
4,4'-DDD	ND		0.0013	0.00067	ug/L		04/16/15 14:45	04/20/15 12:40	1
4,4'-DDE	ND		0.0013	0.00079	ug/L		04/16/15 14:45	04/20/15 12:40	1
4,4'-DDT	ND		0.0013	0.00074	ug/L		04/16/15 14:45	04/20/15 12:40	1
Dieldrin	ND		0.0013	0.00082	ug/L		04/16/15 14:45	04/20/15 12:40	1
Endosulfan I	ND		0.0013	0.00094	ug/L		04/16/15 14:45	04/20/15 12:40	1
2,4'-DDD	ND		0.0013	0.00016	ug/L		04/16/15 14:45	04/20/15 12:40	1
Endosulfan II	ND		0.0013	0.00098	ug/L		04/16/15 14:45	04/20/15 12:40	1
Endosulfan sulfate	ND		0.0013	0.00057	ug/L		04/16/15 14:45	04/20/15 12:40	1
2,4'-DDE	ND		0.0013	0.00015	ug/L		04/16/15 14:45	04/20/15 12:40	1
Endrin	ND		0.0013	0.00096	ug/L		04/16/15 14:45	04/20/15 12:40	1
Endrin aldehyde	ND		0.0013	0.00090	ug/L		04/16/15 14:45	04/20/15 12:40	1
2,4'-DDT	ND		0.0013	0.00022	ug/L		04/16/15 14:45	04/20/15 12:40	1
Heptachlor	ND		0.0013	0.00099	ug/L		04/16/15 14:45	04/20/15 12:40	1
Heptachlor epoxide	ND		0.0013	0.00097	ug/L		04/16/15 14:45	04/20/15 12:40	1
Methoxychlor	ND		0.0025	0.00091	ug/L		04/16/15 14:45	04/20/15 12:40	1
Mirex	ND		0.0013	0.00048	ug/L		04/16/15 14:45	04/20/15 12:40	1
Toxaphene	ND		0.10	0.019	ug/L		04/16/15 14:45	04/20/15 12:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*101*		*60 - 111*	*04/16/15 14:45*	*04/20/15 12:40*	*1*
Tetrachloro-m-xylene	*99*		*60 - 111*	*04/16/15 14:45*	*04/20/15 12:40*	*1*
DCB Decachlorobiphenyl (Surr)	*112*		*45 - 122*	*04/16/15 14:45*	*04/20/15 12:40*	*1*
DCB Decachlorobiphenyl (Surr)	*106*		*45 - 122*	*04/16/15 14:45*	*04/20/15 12:40*	*1*

Lab Sample ID: LCS 180-138786/2-A
Matrix: Water
Analysis Batch: 139019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138786

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0250	0.0262		ug/L		105	62 - 113
alpha-BHC	0.0250	0.0228		ug/L		91	58 - 114
beta-BHC	0.0250	0.0192		ug/L		77	37 - 133
delta-BHC	0.0250	0.0167		ug/L		67	20 - 137
gamma-BHC (Lindane)	0.0250	0.0229		ug/L		91	57 - 120
4,4'-DDD	0.0250	0.0239		ug/L		96	48 - 120
4,4'-DDE	0.0250	0.0262		ug/L		105	47 - 120
4,4'-DDT	0.0250	0.0259		ug/L		104	39 - 131
Dieldrin	0.0250	0.0249		ug/L		100	51 - 121
Endosulfan I	0.0250	0.0262		ug/L		105	53 - 117
Endosulfan II	0.0250	0.0226		ug/L		91	44 - 122
Endosulfan sulfate	0.0250	0.0199		ug/L		80	42 - 122
Endrin	0.0250	0.0263		ug/L		105	31 - 138
Endrin aldehyde	0.0250	0.0211		ug/L		85	41 - 116

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-138786/2-A
Matrix: Water
Analysis Batch: 139019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138786

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Heptachlor	0.0250	0.0257		ug/L		103	63 - 120
Heptachlor epoxide	0.0250	0.0250		ug/L		100	60 - 120
Methoxychlor	0.0250	0.0264		ug/L		106	35 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*108*		*60 - 111*
Tetrachloro-m-xylene	*98*		*60 - 111*
DCB Decachlorobiphenyl (Surr)	*110*		*45 - 122*
DCB Decachlorobiphenyl (Surr)	*104*		*45 - 122*

Method: 8082A - PCB Congeners (GC)

Lab Sample ID: MB 180-138917/1-A
Matrix: Water
Analysis Batch: 139547

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138917

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		1.0	0.32	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-18	ND		1.0	0.19	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-28	ND		1.0	0.23	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-44	ND		1.0	0.077	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-49	ND		1.0	0.15	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-52	ND		1.0	0.15	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-66	ND		1.0	0.13	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-77	ND		1.0	0.16	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-87	ND		1.0	0.079	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-101	0.666	J	1.0	0.15	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-105	ND		1.0	0.079	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-118	ND		1.0	0.12	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-126	ND		1.0	0.32	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-128	ND		1.0	0.085	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-138	ND		1.0	0.15	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-153	ND		1.0	0.12	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-156	ND		1.0	0.078	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-169	ND		1.0	0.22	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-170	ND		1.0	0.11	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-180	ND		1.0	0.080	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-183	ND		1.0	0.27	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-184	ND		1.0	0.14	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-187	ND		1.0	0.40	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-195	ND		1.0	0.10	ng/L		04/17/15 15:15	04/24/15 19:47	1
PCB-206	ND		1.0	0.17	ng/L		04/17/15 15:15	04/24/15 19:47	1
DCB Decachlorobiphenyl	ND		1.0	0.11	ng/L		04/17/15 15:15	04/24/15 19:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*79*		*35 - 140*	*04/17/15 15:15*	*04/24/15 19:47*	*1*
Tetrachloro-m-xylene (Surr)	*75*		*35 - 140*	*04/17/15 15:15*	*04/24/15 19:47*	*1*

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: MB 180-138917/1-A
Matrix: Water
Analysis Batch: 139547

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138917

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
PCB-205 (Surr)	90		35 - 140	04/17/15 15:15	04/24/15 19:47	1
PCB-205 (Surr)	86		35 - 140	04/17/15 15:15	04/24/15 19:47	1

Lab Sample ID: LCS 180-138917/2-A
Matrix: Water
Analysis Batch: 139547

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138917

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
PCB-8			20.0	16.4		ng/L		82	40 - 140		
PCB-18			20.0	17.6		ng/L		88	40 - 140		
PCB-28			20.0	18.5		ng/L		93	40 - 140		
PCB-44			20.0	16.2		ng/L		81	40 - 140		
PCB-49			20.0	16.3		ng/L		81	40 - 140		
PCB-52			20.0	16.0		ng/L		80	40 - 140		
PCB-66			20.0	19.4		ng/L		97	40 - 140		
PCB-77			20.0	19.9		ng/L		100	40 - 140		
PCB-87			20.0	20.4		ng/L		102	40 - 140		
PCB-101			20.0	17.6		ng/L		88	40 - 140		
PCB-105			20.0	17.8		ng/L		89	40 - 140		
PCB-118			20.0	18.9		ng/L		94	40 - 140		
PCB-126			20.0	16.1		ng/L		80	40 - 140		
PCB-128			20.0	17.6		ng/L		88	40 - 140		
PCB-138			20.0	16.3		ng/L		81	40 - 140		
PCB-153			20.0	17.2		ng/L		86	40 - 140		
PCB-156			20.0	17.2		ng/L		86	40 - 140		
PCB-169			20.0	15.8		ng/L		79	40 - 140		
PCB-170			20.0	17.1		ng/L		85	40 - 140		
PCB-180			20.0	17.3		ng/L		87	40 - 140		
PCB-183			20.0	15.3		ng/L		77	40 - 140		
PCB-184			20.0	19.0		ng/L		95	40 - 140		
PCB-187			20.0	15.6		ng/L		78	40 - 140		
PCB-195			20.0	17.3		ng/L		87	40 - 140		
PCB-206			20.0	15.2		ng/L		76	40 - 140		
DCB Decachlorobiphenyl			20.0	16.8		ng/L		84	40 - 140		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene (Surr)	82		35 - 140
Tetrachloro-m-xylene (Surr)	81		35 - 140
PCB-205 (Surr)	90		35 - 140
PCB-205 (Surr)	88		35 - 140

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Lab Sample ID: MB 180-138915/1-A
Matrix: Water
Analysis Batch: 138993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138915

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		1.0	0.11	ug/L		04/17/15 14:10	04/20/15 21:25	1
Demeton, Total	ND		2.0	0.16	ug/L		04/17/15 14:10	04/20/15 21:25	1
Malathion	ND		1.0	0.11	ug/L		04/17/15 14:10	04/20/15 21:25	1
Methyl parathion	ND		1.0	0.11	ug/L		04/17/15 14:10	04/20/15 21:25	1
Parathion	ND		1.0	0.16	ug/L		04/17/15 14:10	04/20/15 21:25	1
Bolstar	ND		1.0	0.11	ug/L		04/17/15 14:10	04/20/15 21:25	1
Chlorpyrifos	ND		1.0	0.10	ug/L		04/17/15 14:10	04/20/15 21:25	1
Coumaphos	ND		1.0	0.15	ug/L		04/17/15 14:10	04/20/15 21:25	1
Diazinon	ND		1.0	0.094	ug/L		04/17/15 14:10	04/20/15 21:25	1
Dichlorvos	ND		1.0	0.085	ug/L		04/17/15 14:10	04/20/15 21:25	1
Dimethoate	ND		1.0	0.12	ug/L		04/17/15 14:10	04/20/15 21:25	1
Disulfoton	ND		1.0	0.10	ug/L		04/17/15 14:10	04/20/15 21:25	1
EPN	ND		1.0	0.12	ug/L		04/17/15 14:10	04/20/15 21:25	1
Mocap	ND		1.0	0.10	ug/L		04/17/15 14:10	04/20/15 21:25	1
Famphur	ND		1.0	0.12	ug/L		04/17/15 14:10	04/20/15 21:25	1
Fensulfothion	ND		1.0	0.17	ug/L		04/17/15 14:10	04/20/15 21:25	1
Fenthion	ND		1.0	0.085	ug/L		04/17/15 14:10	04/20/15 21:25	1
Mevinphos	ND		1.0	0.098	ug/L		04/17/15 14:10	04/20/15 21:25	1
Phorate	ND		1.0	0.092	ug/L		04/17/15 14:10	04/20/15 21:25	1
Ronnel	ND		1.0	0.10	ug/L		04/17/15 14:10	04/20/15 21:25	1
Stirophos	ND		1.0	0.096	ug/L		04/17/15 14:10	04/20/15 21:25	1
Sulfotepp	ND		1.0	0.095	ug/L		04/17/15 14:10	04/20/15 21:25	1
Thionazin	ND		1.0	0.10	ug/L		04/17/15 14:10	04/20/15 21:25	1
Tokuthion	ND		1.0	0.094	ug/L		04/17/15 14:10	04/20/15 21:25	1
Trichloronate	ND		1.0	0.099	ug/L		04/17/15 14:10	04/20/15 21:25	1
O,O,O-Triethyl phosphorothioate	ND		1.0	0.10	ug/L		04/17/15 14:10	04/20/15 21:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*96*		*49 - 122*	*04/17/15 14:10*	*04/20/15 21:25*	*1*
Tributyl phosphate	*92*		*49 - 122*	*04/17/15 14:10*	*04/20/15 21:25*	*1*
Triphenylphosphate	*96*		*45 - 145*	*04/17/15 14:10*	*04/20/15 21:25*	*1*
Triphenylphosphate	*100*		*45 - 145*	*04/17/15 14:10*	*04/20/15 21:25*	*1*

Lab Sample ID: LCS 180-138915/2-A
Matrix: Water
Analysis Batch: 138993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138915

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	10.0	9.82		ug/L		98	40 - 150
Malathion	10.0	10.4		ug/L		104	50 - 150
Methyl parathion	10.0	9.85		ug/L		98	41 - 148
Parathion	10.0	10.2		ug/L		102	56 - 125
Bolstar	10.0	10.4		ug/L		104	50 - 150
Chlorpyrifos	10.0	10.5		ug/L		105	50 - 130
Coumaphos	10.0	10.1		ug/L		101	50 - 150
Diazinon	10.0	10.2		ug/L		102	50 - 150

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCS 180-138915/2-A
Matrix: Water
Analysis Batch: 138993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138915

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dichlorvos			10.0	11.5		ug/L		115	30 - 150		
Dimethoate			10.0	11.2		ug/L		112	26 - 136		
Disulfoton			10.0	10.1		ug/L		101	45 - 124		
EPN			10.0	9.76		ug/L		98	50 - 150		
Mocap			10.0	10.4		ug/L		104	40 - 150		
Famphur			10.0	10.1		ug/L		101	52 - 131		
Fensulfothion			10.0	11.5		ug/L		115	38 - 150		
Fenthion			10.0	10.2		ug/L		102	10 - 150		
Mevinphos			10.0	10.2		ug/L		102	30 - 150		
Phorate			10.0	10.4		ug/L		104	41 - 135		
Ronnel			10.0	10.1		ug/L		101	50 - 150		
Stirophos			10.0	9.87		ug/L		99	50 - 150		
Sulfotepp			10.0	10.3		ug/L		103	56 - 128		
Thionazin			10.0	10.2		ug/L		102	44 - 128		
Tokuthion			10.0	10.2		ug/L		102	50 - 150		
Trichloronate			10.0	10.4		ug/L		104	10 - 150		
O,O,O-Triethyl phosphorothioate			10.0	9.86		ug/L		99	31 - 131		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tributyl phosphate	*103*		*49 - 122*
Tributyl phosphate	*107*		*49 - 122*
Triphenylphosphate	*103*		*45 - 145*
Triphenylphosphate	*106*		*45 - 145*

Lab Sample ID: LCSD 180-138915/3-A
Matrix: Water
Analysis Batch: 138993

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138915

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl			10.0	9.98		ug/L		100	40 - 150	2	30
Malathion			10.0	10.7		ug/L		107	50 - 150	3	30
Methyl parathion			10.0	10.1		ug/L		101	41 - 148	2	30
Parathion			10.0	10.4		ug/L		104	56 - 125	2	21
Bolstar			10.0	10.5		ug/L		105	50 - 150	1	30
Chlorpyrifos			10.0	10.7		ug/L		107	50 - 130	2	25
Coumaphos			10.0	10.2		ug/L		102	50 - 150	1	30
Diazinon			10.0	10.4		ug/L		104	50 - 150	2	30
Dichlorvos			10.0	11.7		ug/L		117	30 - 150	1	30
Dimethoate			10.0	11.4		ug/L		114	26 - 136	2	22
Disulfoton			10.0	10.3		ug/L		103	45 - 124	2	30
EPN			10.0	9.93		ug/L		99	50 - 150	2	30
Mocap			10.0	10.6		ug/L		106	40 - 150	2	30
Famphur			10.0	10.2		ug/L		102	52 - 131	1	24
Fensulfothion			10.0	11.5		ug/L		115	38 - 150	0	30
Fenthion			10.0	10.4		ug/L		104	10 - 150	1	30
Mevinphos			10.0	10.3		ug/L		103	30 - 150	0	30
Phorate			10.0	10.5		ug/L		105	41 - 135	1	24

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCSD 180-138915/3-A
Matrix: Water
Analysis Batch: 138993

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138915

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ronnel			10.0	10.1		ug/L		101	50 - 150	0	30
Stirophos			10.0	9.85		ug/L		99	50 - 150	0	30
Sulfotepp			10.0	10.6		ug/L		106	56 - 128	2	23
Thionazin			10.0	10.5		ug/L		105	44 - 128	3	21
Tokuthion			10.0	10.4		ug/L		104	50 - 150	2	30
Trichloronate			10.0	10.6		ug/L		106	10 - 150	2	30
O,O,O-Triethyl phosphorothioate			10.0	10.1		ug/L		101	31 - 131	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tributyl phosphate	*103*		*49 - 122*
Tributyl phosphate	*106*		*49 - 122*
Triphenylphosphate	*101*		*45 - 145*
Triphenylphosphate	*103*		*45 - 145*

Method: Organotins/GC - Organotins (GC/FPD)

Lab Sample ID: MB 200-87292/1-A
Matrix: Water
Analysis Batch: 87797

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87292

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.050	0.050	ug/L		04/24/15 09:33	05/04/15 21:57	1
Tributyltin	ND		0.045	0.045	ug/L		04/24/15 09:33	05/04/15 21:57	1
Dibutyltin	ND		0.039	0.039	ug/L		04/24/15 09:33	05/04/15 21:57	1
Monobutyltin	ND	cn	0.62	0.62	ug/L		04/24/15 09:33	05/04/15 21:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*54*		*15 - 150*	*04/24/15 09:33*	*05/04/15 21:57*	*1*
Tripentyltin	*52*		*15 - 150*	*04/24/15 09:33*	*05/04/15 21:57*	*1*

Lab Sample ID: LCS 200-87292/2-A
Matrix: Water
Analysis Batch: 87797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87292

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrabutyltin			0.500	0.223		ug/L		45	30 - 150
Tributyltin			0.445	0.216		ug/L		48	30 - 150
Dibutyltin			0.385	0.138		ug/L		36	30 - 150
Monobutyltin			1.55	ND	* cn	ug/L		9	10 - 48

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tripentyltin	*45*		*15 - 150*
Tripentyltin	*54*		*15 - 150*

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-139169/1-A
Matrix: Water
Analysis Batch: 139903

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 139169

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		30	2.6	ug/L		04/21/15 12:22	04/27/15 13:44	1
Arsenic	ND		1.0	0.29	ug/L		04/21/15 12:22	04/27/15 13:44	1
Barium	ND		10	0.098	ug/L		04/21/15 12:22	04/27/15 13:44	1
Beryllium	ND		1.0	0.037	ug/L		04/21/15 12:22	04/27/15 13:44	1
Cadmium	ND		1.0	0.11	ug/L		04/21/15 12:22	04/27/15 13:44	1
Calcium	14.3	J	500	2.8	ug/L		04/21/15 12:22	04/27/15 13:44	1
Chromium	ND		2.0	0.54	ug/L		04/21/15 12:22	04/27/15 13:44	1
Cobalt	ND		0.50	0.026	ug/L		04/21/15 12:22	04/27/15 13:44	1
Copper	ND		2.0	0.24	ug/L		04/21/15 12:22	04/27/15 13:44	1
Iron	ND		50	6.1	ug/L		04/21/15 12:22	04/27/15 13:44	1
Silver	ND		1.0	0.036	ug/L		04/21/15 12:22	04/27/15 13:44	1
Potassium	9.89	J	500	5.8	ug/L		04/21/15 12:22	04/27/15 13:44	1
Magnesium	ND		500	1.2	ug/L		04/21/15 12:22	04/27/15 13:44	1
Sodium	51.9	J	500	3.8	ug/L		04/21/15 12:22	04/27/15 13:44	1
Nickel	ND		1.0	0.17	ug/L		04/21/15 12:22	04/27/15 13:44	1
Lead	ND		1.0	0.019	ug/L		04/21/15 12:22	04/27/15 13:44	1
Antimony	ND		2.0	0.019	ug/L		04/21/15 12:22	04/27/15 13:44	1
Selenium	ND		5.0	0.42	ug/L		04/21/15 12:22	04/27/15 13:44	1
Thallium	ND		1.0	0.015	ug/L		04/21/15 12:22	04/27/15 13:44	1
Vanadium	ND		1.0	0.082	ug/L		04/21/15 12:22	04/27/15 13:44	1
Zinc	ND		5.0	0.96	ug/L		04/21/15 12:22	04/27/15 13:44	1
Manganese	ND		5.0	0.039	ug/L		04/21/15 12:22	04/27/15 13:44	1

Lab Sample ID: LCS 180-139169/2-A
Matrix: Water
Analysis Batch: 139903

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 139169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	1720		ug/L		86	80 - 120
Arsenic	40.0	37.8		ug/L		95	80 - 120
Barium	2000	1810		ug/L		90	80 - 120
Beryllium	50.0	44.5		ug/L		89	80 - 120
Cadmium	50.0	47.0		ug/L		94	80 - 120
Calcium	50000	46500		ug/L		93	80 - 120
Chromium	200	187		ug/L		93	80 - 120
Cobalt	500	459		ug/L		92	80 - 120
Copper	250	231		ug/L		92	80 - 120
Iron	1000	922		ug/L		92	80 - 120
Silver	50.0	46.9		ug/L		94	80 - 120
Potassium	50000	46400		ug/L		93	80 - 120
Magnesium	50000	42700		ug/L		85	80 - 120
Sodium	50000	44900		ug/L		90	80 - 120
Nickel	500	460		ug/L		92	80 - 120
Lead	20.0	19.7		ug/L		99	80 - 120
Antimony	500	463		ug/L		93	80 - 120
Selenium	10.0	10.5		ug/L		105	80 - 120
Thallium	50.0	48.6		ug/L		97	80 - 120
Vanadium	500	462		ug/L		92	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-139169/2-A
Matrix: Water
Analysis Batch: 139903

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 139169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	500	452		ug/L		90	80 - 120
Manganese	500	430		ug/L		86	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-139783/1-A
Matrix: Water
Analysis Batch: 139925

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139783

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		04/27/15 13:35	04/28/15 13:16	1

Lab Sample ID: LCS 180-139783/2-A
Matrix: Water
Analysis Batch: 139925

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139783

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.60		ug/L		104	80 - 120

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 180-140773/1-A
Matrix: Water
Analysis Batch: 141032

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140773

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		0.10	0.086	mg/L		05/06/15 14:45	05/08/15 14:06	1

Lab Sample ID: LCS 180-140773/2-A
Matrix: Water
Analysis Batch: 141032

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140773

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	2.00	2.02		mg/L		101	90 - 110

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 180-140363/52
Matrix: Water
Analysis Batch: 140363

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/02/15 09:10	1

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 180-140363/51
Matrix: Water
Analysis Batch: 140363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	4.00	4.02		mg/L		101	90 - 110

Method: 9014 - Cyanide

Lab Sample ID: MB 180-139252/4-A
Matrix: Water
Analysis Batch: 139325

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139252

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		10	2.5	ug/L		04/22/15 12:00	04/22/15 13:26	1

Lab Sample ID: HLCS 180-139252/2-A
Matrix: Water
Analysis Batch: 139325

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139252

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	250	239		ug/L		95	90 - 110

Lab Sample ID: LCS 180-139252/3-A
Matrix: Water
Analysis Batch: 139325

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139252

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	200	190		ug/L		95	85 - 115

Lab Sample ID: LLCS 180-139252/1-A
Matrix: Water
Analysis Batch: 139325

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139252

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	50.0	49.4		ug/L		99	90 - 110

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-138746/1-A
Matrix: Water
Analysis Batch: 138777

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138746

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		3.0	0.59	mg/L		04/16/15 11:30	04/16/15 16:48	1

Lab Sample ID: LCS 180-138746/2-A
Matrix: Water
Analysis Batch: 138777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138746

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	19.2	18.3		mg/L		95	85 - 115

Method: SM 5310C - TOC

Lab Sample ID: MB 180-139630/29
Matrix: Water
Analysis Batch: 139630

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1.0	0.19	mg/L			04/23/15 21:37	1

Lab Sample ID: LCS 180-139630/27
Matrix: Water
Analysis Batch: 139630

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	20.0	19.2		mg/L		96	80 - 120

Lab Sample ID: LCSD 180-139630/28
Matrix: Water
Analysis Batch: 139630

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	20.0	19.2		mg/L		96	80 - 120	0	20

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-178802/10-A
Matrix: Water
Analysis Batch: 178903

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 178802

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/01/15 04:45	05/01/15 10:49	1

Lab Sample ID: LCS 240-178802/11-A
Matrix: Water
Analysis Batch: 178903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 178802

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	1.69	1.57		mg/L		93	53 - 134

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total

Lab Sample ID: MB 240-177633/1-A
Matrix: Water
Analysis Batch: 177881

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 177633

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		04/23/15 11:00	04/24/15 12:29	1

Lab Sample ID: LCS 240-177633/2-A
Matrix: Water
Analysis Batch: 177881

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 177633

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	7.77	7.68		mg/L		99	65 - 144

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-43119-1

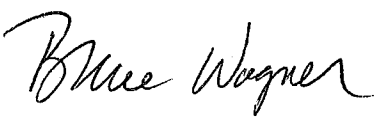
CBBT Thimble Shoal

Lot #: H5D170405

Carrie Gamber

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.



Bruce Wagner
Project Manager

April 27, 2015

ANALYTICAL METHODS SUMMARY

H5D170405

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

SAMPLE SUMMARY

H5D170405

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M6L91	001	EQB-CUTTER	04/14/15	14:45

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H5D170405

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the

PROJECT NARRATIVE
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concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

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Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration

PROJECT NARRATIVE
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W = amount of sample extracted (grams or liters)
S = percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: EQB-CUTTER

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D170405 - 001	**Work Order #....:**	M6L911AA	**Matrix.....:**	WS
Date Sampled....:	04/14/15	**Date Received....:**	04/17/15	**Units....:**	pg/L
Prep Date....:	04/17/15			**Dilution Factor:**	1
Prep Batch # ....:	5107011				
Initial Wgt/Vol :	1055 mL	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/23/15	1	ND	9.5	2.1	1.0	2.1
1,2,3,7,8-PeCDD	4/23/15	1	ND	47	1.0	0.5	0.50
1,2,3,4,7,8-HxCDD	4/23/15	1	ND	47	0.88	0.1	0.088
1,2,3,6,7,8-HxCDD	4/23/15	1	ND	47	1.1	0.1	0.11
1,2,3,7,8,9-HxCDD	4/23/15	1	ND	47	0.89	0.1	0.089
1,2,3,4,6,7,8-HpCDD	4/23/15	1	ND	47	1.0	0.01	0.010
OCDD	**4/23/15**	**1**	**18 B J**	**95**	**1.2**	**0.001**	**0.018**
2,3,7,8-TCDF	4/23/15	1	ND	9.5	1.4	0.1	0.14
1,2,3,7,8-PeCDF	4/23/15	1	ND	47	0.70	0.05	0.035
2,3,4,7,8-PeCDF	4/23/15	1	ND	47	0.65	0.5	0.32
1,2,3,4,7,8-HxCDF	4/23/15	1	ND	47	0.51	0.1	0.051
1,2,3,6,7,8-HxCDF	4/23/15	1	ND	47	0.46	0.1	0.046
2,3,4,6,7,8-HxCDF	4/23/15	1	ND	47	0.32	0.1	0.032
1,2,3,7,8,9-HxCDF	4/23/15	1	ND	47	0.63	0.1	0.063
1,2,3,4,6,7,8-HpCDF	4/23/15	1	ND	47	1.1	0.01	0.011
1,2,3,4,7,8,9-HpCDF	4/23/15	1	ND	47	1.6	0.01	0.016
OCDF	4/23/15	1	ND	95	1.4	0.001	0.0014

Total TEQ Concentration **3.6**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	81	(25 - 164)
13C-1,2,3,7,8-PeCDD	82	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	103	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	86	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	80	(23 - 140)
13C-OCDD	102	(17 - 157)
13C-2,3,7,8-TCDF	77	(24 - 169)
13C-1,2,3,7,8-PeCDF	72	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	69	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	97	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	66	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	65	(26 - 138)
13C-OCDF	82	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: EQB-CUTTER

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	95	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H5D170000 - 011B **Work Order #....:** M6L941AA **Matrix....:** WATER
Dilution Factor: 1
Prep Date....: 04/17/15 **Analysis Date....:** 04/22/15
Prep Batch # ....: 5107011
Initial Wgt/Vol : 1000 mL **Instrument ID....:** M2A **Method:** EPA-5 1613B
Analyst ID....: Patricia(Trish) M. Parsly

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	1.4	pg/L
1,2,3,7,8-PeCDD	ND		50	0.64	pg/L
1,2,3,4,7,8-HxCDD	ND		50	0.53	pg/L
1,2,3,6,7,8-HxCDD	ND		50	0.57	pg/L
1,2,3,7,8,9-HxCDD	ND		50	0.52	pg/L
1,2,3,4,6,7,8-HpCDD	ND		50	0.67	pg/L
OCDD	**1.8**	**Q J**	**100**	**0.39**	**pg/L**
2,3,7,8-TCDF	ND		10	1.0	pg/L
1,2,3,7,8-PeCDF	ND		50	0.48	pg/L
2,3,4,7,8-PeCDF	ND		50	0.47	pg/L
1,2,3,4,7,8-HxCDF	ND		50	0.31	pg/L
1,2,3,6,7,8-HxCDF	ND		50	0.30	pg/L
2,3,4,6,7,8-HxCDF	ND		50	0.29	pg/L
1,2,3,7,8,9-HxCDF	ND		50	0.39	pg/L
1,2,3,4,6,7,8-HpCDF	ND		50	0.47	pg/L
1,2,3,4,7,8,9-HpCDF	ND		50	0.68	pg/L
OCDF	ND		100	0.78	pg/L

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	89	25 - 164
13C-1,2,3,7,8-PeCDD	89	25 - 181
13C-1,2,3,4,7,8-HxCDD	79	32 - 141
13C-1,2,3,6,7,8-HxCDD	75	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	77	23 - 140
13C-OCDD	106	17 - 157
13C-2,3,7,8-TCDF	81	24 - 169
13C-1,2,3,7,8-PeCDF	80	24 - 185
13C-2,3,4,7,8-PeCDF	75	21 - 178
13C-1,2,3,4,7,8-HxCDF	61	26 - 152
13C-1,2,3,6,7,8-HxCDF	62	26 - 123
13C-2,3,4,6,7,8-HxCDF	69	28 - 136
13C-1,2,3,7,8,9-HxCDF	68	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	68	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	67	26 - 138
13C-OCDF	71	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D170000 - 011B	**Work Order #....:**	M6L941AA	**Matrix....:**	WATER
Dilution Factor:	1				
Prep Date....:	04/17/15	**Analysis Date....:**	04/22/15		
Prep Batch # ....:	5107011				
Initial Wgt/Vol :	1000 mL	**Instrument ID....:**	M2A	**Method:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	105	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D170405	**Work Order # ...:**	M6L941AC-LCS	**Matrix .....:**	WATER
LCS Lot-Sample# :	H5D170000 - 011				
Prep Date .....:	04/17/15	**Analysis Date ..:**	04/22/15		
Prep Batch # ...:	5107011				
Dilution Factor :	1				
Analyst ID.....:	Patricia(Trish) M. Parsl	**Instrument ID..:**	M2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	1000 mL				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**200**	**205**	**pg/L**	**102**		**(67 - 158)**
1,2,3,7,8-PeCDD	**1000**	**1010**	**pg/L**	**101**		**(70 - 142)**
1,2,3,4,7,8-HxCDD	**1000**	**954**	**pg/L**	**95**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**1000**	**917**	**pg/L**	**92**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**1000**	**1100**	**pg/L**	**110**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**1000**	**911**	**pg/L**	**91**		**(70 - 140)**
OCDD	**2000**	**1730**	**pg/L**	**87**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**200**	**210**	**pg/L**	**105**		**(75 - 158)**
1,2,3,7,8-PeCDF	**1000**	**884**	**pg/L**	**88**		**(80 - 134)**
2,3,4,7,8-PeCDF	**1000**	**942**	**pg/L**	**94**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**1000**	**971**	**pg/L**	**97**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**1000**	**947**	**pg/L**	**95**		**(84 - 130)**
2,3,4,6,7,8-HxCDF	**1000**	**924**	**pg/L**	**92**		**(70 - 156)**
1,2,3,7,8,9-HxCDF	**1000**	**926**	**pg/L**	**93**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**1000**	**932**	**pg/L**	**93**		**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**1000**	**965**	**pg/L**	**96**		**(78 - 138)**
OCDF	**2000**	**1830**	**pg/L**	**92**		**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	86	(20 - 175)
13C-1,2,3,7,8-PeCDD	91	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	84	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	80	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	78	(26 - 166)
13C-OCDD	85	(13 - 199)
13C-2,3,7,8-TCDF	76	(22 - 152)
13C-1,2,3,7,8-PeCDF	85	(21 - 192)
13C-2,3,4,7,8-PeCDF	79	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	63	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	67	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	73	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	70	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	68	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	65	(20 - 186)
13C-OCDF	67	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	103	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSD170405

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195905.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43119-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/7/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EQB-CUTTER (180-43119-1)	4/14/15	14:45 Eastern		Water			X	2	RC/ND pH=6

CUSTODY SEALS INTACT
RECEIVED AT RT 0.6, 0.7/ CT 0.6, 0.7°C
BKD 4-17-15
2 COOLERS FEDXP 568237255277 M

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4/16/15 1200	TAP	[signature]	4-17-15 09:30	TA KNOX

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSD170405

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC57 Correction factor: 0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?			✓	☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: 4252 2017/07	✓			☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?	✓			If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		✓		☐ **19a** Other

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number: HC 432654

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: NA

Sample Receiving Associate: Ryan Henry Date: 4/17/15

QA026R29.doc, 041115

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement — TestAmerica Quote #: 18010105

Billing (Project #, phase): 15204.01, 0007

Page 1 of 1

Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Semivolatiles and PAHs SW846 8270C	Metals SW846 6020/7471A	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Butyl Tins Unger Method	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon	Remarks
4/14/15	1445	X		EQ13 CUTTER	20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SEE PROJECT SPECIFIC ANALYTE LIST

Parameters/Method Numbers for Analysis

Chain of Custody Record

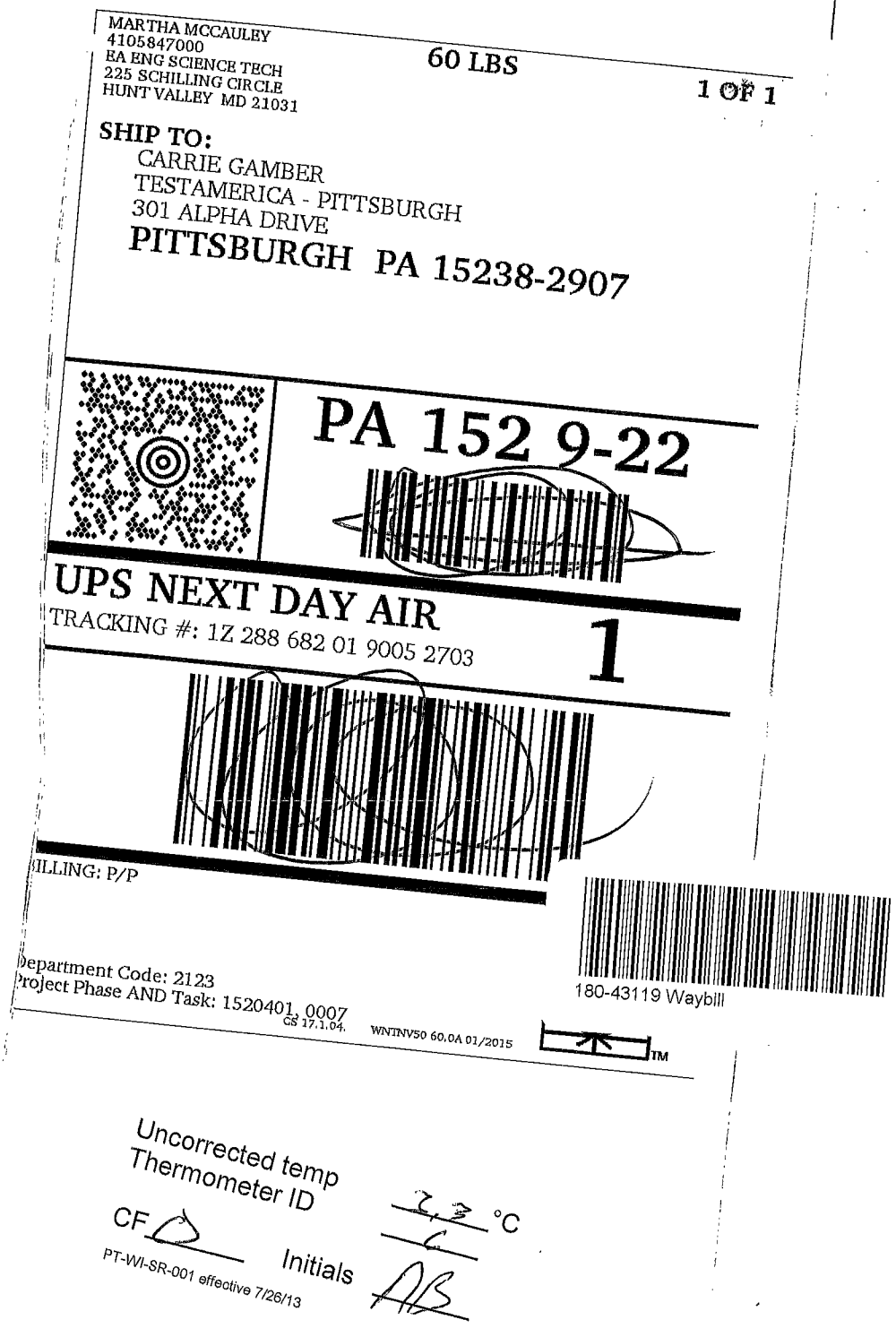
Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
	4/14/15 1515		4/15/15 940
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time
	4/14/15 1700		

OCEAN WATER
Parallel Thimble Shoal Tunnel


MARTHA MCCAULEY
4105847000
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031
60 LBS
1 OF 1
SHIP TO:
CARRIE GAMBER
TESTAMERICA - PITTSBURGH
301 ALPHA DRIVE
PITTSBURGH PA 15238-2907
PA 152 9-22
UPS NEXT DAY AIR
TRACKING #: 1Z 288 682 01 9005 2703
1
ILLING: P/P
epartment Code: 2123
roject Phase AND Task: 1520401. 0007
CS 17.1.04.
WNTINV50 60.0A 01/2015
180-43119 Waybill
Uncorrected temp
Thermometer ID
CF
Initials
PT-WI-SR-001 effective 7/26/13
°C

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43119-1

Login Number: 43119
List Number: 1
Creator: Kovitch, Christina M

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43119-1

Login Number: 43119
List Number: 2
Creator: Goodrich, Kenneth L

List Source: TestAmerica Burlington
List Creation: 04/17/15 12:44 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	No NUMBERS
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.4ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195906.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43119-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 5/7/2015			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_GC/3510C_14d Organotins (GC/FPD)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EQB-CUTTER (180-43119-1)	4/14/15	14:45 Eastern		Water			X	2	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	4/16/15 1700	TAP	[signature]	4/17/15 1000	TAPIV
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Part # 159469-434 RIT 02/15 •

ORIGIN ID:AGCA (412) 963-7058
SAMPLE RECEIVING
TEST AMERICA LABORATORIES INC
301 ALPHA DR

PITTSBURGH, PA 152381330
UNITED STATES US

SHIP DATE: 16APR15
ACTWGT: 32.0 LB MAN
CAD: 741733/CAFE2807

BILL RECIPIENT

TO SHIPPING/RECEIVING
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: S180-23616

FedEx Express

J14121407360Tuv

TRK# 0201 5682 3725 5336

FRI - 17 APR 10:30A
PRIORITY OVERNIGHT

XH BTVA

05403
VT-US BTV

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-195904.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43119-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 5/7/2015	Analysis Requested		Preservation Codes:
City: North Canton	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify)
State, Zip: OH, 44720				Other:
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			C037

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_P_E/365_Prep Total Phosphorus as P	SM4500Norg_C/SM4500Norg_C_P Nitrogen-Total Kjeldahl	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EQB-CUTTER (180-43119-1)	4/14/15	14:45 Eastern		Water			X	X	2	2x250(s)

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Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 4/16/15 1700	Company TAP	Received by:	Date/Time: 4/17/15 10:00	Company TA Canton
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative Login # :
Canton Facility

Client TA-Pitt Site Name Cooler unpacked by:

Cooler Received on 4/17/15 Opened on 4/17/15

FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

~~IR GUN# A (CF +4.0 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. 4.4 °C Corrected Cooler Temp. 4.9 °C ☐ See Multiple Cooler Form

~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2.	Were custody seals on the outside of the cooler(s)? If Yes Quantity	Yes No
	-Were custody seals on the outside of the cooler(s) signed & dated?	Yes No NA
	-Were custody seals on the bottle(s)?	Yes No
3.	Shippers' packing slip attached to the cooler(s)?	Yes No
4.	Did custody papers accompany the sample(s)?	Yes No
5.	Were the custody papers relinquished & signed in the appropriate place?	Yes No
6.	Was/were the sampler(s) clearly identified on the COC?	Yes No
7.	Did all bottles arrive in good condition (Unbroken)?	Yes No
8.	Could all bottle labels be reconciled with the COC?	Yes No
9.	Were correct bottle(s) used for the test(s) indicated?	Yes No
10.	Sufficient quantity received to perform indicated analyses?	Yes No
11.	Were sample(s) at the correct pH upon receipt?	Yes No NA pH Strip Lot# HC425511
12.	Were VOAs on the COC?	Yes No
13.	Were air bubbles >6 mm in any VOA vials?	Yes No NA
14.	Was a trip blank present in the cooler(s)? Trip Blank Lot #	Yes No

Contacted PM Date by via Verbal Voice Mail Other

Concerning

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by:

15. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

~~16. SAMPLE PRESERVATION~~

Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-43224-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/10/2015 4:31 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/10/2015
Revision: 1

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
*	LCS or LCSD is outside acceptance limits.
cn	Refer to Case Narrative for further detail

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-43224-1 REVISED

NOTE: This report has been revised to include Manganese per EA Engineering's request.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/18/2015; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.7º C and 3.8º C.

SEMIVOLATILES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PESTICIDES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PCB CONGENERS
The continuing calibration verification (CCV) associated with batch 140217 recovered above the upper control limit for BZ-8, 126, 28, 66, and 77. The samples associated with this CCV were non-detects or j values for the affected analytes; therefore, the data have been reported.

ORGANOPHOSPHORUS PESTICIDES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ORGANOTINS
The samples in this delivery group were analyzed for alkyltins. The samples were analyzed using an internal standard method of analysis with tetra-n-propyltin as the internal standard. Peak areas were used to measure the instrument response in performing calibration and quantification. The analytical report forms correctly list the alkyltin analytes as unsubstituted alkyltin compounds. The analysis of three of the compounds employed the use of alkyltin chlorides. The results from the alkyltin chlorides required conversion factors to reflect the concentrations of the unsubstituted forms. For instance, tributyltin chloride was converted to tributyltin using a conversion factor of 0.89. Dibutyltin dichloride was converted to dibutyltin using a factor of 0.77. Monobutyltin trichloride was converted to monobutyltin using a factor of 0.62 and the surrogate, tripentyltin chloride was converted to tripentyltin using a factor of 0.90.

Monobutyltin has poor extraction efficiency exhibiting a mean recovery of typically less than 5%. The low mean recovery is typical of routine implementation of this method. Although the laboratory has reported control limits of 10-48% for this analyte these control limits are not based on historical performance and do not indicate expected performance of this analyte by this method. The laboratory does not use the recovery or performance of this compound as a basis for acceptance of the analytical batch. All analytical results, both positive and non-detects are considered qualitative values and are flagged with a cn qualifier. EQB-PUMP (180-43224-1), (LCS 200-87292/2-A) and (MB 200-87292/1-A)

Monobutyltin failed the recovery criteria low for LCS 200-87292/2-A.

METALS
Calcium, Potassium and Sodium were detected in method blank MB 180-139169/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

GENERAL CHEMSITRY
Sulfide was detected in method blank MB 180-139298/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

SUBCONTRACT WORK

Method 1613 B Dioxins/Furans + TEQs (EA criteria): This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43224-1

Client Sample ID: EQB-PUMP

Lab Sample ID: 180-43224-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	0.59	J	2.0	0.44	ug/L	1		8270D LL	Total/NA
Endosulfan II	0.0023		0.0013	0.00097	ug/L	1		8081B_LL	Total/NA
PCB-8	0.44	J p	0.99	0.32	ng/L	1		8082A	Total/NA
PCB-44	0.11	J p	0.99	0.076	ng/L	1		8082A	Total/NA
PCB-52	0.51	J p	0.99	0.15	ng/L	1		8082A	Total/NA
Aluminum	14	J	30	2.6	ug/L	1		6020A	Total Recoverable
Barium	0.94	J	10	0.098	ug/L	1		6020A	Total Recoverable
Calcium	37	J B	500	2.8	ug/L	1		6020A	Total Recoverable
Chromium	2.9		2.0	0.54	ug/L	1		6020A	Total Recoverable
Cobalt	0.035	J	0.50	0.026	ug/L	1		6020A	Total Recoverable
Copper	0.60	J	2.0	0.24	ug/L	1		6020A	Total Recoverable
Iron	7.1	J	50	6.1	ug/L	1		6020A	Total Recoverable
Magnesium	2.6	J	500	1.2	ug/L	1		6020A	Total Recoverable
Sodium	130	J B	500	3.8	ug/L	1		6020A	Total Recoverable
Nickel	0.26	J	1.0	0.17	ug/L	1		6020A	Total Recoverable
Thallium	0.025	J	1.0	0.015	ug/L	1		6020A	Total Recoverable
Vanadium	0.12	J	1.0	0.082	ug/L	1		6020A	Total Recoverable
Zinc	4.5	J	5.0	0.96	ug/L	1		6020A	Total Recoverable
Manganese	0.22	J	5.0	0.039	ug/L	1		6020A	Total Recoverable
Total Organic Carbon - Duplicates	0.32	J	1.0	0.19	mg/L	1		SM 5310C	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: EQB-PUMP
Date Collected: 04/16/15 16:20
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43224-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		20	4.7	ug/L		04/23/15 11:21	05/08/15 17:47	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		04/23/15 11:21	05/08/15 17:47	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		04/23/15 11:21	05/08/15 17:47	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		04/23/15 11:21	05/08/15 17:47	1
Benzoic acid	ND		5.0	1.6	ug/L		04/23/15 11:21	05/08/15 17:47	1
Bis(2-chloroethyl)ether	ND		1.0	0.032	ug/L		04/23/15 11:21	05/08/15 17:47	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		04/23/15 11:21	05/08/15 17:47	1
Bis(2-ethylhexyl) phthalate	**0.59**	**J**	2.0	0.44	ug/L		04/23/15 11:21	05/08/15 17:47	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		04/23/15 11:21	05/08/15 17:47	1
Butyl benzyl phthalate	ND		1.0	0.21	ug/L		04/23/15 11:21	05/08/15 17:47	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		04/23/15 11:21	05/08/15 17:47	1
2-Chloronaphthalene	ND		0.20	0.031	ug/L		04/23/15 11:21	05/08/15 17:47	1
2-Chlorophenol	ND		1.0	0.23	ug/L		04/23/15 11:21	05/08/15 17:47	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		04/23/15 11:21	05/08/15 17:47	1
Di-n-butyl phthalate	ND		1.0	0.24	ug/L		04/23/15 11:21	05/08/15 17:47	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		04/23/15 11:21	05/08/15 17:47	1
2,4-Dichlorophenol	ND		1.0	0.067	ug/L		04/23/15 11:21	05/08/15 17:47	1
Diethyl phthalate	ND		1.0	0.30	ug/L		04/23/15 11:21	05/08/15 17:47	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		04/23/15 11:21	05/08/15 17:47	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		04/23/15 11:21	05/08/15 17:47	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		04/23/15 11:21	05/08/15 17:47	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		04/23/15 11:21	05/08/15 17:47	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		04/23/15 11:21	05/08/15 17:47	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		04/23/15 11:21	05/08/15 17:47	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.12	ug/L		04/23/15 11:21	05/08/15 17:47	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		04/23/15 11:21	05/08/15 17:47	1
Hexachlorobenzene	ND		1.0	0.061	ug/L		04/23/15 11:21	05/08/15 17:47	1
Hexachlorobutadiene	ND		1.0	0.094	ug/L		04/23/15 11:21	05/08/15 17:47	1
Hexachloroethane	ND		1.0	0.14	ug/L		04/23/15 11:21	05/08/15 17:47	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		04/23/15 11:21	05/08/15 17:47	1
Isophorone	ND		1.0	0.074	ug/L		04/23/15 11:21	05/08/15 17:47	1
2-Methylphenol	ND		1.0	0.19	ug/L		04/23/15 11:21	05/08/15 17:47	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		04/23/15 11:21	05/08/15 17:47	1
Nitrobenzene	ND		2.0	0.15	ug/L		04/23/15 11:21	05/08/15 17:47	1
2-Nitrophenol	ND		1.0	0.11	ug/L		04/23/15 11:21	05/08/15 17:47	1
4-Nitrophenol	ND		5.0	0.80	ug/L		04/23/15 11:21	05/08/15 17:47	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		04/23/15 11:21	05/08/15 17:47	1
N-Nitrosodimethylamine	ND		1.0	0.12	ug/L		04/23/15 11:21	05/08/15 17:47	1
N-Nitrosodi-n-propylamine	ND		1.0	0.050	ug/L		04/23/15 11:21	05/08/15 17:47	1
2,2'-oxybis[1-chloropropane]	ND		1.0	0.024	ug/L		04/23/15 11:21	05/08/15 17:47	1
Pentachlorophenol	ND		1.0	0.50	ug/L		04/23/15 11:21	05/08/15 17:47	1
Phenol	ND		1.0	0.055	ug/L		04/23/15 11:21	05/08/15 17:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		04/23/15 11:21	05/08/15 17:47	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		04/23/15 11:21	05/08/15 17:47	1
2-Methylnaphthalene	ND		0.20	0.019	ug/L		04/23/15 11:21	05/08/15 17:47	1
1-Methylnaphthalene	ND		0.20	0.031	ug/L		04/23/15 11:21	05/08/15 17:47	1
Naphthalene	ND		0.20	0.023	ug/L		04/23/15 11:21	05/08/15 17:47	1
Acenaphthylene	ND		0.20	0.022	ug/L		04/23/15 11:21	05/08/15 17:47	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: EQB-PUMP
Date Collected: 04/16/15 16:20
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43224-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.029	ug/L		04/23/15 11:21	05/08/15 17:47	1
Fluorene	ND		0.20	0.024	ug/L		04/23/15 11:21	05/08/15 17:47	1
Phenanthrene	ND		0.20	0.042	ug/L		04/23/15 11:21	05/08/15 17:47	1
Anthracene	ND		0.20	0.019	ug/L		04/23/15 11:21	05/08/15 17:47	1
Fluoranthene	ND		0.20	0.021	ug/L		04/23/15 11:21	05/08/15 17:47	1
Pyrene	ND		0.20	0.023	ug/L		04/23/15 11:21	05/08/15 17:47	1
Benzo[a]anthracene	ND		0.20	0.037	ug/L		04/23/15 11:21	05/08/15 17:47	1
Chrysene	ND		0.20	0.031	ug/L		04/23/15 11:21	05/08/15 17:47	1
Benzo[b]fluoranthene	ND		0.20	0.049	ug/L		04/23/15 11:21	05/08/15 17:47	1
Benzo[k]fluoranthene	ND		0.20	0.030	ug/L		04/23/15 11:21	05/08/15 17:47	1
Benzo[a]pyrene	ND		0.20	0.028	ug/L		04/23/15 11:21	05/08/15 17:47	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.043	ug/L		04/23/15 11:21	05/08/15 17:47	1
Dibenz(a,h)anthracene	ND		0.20	0.027	ug/L		04/23/15 11:21	05/08/15 17:47	1
Benzo[g,h,i]perylene	ND		0.20	0.029	ug/L		04/23/15 11:21	05/08/15 17:47	1
Benzyl alcohol	ND		1.0	0.20	ug/L		04/23/15 11:21	05/08/15 17:47	1
Dibenzofuran	ND		1.0	0.097	ug/L		04/23/15 11:21	05/08/15 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*50*		*28 - 109*	*04/23/15 11:21*	*05/08/15 17:47*	*1*
2-Fluorophenol (Surr)	*30*		*20 - 105*	*04/23/15 11:21*	*05/08/15 17:47*	*1*
2,4,6-Tribromophenol (Surr)	*32*		*30 - 118*	*04/23/15 11:21*	*05/08/15 17:47*	*1*
Nitrobenzene-d5 (Surr)	*50*		*27 - 114*	*04/23/15 11:21*	*05/08/15 17:47*	*1*
Phenol-d5 (Surr)	*37*		*25 - 105*	*04/23/15 11:21*	*05/08/15 17:47*	*1*
Terphenyl-d14 (Surr)	*69*		*20 - 118*	*04/23/15 11:21*	*05/08/15 17:47*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: EQB-PUMP
Date Collected: 04/16/15 16:20
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43224-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00082	ug/L		04/21/15 13:00	04/24/15 00:07	1
alpha-BHC	ND		0.0013	0.00065	ug/L		04/21/15 13:00	04/24/15 00:07	1
beta-BHC	ND		0.0013	0.00099	ug/L		04/21/15 13:00	04/24/15 00:07	1
delta-BHC	ND		0.0013	0.00038	ug/L		04/21/15 13:00	04/24/15 00:07	1
gamma-BHC (Lindane)	ND		0.0013	0.00079	ug/L		04/21/15 13:00	04/24/15 00:07	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		04/21/15 13:00	04/24/15 00:07	1
4,4'-DDD	ND		0.0013	0.00066	ug/L		04/21/15 13:00	04/24/15 00:07	1
4,4'-DDE	ND		0.0013	0.00078	ug/L		04/21/15 13:00	04/24/15 00:07	1
4,4'-DDT	ND		0.0013	0.00073	ug/L		04/21/15 13:00	04/24/15 00:07	1
Dieldrin	ND		0.0013	0.00081	ug/L		04/21/15 13:00	04/24/15 00:07	1
Endosulfan I	ND		0.0013	0.00093	ug/L		04/21/15 13:00	04/24/15 00:07	1
Endosulfan II	**0.0023**		0.0013	0.00097	ug/L		04/21/15 13:00	04/24/15 00:07	1
Endosulfan sulfate	ND		0.0013	0.00056	ug/L		04/21/15 13:00	04/24/15 00:07	1
Endrin	ND		0.0013	0.00095	ug/L		04/21/15 13:00	04/24/15 00:07	1
Endrin aldehyde	ND		0.0013	0.00089	ug/L		04/21/15 13:00	04/24/15 00:07	1
Heptachlor	ND		0.0013	0.00098	ug/L		04/21/15 13:00	04/24/15 00:07	1
Heptachlor epoxide	ND		0.0013	0.00096	ug/L		04/21/15 13:00	04/24/15 00:07	1
Methoxychlor	ND		0.0025	0.00090	ug/L		04/21/15 13:00	04/24/15 00:07	1
Toxaphene	ND		0.099	0.018	ug/L		04/21/15 13:00	04/24/15 00:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*96*		*60 - 111*	*04/21/15 13:00*	*04/24/15 00:07*	*1*
Tetrachloro-m-xylene	*93*		*60 - 111*	*04/21/15 13:00*	*04/24/15 00:07*	*1*
DCB Decachlorobiphenyl (Surr)	*91*		*45 - 122*	*04/21/15 13:00*	*04/24/15 00:07*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*45 - 122*	*04/21/15 13:00*	*04/24/15 00:07*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: EQB-PUMP
Date Collected: 04/16/15 16:20
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43224-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenside	ND		0.0032	0.0015	ug/L		04/21/15 13:00	04/24/15 17:16	1
DCPA	ND		0.0025	0.00034	ug/L		04/21/15 13:00	04/24/15 17:16	1
2,4'-DDD	ND		0.0013	0.00016	ug/L		04/21/15 13:00	04/24/15 17:16	1
2,4'-DDE	ND		0.0013	0.00015	ug/L		04/21/15 13:00	04/24/15 17:16	1
2,4'-DDT	ND		0.0013	0.00022	ug/L		04/21/15 13:00	04/24/15 17:16	1
Mirex	ND		0.0013	0.00048	ug/L		04/21/15 13:00	04/24/15 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*96*		*60 - 111*	*04/21/15 13:00*	*04/24/15 17:16*	*1*
Tetrachloro-m-xylene	*95*		*60 - 111*	*04/21/15 13:00*	*04/24/15 17:16*	*1*
DCB Decachlorobiphenyl (Surr)	*105*		*45 - 122*	*04/21/15 13:00*	*04/24/15 17:16*	*1*
DCB Decachlorobiphenyl (Surr)	*102*		*45 - 122*	*04/21/15 13:00*	*04/24/15 17:16*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: EQB-PUMP
Date Collected: 04/16/15 16:20
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43224-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	**0.44**	**J p**	0.99	0.32	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-18	ND		0.99	0.19	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-28	ND		0.99	0.23	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-44	**0.11**	**J p**	0.99	0.076	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-49	ND		0.99	0.15	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-52	**0.51**	**J p**	0.99	0.15	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-66	ND		0.99	0.13	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-77	ND		0.99	0.15	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-87	ND		0.99	0.079	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-101	ND		0.99	0.15	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-105	ND		0.99	0.079	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-118	ND		0.99	0.12	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-126	ND		0.99	0.31	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-128	ND		0.99	0.084	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-138	ND		0.99	0.15	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-153	ND		0.99	0.12	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-156	ND		0.99	0.078	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-169	ND		0.99	0.22	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-170	ND		0.99	0.11	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-180	ND		0.99	0.079	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-183	ND		0.99	0.27	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-184	ND		0.99	0.14	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-187	ND		0.99	0.40	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-195	ND		0.99	0.10	ng/L		04/21/15 11:45	05/01/15 13:53	1
PCB-206	ND		0.99	0.17	ng/L		04/21/15 11:45	05/01/15 13:53	1
DCB Decachlorobiphenyl	ND		0.99	0.10	ng/L		04/21/15 11:45	05/01/15 13:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*85*		*35 - 140*	*04/21/15 11:45*	*05/01/15 13:53*	*1*
Tetrachloro-m-xylene (Surr)	*87*		*35 - 140*	*04/21/15 11:45*	*05/01/15 13:53*	*1*
PCB-205 (Surr)	*96*		*35 - 140*	*04/21/15 11:45*	*05/01/15 13:53*	*1*
PCB-205 (Surr)	*102*		*35 - 140*	*04/21/15 11:45*	*05/01/15 13:53*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: EQB-PUMP
Date Collected: 04/16/15 16:20
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43224-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		1.0	0.11	ug/L		04/21/15 11:45	04/22/15 09:11	1
Demeton, Total	ND		2.0	0.16	ug/L		04/21/15 11:45	04/22/15 09:11	1
Malathion	ND		1.0	0.11	ug/L		04/21/15 11:45	04/22/15 09:11	1
Methyl parathion	ND		1.0	0.11	ug/L		04/21/15 11:45	04/22/15 09:11	1
Parathion	ND		1.0	0.16	ug/L		04/21/15 11:45	04/22/15 09:11	1
Bolstar	ND		1.0	0.11	ug/L		04/21/15 11:45	04/22/15 09:11	1
Chlorpyrifos	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 09:11	1
Coumaphos	ND		1.0	0.15	ug/L		04/21/15 11:45	04/22/15 09:11	1
Diazinon	ND		1.0	0.094	ug/L		04/21/15 11:45	04/22/15 09:11	1
Dichlorvos	ND		1.0	0.085	ug/L		04/21/15 11:45	04/22/15 09:11	1
Dimethoate	ND		1.0	0.12	ug/L		04/21/15 11:45	04/22/15 09:11	1
Disulfoton	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 09:11	1
EPN	ND		1.0	0.12	ug/L		04/21/15 11:45	04/22/15 09:11	1
Mocap	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 09:11	1
Famphur	ND		1.0	0.12	ug/L		04/21/15 11:45	04/22/15 09:11	1
Fensulfothion	ND		1.0	0.17	ug/L		04/21/15 11:45	04/22/15 09:11	1
Fenthion	ND		1.0	0.085	ug/L		04/21/15 11:45	04/22/15 09:11	1
Mevinphos	ND		1.0	0.098	ug/L		04/21/15 11:45	04/22/15 09:11	1
Phorate	ND		1.0	0.092	ug/L		04/21/15 11:45	04/22/15 09:11	1
Ronnel	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 09:11	1
Stirophos	ND		1.0	0.096	ug/L		04/21/15 11:45	04/22/15 09:11	1
Sulfotepp	ND		1.0	0.095	ug/L		04/21/15 11:45	04/22/15 09:11	1
Thionazin	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 09:11	1
Tokuthion	ND		1.0	0.094	ug/L		04/21/15 11:45	04/22/15 09:11	1
Trichloronate	ND		1.0	0.099	ug/L		04/21/15 11:45	04/22/15 09:11	1
O,O,O-Triethyl phosphorothioate	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 09:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*96*		*49 - 122*	*04/21/15 11:45*	*04/22/15 09:11*	*1*
Tributyl phosphate	*92*		*49 - 122*	*04/21/15 11:45*	*04/22/15 09:11*	*1*
Triphenylphosphate	*92*		*45 - 145*	*04/21/15 11:45*	*04/22/15 09:11*	*1*
Triphenylphosphate	*97*		*45 - 145*	*04/21/15 11:45*	*04/22/15 09:11*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: EQB-PUMP
Date Collected: 04/16/15 16:20
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43224-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.051	0.051	ug/L		04/24/15 09:33	05/05/15 00:37	1
Tributyltin	ND		0.045	0.045	ug/L		04/24/15 09:33	05/05/15 00:37	1
Dibutyltin	ND		0.039	0.039	ug/L		04/24/15 09:33	05/05/15 00:37	1
Monobutyltin	ND	* cn	0.63	0.63	ug/L		04/24/15 09:33	05/05/15 00:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*65*		*15 - 150*	*04/24/15 09:33*	*05/05/15 00:37*	*1*
Tripentyltin	*61*		*15 - 150*	*04/24/15 09:33*	*05/05/15 00:37*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: EQB-PUMP
Date Collected: 04/16/15 16:20
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43224-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**14**	**J**	30	2.6	ug/L		04/21/15 12:22	04/27/15 14:54	1
Arsenic	ND		1.0	0.29	ug/L		04/21/15 12:22	04/27/15 14:54	1
Barium	**0.94**	**J**	10	0.098	ug/L		04/21/15 12:22	04/27/15 14:54	1
Beryllium	ND		1.0	0.037	ug/L		04/21/15 12:22	04/27/15 14:54	1
Cadmium	ND		1.0	0.11	ug/L		04/21/15 12:22	04/27/15 14:54	1
Calcium	**37**	**J B**	500	2.8	ug/L		04/21/15 12:22	04/27/15 14:54	1
Chromium	**2.9**		2.0	0.54	ug/L		04/21/15 12:22	04/27/15 14:54	1
Cobalt	**0.035**	**J**	0.50	0.026	ug/L		04/21/15 12:22	04/27/15 14:54	1
Copper	**0.60**	**J**	2.0	0.24	ug/L		04/21/15 12:22	04/27/15 14:54	1
Iron	**7.1**	**J**	50	6.1	ug/L		04/21/15 12:22	04/27/15 14:54	1
Silver	ND		1.0	0.036	ug/L		04/21/15 12:22	04/27/15 14:54	1
Potassium	ND		500	5.8	ug/L		04/21/15 12:22	04/27/15 14:54	1
Magnesium	**2.6**	**J**	500	1.2	ug/L		04/21/15 12:22	04/27/15 14:54	1
Sodium	**130**	**J B**	500	3.8	ug/L		04/21/15 12:22	04/27/15 14:54	1
Nickel	**0.26**	**J**	1.0	0.17	ug/L		04/21/15 12:22	04/27/15 14:54	1
Lead	ND		1.0	0.019	ug/L		04/21/15 12:22	04/27/15 14:54	1
Antimony	ND		2.0	0.019	ug/L		04/21/15 12:22	04/27/15 14:54	1
Selenium	ND		5.0	0.42	ug/L		04/21/15 12:22	04/27/15 14:54	1
Thallium	**0.025**	**J**	1.0	0.015	ug/L		04/21/15 12:22	04/27/15 14:54	1
Vanadium	**0.12**	**J**	1.0	0.082	ug/L		04/21/15 12:22	04/27/15 14:54	1
Zinc	**4.5**	**J**	5.0	0.96	ug/L		04/21/15 12:22	04/27/15 14:54	1
Manganese	**0.22**	**J**	5.0	0.039	ug/L		04/21/15 12:22	04/27/15 14:54	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: EQB-PUMP
Date Collected: 04/16/15 16:20
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43224-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/05/15 07:44	05/05/15 14:53	1

General Chemistry

Client Sample ID: EQB-PUMP
Date Collected: 04/16/15 16:20
Date Received: 04/18/15 09:00

Lab Sample ID: 180-43224-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		0.10	0.086	mg/L		05/13/15 10:00	05/13/15 14:44	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/02/15 09:55	1
Cyanide, Total	ND		10	2.5	ug/L		04/29/15 12:00	04/29/15 13:53	1
Sulfide	ND		3.0	0.59	mg/L		04/22/15 12:30	04/22/15 17:58	1
Total Organic Carbon - Duplicates	**0.32**	**J**	1.0	0.19	mg/L			04/24/15 00:16	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/07/15 04:57	05/07/15 12:54	1
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		04/27/15 13:15	04/28/15 13:30	1

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43224-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
1,2,4-Trichlorobenzene	1.0	0.085	ug/L	8270D LL
1,2-Dichlorobenzene	1.0	0.11	ug/L	8270D LL
1,2-Diphenylhydrazine(as Azobenzene)	1.0	0.12	ug/L	8270D LL
1,3-Dichlorobenzene	1.0	0.075	ug/L	8270D LL
1,4-Dichlorobenzene	1.0	0.16	ug/L	8270D LL
1-Methylnaphthalene	0.20	0.031	ug/L	8270D LL
2,2'-oxybis[1-chloropropane]	1.0	0.024	ug/L	8270D LL
2,4,6-Trichlorophenol	1.0	0.30	ug/L	8270D LL
2,4-Dichlorophenol	1.0	0.067	ug/L	8270D LL
2,4-Dimethylphenol	1.0	0.17	ug/L	8270D LL
2,4-Dinitrophenol	5.0	2.5	ug/L	8270D LL
2,4-Dinitrotoluene	1.0	0.21	ug/L	8270D LL
2,6-Dinitrotoluene	1.0	0.14	ug/L	8270D LL
2-Chloronaphthalene	0.20	0.031	ug/L	8270D LL
2-Chlorophenol	1.0	0.23	ug/L	8270D LL
2-Methylnaphthalene	0.20	0.019	ug/L	8270D LL
2-Methylphenol	1.0	0.19	ug/L	8270D LL
2-Nitrophenol	1.0	0.11	ug/L	8270D LL
3,3'-Dichlorobenzidine	1.0	0.15	ug/L	8270D LL
4,6-Dinitro-2-methylphenol	5.0	1.6	ug/L	8270D LL
4-Bromophenyl phenyl ether	1.0	0.12	ug/L	8270D LL
4-Chloro-3-methylphenol	1.0	0.17	ug/L	8270D LL
4-Chlorophenyl phenyl ether	1.0	0.080	ug/L	8270D LL
4-Nitrophenol	5.0	0.80	ug/L	8270D LL
Acenaphthene	0.20	0.029	ug/L	8270D LL
Acenaphthylene	0.20	0.022	ug/L	8270D LL
Anthracene	0.20	0.019	ug/L	8270D LL
Benzidine	20	4.7	ug/L	8270D LL
Benzo[a]anthracene	0.20	0.037	ug/L	8270D LL
Benzo[a]pyrene	0.20	0.028	ug/L	8270D LL
Benzo[b]fluoranthene	0.20	0.049	ug/L	8270D LL
Benzo[g,h,i]perylene	0.20	0.029	ug/L	8270D LL
Benzo[k]fluoranthene	0.20	0.030	ug/L	8270D LL
Benzoic acid	5.0	1.6	ug/L	8270D LL
Benzyl alcohol	1.0	0.20	ug/L	8270D LL
Bis(2-chloroethoxy)methane	1.0	0.13	ug/L	8270D LL
Bis(2-chloroethyl)ether	1.0	0.032	ug/L	8270D LL
Bis(2-ethylhexyl) phthalate	2.0	0.44	ug/L	8270D LL
Butyl benzyl phthalate	1.0	0.21	ug/L	8270D LL
Chrysene	0.20	0.031	ug/L	8270D LL
Dibenz(a,h)anthracene	0.20	0.027	ug/L	8270D LL
Dibenzofuran	1.0	0.097	ug/L	8270D LL
Diethyl phthalate	1.0	0.30	ug/L	8270D LL
Dimethyl phthalate	1.0	0.18	ug/L	8270D LL
Di-n-butyl phthalate	1.0	0.24	ug/L	8270D LL
Di-n-octyl phthalate	1.0	0.20	ug/L	8270D LL
Fluoranthene	0.20	0.021	ug/L	8270D LL
Fluorene	0.20	0.024	ug/L	8270D LL
Hexachlorobenzene	1.0	0.061	ug/L	8270D LL
Hexachlorobutadiene	1.0	0.094	ug/L	8270D LL
Hexachlorocyclopentadiene	1.0	0.14	ug/L	8270D LL
Hexachloroethane	1.0	0.14	ug/L	8270D LL

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	RL	MDL	Units	Method
Indeno[1,2,3-cd]pyrene	0.20	0.043	ug/L	8270D LL
Isophorone	1.0	0.074	ug/L	8270D LL
Methylphenol, 3 & 4	1.0	0.21	ug/L	8270D LL
Naphthalene	0.20	0.023	ug/L	8270D LL
Nitrobenzene	2.0	0.15	ug/L	8270D LL
N-Nitrosodimethylamine	1.0	0.12	ug/L	8270D LL
N-Nitrosodi-n-propylamine	1.0	0.050	ug/L	8270D LL
N-Nitrosodiphenylamine	1.0	0.12	ug/L	8270D LL
Pentachlorophenol	1.0	0.50	ug/L	8270D LL
Phenanthrene	0.20	0.042	ug/L	8270D LL
Phenol	1.0	0.055	ug/L	8270D LL
Pyrene	0.20	0.023	ug/L	8270D LL

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.0013	0.00016	ug/L	8081B_LL
2,4'-DDE	0.0013	0.00015	ug/L	8081B_LL
2,4'-DDT	0.0013	0.00022	ug/L	8081B_LL
4,4'-DDD	0.0013	0.00067	ug/L	8081B_LL
4,4'-DDE	0.0013	0.00079	ug/L	8081B_LL
4,4'-DDT	0.0013	0.00074	ug/L	8081B_LL
Aldrin	0.0013	0.00083	ug/L	8081B_LL
alpha-BHC	0.0013	0.00066	ug/L	8081B_LL
beta-BHC	0.0013	0.0010	ug/L	8081B_LL
Chlordane (technical)	0.013	0.0017	ug/L	8081B_LL
Chlorobenside	0.0032	0.0015	ug/L	8081B_LL
DCPA	0.0025	0.00034	ug/L	8081B_LL
delta-BHC	0.0013	0.00038	ug/L	8081B_LL
Dieldrin	0.0013	0.00082	ug/L	8081B_LL
Endosulfan I	0.0013	0.00094	ug/L	8081B_LL
Endosulfan II	0.0013	0.00098	ug/L	8081B_LL
Endosulfan sulfate	0.0013	0.00057	ug/L	8081B_LL
Endrin	0.0013	0.00096	ug/L	8081B_LL
Endrin aldehyde	0.0013	0.00090	ug/L	8081B_LL
gamma-BHC (Lindane)	0.0013	0.00080	ug/L	8081B_LL
Heptachlor	0.0013	0.00099	ug/L	8081B_LL
Heptachlor epoxide	0.0013	0.00097	ug/L	8081B_LL
Methoxychlor	0.0025	0.00091	ug/L	8081B_LL
Mirex	0.0013	0.00048	ug/L	8081B_LL
Toxaphene	0.10	0.019	ug/L	8081B_LL

Method: 8082A - PCB Congeners (GC)

Analyte	RL	MDL	Units	Method
DCB Decachlorobiphenyl	1.0	0.11	ng/L	8082A
PCB-101	1.0	0.15	ng/L	8082A
PCB-105	1.0	0.079	ng/L	8082A
PCB-118	1.0	0.12	ng/L	8082A
PCB-126	1.0	0.32	ng/L	8082A
PCB-128	1.0	0.085	ng/L	8082A
PCB-138	1.0	0.15	ng/L	8082A

Method: 8082A - PCB Congeners (GC) (Continued)

Analyte	RL	MDL	Units	Method
PCB-153	1.0	0.12	ng/L	8082A
PCB-156	1.0	0.078	ng/L	8082A
PCB-169	1.0	0.22	ng/L	8082A
PCB-170	1.0	0.11	ng/L	8082A
PCB-18	1.0	0.19	ng/L	8082A
PCB-180	1.0	0.080	ng/L	8082A
PCB-183	1.0	0.27	ng/L	8082A
PCB-184	1.0	0.14	ng/L	8082A
PCB-187	1.0	0.40	ng/L	8082A
PCB-195	1.0	0.10	ng/L	8082A
PCB-206	1.0	0.17	ng/L	8082A
PCB-28	1.0	0.23	ng/L	8082A
PCB-44	1.0	0.077	ng/L	8082A
PCB-49	1.0	0.15	ng/L	8082A
PCB-52	1.0	0.15	ng/L	8082A
PCB-66	1.0	0.13	ng/L	8082A
PCB-77	1.0	0.16	ng/L	8082A
PCB-8	1.0	0.32	ng/L	8082A
PCB-87	1.0	0.079	ng/L	8082A

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
Azinphos-methyl	1.0	0.11	ug/L	8141B
Bolstar	1.0	0.11	ug/L	8141B
Chlorpyrifos	1.0	0.10	ug/L	8141B
Coumaphos	1.0	0.15	ug/L	8141B
Demeton, Total	2.0	0.16	ug/L	8141B
Diazinon	1.0	0.094	ug/L	8141B
Dichlorvos	1.0	0.085	ug/L	8141B
Dimethoate	1.0	0.12	ug/L	8141B
Disulfoton	1.0	0.10	ug/L	8141B
EPN	1.0	0.12	ug/L	8141B
Famphur	1.0	0.12	ug/L	8141B
Fensulfothion	1.0	0.17	ug/L	8141B
Fenthion	1.0	0.085	ug/L	8141B
Malathion	1.0	0.11	ug/L	8141B
Methyl parathion	1.0	0.11	ug/L	8141B
Mevinphos	1.0	0.098	ug/L	8141B
Mocap	1.0	0.10	ug/L	8141B
O,O,O-Triethyl phosphorothioate	1.0	0.10	ug/L	8141B
Parathion	1.0	0.16	ug/L	8141B
Phorate	1.0	0.092	ug/L	8141B
Ronnel	1.0	0.10	ug/L	8141B
Stirophos	1.0	0.096	ug/L	8141B
Sulfotepp	1.0	0.095	ug/L	8141B
Thionazin	1.0	0.10	ug/L	8141B
Tokuthion	1.0	0.094	ug/L	8141B
Trichloronate	1.0	0.099	ug/L	8141B

Method: Organotins/GC - Organotins (GC/FPD)

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43224-1

Method: Organotins/GC - Organotins (GC/FPD)

Analyte	RL	MDL	Units	Method
Dibutyltin	0.039	0.039	ug/L	Organotins/GC
Monobutyltin	0.62	0.62	ug/L	Organotins/GC
Tetrabutyltin	0.050	0.050	ug/L	Organotins/GC
Tributyltin	0.045	0.045	ug/L	Organotins/GC

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	RL	MDL	Units	Method
Aluminum	30	2.6	ug/L	6020A
Antimony	2.0	0.019	ug/L	6020A
Arsenic	1.0	0.29	ug/L	6020A
Barium	10	0.098	ug/L	6020A
Beryllium	1.0	0.037	ug/L	6020A
Cadmium	1.0	0.11	ug/L	6020A
Calcium	500	2.8	ug/L	6020A
Chromium	2.0	0.54	ug/L	6020A
Cobalt	0.50	0.026	ug/L	6020A
Copper	2.0	0.24	ug/L	6020A
Iron	50	6.1	ug/L	6020A
Lead	1.0	0.019	ug/L	6020A
Magnesium	500	1.2	ug/L	6020A
Manganese	5.0	0.039	ug/L	6020A
Nickel	1.0	0.17	ug/L	6020A
Potassium	500	5.8	ug/L	6020A
Selenium	5.0	0.42	ug/L	6020A
Silver	1.0	0.036	ug/L	6020A
Sodium	500	3.8	ug/L	6020A
Thallium	1.0	0.015	ug/L	6020A
Vanadium	1.0	0.082	ug/L	6020A
Zinc	5.0	0.96	ug/L	6020A

Method: 7470A - Mercury (CVAA)

Analyte	RL	MDL	Units	Method
Mercury	0.20	0.078	ug/L	7470A

General Chemistry

Analyte	RL	MDL	Units	Method
Ammonia, distilled	0.10	0.086	mg/L	350.1
Nitrate Nitrite as N	0.10	0.022	mg/L	353.2
Cyanide, Total	10	2.5	ug/L	9014
Sulfide	3.0	0.59	mg/L	9034
Total Organic Carbon - Duplicates	1.0	0.19	mg/L	SM 5310C
Total Phosphorus as P	0.10	0.050	mg/L	SM4500 P E-1999
Nitrogen, Kjeldahl	5.0	1.7	mg/L	SM4500_NH3_E

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43224-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(28-109)	(20-105)	(30-118)	(27-114)	(25-105)	(20-118)
180-43224-1	EQB-PUMP	50	30	32	50	37	69
LCS 180-139440/2-A	Lab Control Sample	63	63	67	63	69	67
MB 180-139440/1-A	Method Blank	58	57	60	57	64	73

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(60-111)	(60-111)	(45-122)	(45-122)
180-43224-1	EQB-PUMP	96	93	91	85
180-43224-1 - RA	EQB-PUMP	96	95	105	102
LCS 180-139211/2-A	Lab Control Sample	104	98	94	92
MB 180-139211/1-A	Method Blank	95	95	88	82
MB 180-139211/1-A	Method Blank	98	99	104	101

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
180-43224-1	EQB-PUMP	85	87	96	102
LCS 180-139209/2-A	Lab Control Sample	73	72	81	104
MB 180-139209/1-A	Method Blank	75	75	77	100

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(49-122)	(49-122)	(45-145)	(45-145)
180-43224-1	EQB-PUMP	96	92	92	97

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43224-1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(49-122)	(49-122)	(45-145)	(45-145)
LCS 180-139207/2-A	Lab Control Sample	98	100	96	98
MB 180-139207/1-A	Method Blank	90	87	92	94

Surrogate Legend

TBPH = Tributyl phosphate
TPP = Triphenylphosphate

Method: Organotins/GC - Organotins (GC/FPD)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TPT1	TPT2
Lab Sample ID	Client Sample ID	(15-150)	(15-150)
180-43224-1	EQB-PUMP	65	61
LCS 200-87292/2-A	Lab Control Sample	45	54
MB 200-87292/1-A	Method Blank	54	52

Surrogate Legend

TPT = Tripentyltin

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-139440/1-A
Matrix: Water
Analysis Batch: 140958

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		20	4.7	ug/L		04/23/15 11:21	05/08/15 09:47	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		04/23/15 11:21	05/08/15 09:47	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		04/23/15 11:21	05/08/15 09:47	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzoic acid	ND		5.0	1.6	ug/L		04/23/15 11:21	05/08/15 09:47	1
Bis(2-chloroethyl)ether	ND		1.0	0.032	ug/L		04/23/15 11:21	05/08/15 09:47	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		04/23/15 11:21	05/08/15 09:47	1
Bis(2-ethylhexyl) phthalate	ND		2.0	0.44	ug/L		04/23/15 11:21	05/08/15 09:47	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		04/23/15 11:21	05/08/15 09:47	1
Butyl benzyl phthalate	ND		1.0	0.21	ug/L		04/23/15 11:21	05/08/15 09:47	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		04/23/15 11:21	05/08/15 09:47	1
2-Chloronaphthalene	ND		0.20	0.031	ug/L		04/23/15 11:21	05/08/15 09:47	1
2-Chlorophenol	ND		1.0	0.23	ug/L		04/23/15 11:21	05/08/15 09:47	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		04/23/15 11:21	05/08/15 09:47	1
Di-n-butyl phthalate	ND		1.0	0.24	ug/L		04/23/15 11:21	05/08/15 09:47	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,4-Dichlorophenol	ND		1.0	0.067	ug/L		04/23/15 11:21	05/08/15 09:47	1
Diethyl phthalate	ND		1.0	0.30	ug/L		04/23/15 11:21	05/08/15 09:47	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		04/23/15 11:21	05/08/15 09:47	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		04/23/15 11:21	05/08/15 09:47	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.12	ug/L		04/23/15 11:21	05/08/15 09:47	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		04/23/15 11:21	05/08/15 09:47	1
Hexachlorobenzene	ND		1.0	0.061	ug/L		04/23/15 11:21	05/08/15 09:47	1
Hexachlorobutadiene	ND		1.0	0.094	ug/L		04/23/15 11:21	05/08/15 09:47	1
Hexachloroethane	ND		1.0	0.14	ug/L		04/23/15 11:21	05/08/15 09:47	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		04/23/15 11:21	05/08/15 09:47	1
Isophorone	ND		1.0	0.074	ug/L		04/23/15 11:21	05/08/15 09:47	1
2-Methylphenol	ND		1.0	0.19	ug/L		04/23/15 11:21	05/08/15 09:47	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		04/23/15 11:21	05/08/15 09:47	1
Nitrobenzene	ND		2.0	0.15	ug/L		04/23/15 11:21	05/08/15 09:47	1
2-Nitrophenol	ND		1.0	0.11	ug/L		04/23/15 11:21	05/08/15 09:47	1
4-Nitrophenol	ND		5.0	0.80	ug/L		04/23/15 11:21	05/08/15 09:47	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		04/23/15 11:21	05/08/15 09:47	1
N-Nitrosodimethylamine	ND		1.0	0.12	ug/L		04/23/15 11:21	05/08/15 09:47	1
N-Nitrosodi-n-propylamine	ND		1.0	0.050	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,2'-oxybis[1-chloropropane]	ND		1.0	0.024	ug/L		04/23/15 11:21	05/08/15 09:47	1
Pentachlorophenol	ND		1.0	0.50	ug/L		04/23/15 11:21	05/08/15 09:47	1
Phenol	ND		1.0	0.055	ug/L		04/23/15 11:21	05/08/15 09:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		04/23/15 11:21	05/08/15 09:47	1
2-Methylnaphthalene	ND		0.20	0.019	ug/L		04/23/15 11:21	05/08/15 09:47	1
1-Methylnaphthalene	ND		0.20	0.031	ug/L		04/23/15 11:21	05/08/15 09:47	1
Naphthalene	ND		0.20	0.023	ug/L		04/23/15 11:21	05/08/15 09:47	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-139440/1-A
Matrix: Water
Analysis Batch: 140958

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		0.20	0.022	ug/L		04/23/15 11:21	05/08/15 09:47	1
Acenaphthene	ND		0.20	0.029	ug/L		04/23/15 11:21	05/08/15 09:47	1
Fluorene	ND		0.20	0.024	ug/L		04/23/15 11:21	05/08/15 09:47	1
Phenanthrene	ND		0.20	0.042	ug/L		04/23/15 11:21	05/08/15 09:47	1
Anthracene	ND		0.20	0.019	ug/L		04/23/15 11:21	05/08/15 09:47	1
Fluoranthene	ND		0.20	0.021	ug/L		04/23/15 11:21	05/08/15 09:47	1
Pyrene	ND		0.20	0.023	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzo[a]anthracene	ND		0.20	0.037	ug/L		04/23/15 11:21	05/08/15 09:47	1
Chrysene	ND		0.20	0.031	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzo[b]fluoranthene	ND		0.20	0.049	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzo[k]fluoranthene	ND		0.20	0.030	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzo[a]pyrene	ND		0.20	0.028	ug/L		04/23/15 11:21	05/08/15 09:47	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.043	ug/L		04/23/15 11:21	05/08/15 09:47	1
Dibenz(a,h)anthracene	ND		0.20	0.027	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzo[g,h,i]perylene	ND		0.20	0.029	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzyl alcohol	ND		1.0	0.20	ug/L		04/23/15 11:21	05/08/15 09:47	1
Dibenzofuran	ND		1.0	0.097	ug/L		04/23/15 11:21	05/08/15 09:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*28 - 109*	*04/23/15 11:21*	*05/08/15 09:47*	*1*
2-Fluorophenol (Surr)	*57*		*20 - 105*	*04/23/15 11:21*	*05/08/15 09:47*	*1*
2,4,6-Tribromophenol (Surr)	*60*		*30 - 118*	*04/23/15 11:21*	*05/08/15 09:47*	*1*
Nitrobenzene-d5 (Surr)	*57*		*27 - 114*	*04/23/15 11:21*	*05/08/15 09:47*	*1*
Phenol-d5 (Surr)	*64*		*25 - 105*	*04/23/15 11:21*	*05/08/15 09:47*	*1*
Terphenyl-d14 (Surr)	*73*		*20 - 118*	*04/23/15 11:21*	*05/08/15 09:47*	*1*

Lab Sample ID: LCS 180-139440/2-A
Matrix: Water
Analysis Batch: 140958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	20.0	6.24	J	ug/L		31	10 - 100
1,2-Dichlorobenzene	20.0	13.4		ug/L		67	40 - 100
1,3-Dichlorobenzene	20.0	13.3		ug/L		66	38 - 100
1,4-Dichlorobenzene	20.0	13.2		ug/L		66	39 - 100
Benzoic acid	20.0	13.8		ug/L		69	14 - 117
Bis(2-chloroethyl)ether	20.0	13.4		ug/L		67	42 - 100
Bis(2-chloroethoxy)methane	20.0	13.3		ug/L		67	45 - 100
Bis(2-ethylhexyl) phthalate	20.0	16.3		ug/L		81	35 - 118
4-Bromophenyl phenyl ether	20.0	14.0		ug/L		70	46 - 100
Butyl benzyl phthalate	20.0	16.0		ug/L		80	45 - 105
4-Chloro-3-methylphenol	20.0	14.5		ug/L		73	47 - 100
2-Chloronaphthalene	20.0	12.4		ug/L		62	42 - 100
2-Chlorophenol	20.0	13.9		ug/L		69	41 - 100
4-Chlorophenyl phenyl ether	20.0	13.9		ug/L		69	48 - 100
Di-n-butyl phthalate	20.0	15.1		ug/L		76	49 - 101
3,3'-Dichlorobenzidine	20.0	13.5		ug/L		67	41 - 100
2,4-Dichlorophenol	20.0	13.6		ug/L		68	45 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139440/2-A
Matrix: Water
Analysis Batch: 140958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diethyl phthalate	20.0	13.1		ug/L		66	48 - 100
4,6-Dinitro-2-methylphenol	40.0	30.3		ug/L		76	46 - 100
2,4-Dimethylphenol	20.0	13.7		ug/L		69	45 - 100
Dimethyl phthalate	20.0	13.8		ug/L		69	49 - 100
2,4-Dinitrophenol	40.0	24.9		ug/L		62	36 - 100
2,4-Dinitrotoluene	20.0	15.3		ug/L		76	49 - 100
2,6-Dinitrotoluene	20.0	15.0		ug/L		75	50 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	14.9		ug/L		75	49 - 100
Di-n-octyl phthalate	20.0	17.5		ug/L		88	40 - 105
Hexachlorobenzene	20.0	13.8		ug/L		69	45 - 100
Hexachlorobutadiene	20.0	12.4		ug/L		62	42 - 100
Hexachloroethane	20.0	14.3		ug/L		71	39 - 100
Hexachlorocyclopentadiene	20.0	12.8		ug/L		64	37 - 109
Isophorone	20.0	13.2		ug/L		66	48 - 100
2-Methylphenol	20.0	14.2		ug/L		71	43 - 100
Methylphenol, 3 & 4	20.0	13.6		ug/L		68	41 - 100
Nitrobenzene	20.0	12.8		ug/L		64	47 - 100
2-Nitrophenol	20.0	13.7		ug/L		68	45 - 100
4-Nitrophenol	40.0	30.0		ug/L		75	44 - 129
N-Nitrosodiphenylamine	40.0	27.3		ug/L		68	48 - 100
N-Nitrosodimethylamine	20.0	12.4		ug/L		62	41 - 100
N-Nitrosodi-n-propylamine	20.0	13.6		ug/L		68	42 - 100
2,2'-oxybis[1-chloropropane]	20.0	13.1		ug/L		65	38 - 100
Pentachlorophenol	40.0	24.4		ug/L		61	36 - 105
Phenol	20.0	13.6		ug/L		68	43 - 100
1,2,4-Trichlorobenzene	20.0	12.5		ug/L		63	43 - 100
2,4,6-Trichlorophenol	20.0	13.6		ug/L		68	47 - 101
2-Methylnaphthalene	20.0	14.0		ug/L		70	44 - 100
1-Methylnaphthalene	20.0	13.5		ug/L		68	43 - 100
Naphthalene	20.0	13.2		ug/L		66	44 - 100
Acenaphthylene	20.0	14.4		ug/L		72	47 - 100
Acenaphthene	20.0	13.2		ug/L		66	47 - 100
Fluorene	20.0	14.5		ug/L		73	48 - 100
Phenanthrene	20.0	15.1		ug/L		75	48 - 100
Anthracene	20.0	14.9		ug/L		75	49 - 100
Fluoranthene	20.0	14.5		ug/L		72	48 - 100
Pyrene	20.0	15.9		ug/L		79	44 - 100
Benzo[a]anthracene	20.0	15.3		ug/L		77	50 - 100
Chrysene	20.0	15.2		ug/L		76	49 - 100
Benzo[b]fluoranthene	20.0	14.4		ug/L		72	43 - 100
Benzo[k]fluoranthene	20.0	16.6		ug/L		83	47 - 100
Benzo[a]pyrene	20.0	15.8		ug/L		79	47 - 100
Indeno[1,2,3-cd]pyrene	20.0	15.9		ug/L		80	47 - 100
Dibenz(a,h)anthracene	20.0	15.9		ug/L		79	48 - 100
Benzo[g,h,i]perylene	20.0	16.0		ug/L		80	48 - 100
Benzyl alcohol	20.0	14.4		ug/L		72	41 - 100
Dibenzofuran	20.0	14.6		ug/L		73	47 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139440/2-A
Matrix: Water
Analysis Batch: 140958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139440

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	63		28 - 109
2-Fluorophenol (Surr)	63		20 - 105
2,4,6-Tribromophenol (Surr)	67		30 - 118
Nitrobenzene-d5 (Surr)	63		27 - 114
Phenol-d5 (Surr)	69		25 - 105
Terphenyl-d14 (Surr)	67		20 - 118

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-139211/1-A
Matrix: Water
Analysis Batch: 139410

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00083	ug/L		04/21/15 13:00	04/23/15 23:51	1
alpha-BHC	ND		0.0013	0.00066	ug/L		04/21/15 13:00	04/23/15 23:51	1
beta-BHC	ND		0.0013	0.0010	ug/L		04/21/15 13:00	04/23/15 23:51	1
delta-BHC	ND		0.0013	0.00038	ug/L		04/21/15 13:00	04/23/15 23:51	1
gamma-BHC (Lindane)	ND		0.0013	0.00080	ug/L		04/21/15 13:00	04/23/15 23:51	1
Chlordane (technical)	ND		0.013	0.0017	ug/L		04/21/15 13:00	04/23/15 23:51	1
4,4'-DDD	ND		0.0013	0.00067	ug/L		04/21/15 13:00	04/23/15 23:51	1
4,4'-DDE	ND		0.0013	0.00079	ug/L		04/21/15 13:00	04/23/15 23:51	1
4,4'-DDT	ND		0.0013	0.00074	ug/L		04/21/15 13:00	04/23/15 23:51	1
Dieldrin	ND		0.0013	0.00082	ug/L		04/21/15 13:00	04/23/15 23:51	1
Endosulfan I	ND		0.0013	0.00094	ug/L		04/21/15 13:00	04/23/15 23:51	1
Endosulfan II	ND		0.0013	0.00098	ug/L		04/21/15 13:00	04/23/15 23:51	1
Endosulfan sulfate	ND		0.0013	0.00057	ug/L		04/21/15 13:00	04/23/15 23:51	1
Endrin	ND		0.0013	0.00096	ug/L		04/21/15 13:00	04/23/15 23:51	1
Endrin aldehyde	ND		0.0013	0.00090	ug/L		04/21/15 13:00	04/23/15 23:51	1
Heptachlor	ND		0.0013	0.00099	ug/L		04/21/15 13:00	04/23/15 23:51	1
Heptachlor epoxide	ND		0.0013	0.00097	ug/L		04/21/15 13:00	04/23/15 23:51	1
Methoxychlor	ND		0.0025	0.00091	ug/L		04/21/15 13:00	04/23/15 23:51	1
Toxaphene	ND		0.10	0.019	ug/L		04/21/15 13:00	04/23/15 23:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	95		60 - 111	04/21/15 13:00	04/23/15 23:51	1
Tetrachloro-m-xylene	95		60 - 111	04/21/15 13:00	04/23/15 23:51	1
DCB Decachlorobiphenyl (Surr)	88		45 - 122	04/21/15 13:00	04/23/15 23:51	1
DCB Decachlorobiphenyl (Surr)	82		45 - 122	04/21/15 13:00	04/23/15 23:51	1

Lab Sample ID: MB 180-139211/1-A
Matrix: Water
Analysis Batch: 139571

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenside	ND		0.0032	0.0015	ug/L		04/21/15 13:00	04/24/15 17:00	1
DCPA	ND		0.0025	0.00034	ug/L		04/21/15 13:00	04/24/15 17:00	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 180-139211/1-A
Matrix: Water
Analysis Batch: 139571

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.0013	0.00016	ug/L		04/21/15 13:00	04/24/15 17:00	1
2,4'-DDE	ND		0.0013	0.00015	ug/L		04/21/15 13:00	04/24/15 17:00	1
2,4'-DDT	ND		0.0013	0.00022	ug/L		04/21/15 13:00	04/24/15 17:00	1
Mirex	ND		0.0013	0.00048	ug/L		04/21/15 13:00	04/24/15 17:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*98*		*60 - 111*	*04/21/15 13:00*	*04/24/15 17:00*	*1*
Tetrachloro-m-xylene	*99*		*60 - 111*	*04/21/15 13:00*	*04/24/15 17:00*	*1*
DCB Decachlorobiphenyl (Surr)	*104*		*45 - 122*	*04/21/15 13:00*	*04/24/15 17:00*	*1*
DCB Decachlorobiphenyl (Surr)	*101*		*45 - 122*	*04/21/15 13:00*	*04/24/15 17:00*	*1*

Lab Sample ID: LCS 180-139211/2-A
Matrix: Water
Analysis Batch: 139410

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139211

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0250	0.0247		ug/L		99	62 - 113
alpha-BHC	0.0250	0.0203		ug/L		81	58 - 114
beta-BHC	0.0250	0.0161		ug/L		64	37 - 133
delta-BHC	0.0250	0.0135		ug/L		54	20 - 137
gamma-BHC (Lindane)	0.0250	0.0204		ug/L		82	57 - 120
4,4'-DDD	0.0250	0.0192		ug/L		77	48 - 120
4,4'-DDE	0.0250	0.0230		ug/L		92	47 - 120
4,4'-DDT	0.0250	0.0208		ug/L		83	39 - 131
Dieldrin	0.0250	0.0224		ug/L		90	51 - 121
Endosulfan I	0.0250	0.0225		ug/L		90	53 - 117
Endosulfan II	0.0250	0.0170		ug/L		68	44 - 122
Endosulfan sulfate	0.0250	0.0146		ug/L		58	42 - 122
Endrin	0.0250	0.0223		ug/L		89	31 - 138
Endrin aldehyde	0.0250	0.0165		ug/L		66	41 - 116
Heptachlor	0.0250	0.0246		ug/L		99	63 - 120
Heptachlor epoxide	0.0250	0.0233		ug/L		93	60 - 120
Methoxychlor	0.0250	0.0201		ug/L		80	35 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*104*		*60 - 111*
Tetrachloro-m-xylene	*98*		*60 - 111*
DCB Decachlorobiphenyl (Surr)	*94*		*45 - 122*
DCB Decachlorobiphenyl (Surr)	*92*		*45 - 122*

Method: 8082A - PCB Congeners (GC)

Lab Sample ID: MB 180-139209/1-A
Matrix: Water
Analysis Batch: 140217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139209

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		1.0	0.32	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-18	ND		1.0	0.19	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-28	ND		1.0	0.23	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-44	ND		1.0	0.077	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-49	ND		1.0	0.15	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-52	ND		1.0	0.15	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-66	ND		1.0	0.13	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-77	ND		1.0	0.16	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-87	ND		1.0	0.079	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-101	ND		1.0	0.15	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-105	ND		1.0	0.079	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-118	ND		1.0	0.12	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-126	ND		1.0	0.32	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-128	ND		1.0	0.085	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-138	ND		1.0	0.15	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-153	ND		1.0	0.12	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-156	ND		1.0	0.078	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-169	ND		1.0	0.22	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-170	ND		1.0	0.11	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-180	ND		1.0	0.080	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-183	ND		1.0	0.27	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-184	ND		1.0	0.14	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-187	ND		1.0	0.40	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-195	ND		1.0	0.10	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-206	ND		1.0	0.17	ng/L		04/21/15 11:45	05/01/15 13:20	1
DCB Decachlorobiphenyl	ND		1.0	0.11	ng/L		04/21/15 11:45	05/01/15 13:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*75*		*35 - 140*	*04/21/15 11:45*	*05/01/15 13:20*	*1*
Tetrachloro-m-xylene (Surr)	*75*		*35 - 140*	*04/21/15 11:45*	*05/01/15 13:20*	*1*
PCB-205 (Surr)	*77*		*35 - 140*	*04/21/15 11:45*	*05/01/15 13:20*	*1*
PCB-205 (Surr)	*100*		*35 - 140*	*04/21/15 11:45*	*05/01/15 13:20*	*1*

Lab Sample ID: LCS 180-139209/2-A
Matrix: Water
Analysis Batch: 140217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139209

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	20.0	17.9		ng/L		89	40 - 140
PCB-18	20.0	16.1		ng/L		81	40 - 140
PCB-28	20.0	16.4		ng/L		82	40 - 140
PCB-44	20.0	14.9		ng/L		75	40 - 140
PCB-49	20.0	15.3		ng/L		77	40 - 140
PCB-52	20.0	15.0		ng/L		75	40 - 140
PCB-66	20.0	17.6		ng/L		88	40 - 140
PCB-77	20.0	17.9		ng/L		90	40 - 140
PCB-87	20.0	18.9		ng/L		94	40 - 140
PCB-101	20.0	16.5		ng/L		83	40 - 140

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: LCS 180-139209/2-A
Matrix: Water
Analysis Batch: 140217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139209

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-105	20.0	17.0		ng/L		85	40 - 140
PCB-118	20.0	17.3		ng/L		86	40 - 140
PCB-126	20.0	15.0		ng/L		75	40 - 140
PCB-128	20.0	15.4		ng/L		77	40 - 140
PCB-138	20.0	16.1		ng/L		80	40 - 140
PCB-153	20.0	14.4		ng/L		72	40 - 140
PCB-156	20.0	16.7		ng/L		84	40 - 140
PCB-169	20.0	15.1		ng/L		76	40 - 140
PCB-170	20.0	15.3		ng/L		77	40 - 140
PCB-180	20.0	16.2		ng/L		81	40 - 140
PCB-183	20.0	14.5		ng/L		73	40 - 140
PCB-184	20.0	17.3		ng/L		87	40 - 140
PCB-187	20.0	15.7		ng/L		79	40 - 140
PCB-195	20.0	16.0		ng/L		80	40 - 140
PCB-206	20.0	14.5		ng/L		72	40 - 140
DCB Decachlorobiphenyl	20.0	15.7		ng/L		79	40 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*73*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*72*		*35 - 140*
PCB-205 (Surr)	*81*		*35 - 140*
PCB-205 (Surr)	*104*		*35 - 140*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Lab Sample ID: MB 180-139207/1-A
Matrix: Water
Analysis Batch: 139234

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139207

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		1.0	0.11	ug/L		04/21/15 11:45	04/22/15 08:37	1
Demeton, Total	ND		2.0	0.16	ug/L		04/21/15 11:45	04/22/15 08:37	1
Malathion	ND		1.0	0.11	ug/L		04/21/15 11:45	04/22/15 08:37	1
Methyl parathion	ND		1.0	0.11	ug/L		04/21/15 11:45	04/22/15 08:37	1
Parathion	ND		1.0	0.16	ug/L		04/21/15 11:45	04/22/15 08:37	1
Bolstar	ND		1.0	0.11	ug/L		04/21/15 11:45	04/22/15 08:37	1
Chlorpyrifos	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 08:37	1
Coumaphos	ND		1.0	0.15	ug/L		04/21/15 11:45	04/22/15 08:37	1
Diazinon	ND		1.0	0.094	ug/L		04/21/15 11:45	04/22/15 08:37	1
Dichlorvos	ND		1.0	0.085	ug/L		04/21/15 11:45	04/22/15 08:37	1
Dimethoate	ND		1.0	0.12	ug/L		04/21/15 11:45	04/22/15 08:37	1
Disulfoton	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 08:37	1
EPN	ND		1.0	0.12	ug/L		04/21/15 11:45	04/22/15 08:37	1
Mocap	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 08:37	1
Famphur	ND		1.0	0.12	ug/L		04/21/15 11:45	04/22/15 08:37	1
Fensulfothion	ND		1.0	0.17	ug/L		04/21/15 11:45	04/22/15 08:37	1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: MB 180-139207/1-A
Matrix: Water
Analysis Batch: 139234

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139207

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fenthion	ND		1.0	0.085	ug/L		04/21/15 11:45	04/22/15 08:37	1
Mevinphos	ND		1.0	0.098	ug/L		04/21/15 11:45	04/22/15 08:37	1
Phorate	ND		1.0	0.092	ug/L		04/21/15 11:45	04/22/15 08:37	1
Ronnel	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 08:37	1
Stirophos	ND		1.0	0.096	ug/L		04/21/15 11:45	04/22/15 08:37	1
Sulfotepp	ND		1.0	0.095	ug/L		04/21/15 11:45	04/22/15 08:37	1
Thionazin	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 08:37	1
Tokuthion	ND		1.0	0.094	ug/L		04/21/15 11:45	04/22/15 08:37	1
Trichloronate	ND		1.0	0.099	ug/L		04/21/15 11:45	04/22/15 08:37	1
O,O,O-Triethyl phosphorothioate	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 08:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*90*		*49 - 122*	*04/21/15 11:45*	*04/22/15 08:37*	*1*
Tributyl phosphate	*87*		*49 - 122*	*04/21/15 11:45*	*04/22/15 08:37*	*1*
Triphenylphosphate	*92*		*45 - 145*	*04/21/15 11:45*	*04/22/15 08:37*	*1*
Triphenylphosphate	*94*		*45 - 145*	*04/21/15 11:45*	*04/22/15 08:37*	*1*

Lab Sample ID: LCS 180-139207/2-A
Matrix: Water
Analysis Batch: 139234

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139207

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	10.0	8.20		ug/L		82	40 - 150
Malathion	10.0	9.82		ug/L		98	50 - 150
Methyl parathion	10.0	9.08		ug/L		91	41 - 148
Parathion	10.0	9.52		ug/L		95	56 - 125
Bolstar	10.0	9.75		ug/L		98	50 - 150
Chlorpyrifos	10.0	9.76		ug/L		98	50 - 130
Coumaphos	10.0	9.18		ug/L		92	50 - 150
Diazinon	10.0	9.47		ug/L		95	50 - 150
Dichlorvos	10.0	9.72		ug/L		97	30 - 150
Dimethoate	10.0	10.1		ug/L		101	26 - 136
Disulfoton	10.0	9.56		ug/L		96	45 - 124
EPN	10.0	9.17		ug/L		92	50 - 150
Mocap	10.0	9.74		ug/L		97	40 - 150
Famphur	10.0	9.26		ug/L		93	52 - 131
Fensulfothion	10.0	10.2		ug/L		102	38 - 150
Fenthion	10.0	9.69		ug/L		97	10 - 150
Mevinphos	10.0	9.09		ug/L		91	30 - 150
Phorate	10.0	9.81		ug/L		98	41 - 135
Ronnel	10.0	9.36		ug/L		94	50 - 150
Stirophos	10.0	8.83		ug/L		88	50 - 150
Sulfotepp	10.0	9.67		ug/L		97	56 - 128
Thionazin	10.0	9.67		ug/L		97	44 - 128
Tokuthion	10.0	9.64		ug/L		96	50 - 150
Trichloronate	10.0	9.73		ug/L		97	10 - 150
O,O,O-Triethyl phosphorothioate	10.0	9.31		ug/L		93	31 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tributyl phosphate	98		49 - 122
Tributyl phosphate	100		49 - 122
Triphenylphosphate	96		45 - 145
Triphenylphosphate	98		45 - 145

Method: Organotins/GC - Organotins (GC/FPD)

Lab Sample ID: MB 200-87292/1-A
Matrix: Water
Analysis Batch: 87797

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87292

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.050	0.050	ug/L		04/24/15 09:33	05/04/15 21:57	1
Tributyltin	ND		0.045	0.045	ug/L		04/24/15 09:33	05/04/15 21:57	1
Dibutyltin	ND		0.039	0.039	ug/L		04/24/15 09:33	05/04/15 21:57	1
Monobutyltin	ND	cn	0.62	0.62	ug/L		04/24/15 09:33	05/04/15 21:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tripentyltin	54		15 - 150	04/24/15 09:33	05/04/15 21:57	1
Tripentyltin	52		15 - 150	04/24/15 09:33	05/04/15 21:57	1

Lab Sample ID: LCS 200-87292/2-A
Matrix: Water
Analysis Batch: 87797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87292

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrabutyltin	0.500	0.223		ug/L		45	30 - 150
Tributyltin	0.445	0.216		ug/L		48	30 - 150
Dibutyltin	0.385	0.138		ug/L		36	30 - 150
Monobutyltin	1.55	ND	* cn	ug/L		9	10 - 48

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tripentyltin	45		15 - 150
Tripentyltin	54		15 - 150

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-139169/1-A
Matrix: Water
Analysis Batch: 139903

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 139169

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		30	2.6	ug/L		04/21/15 12:22	04/27/15 13:44	1
Arsenic	ND		1.0	0.29	ug/L		04/21/15 12:22	04/27/15 13:44	1
Barium	ND		10	0.098	ug/L		04/21/15 12:22	04/27/15 13:44	1
Beryllium	ND		1.0	0.037	ug/L		04/21/15 12:22	04/27/15 13:44	1
Cadmium	ND		1.0	0.11	ug/L		04/21/15 12:22	04/27/15 13:44	1
Calcium	14.3	J	500	2.8	ug/L		04/21/15 12:22	04/27/15 13:44	1
Chromium	ND		2.0	0.54	ug/L		04/21/15 12:22	04/27/15 13:44	1
Cobalt	ND		0.50	0.026	ug/L		04/21/15 12:22	04/27/15 13:44	1
Copper	ND		2.0	0.24	ug/L		04/21/15 12:22	04/27/15 13:44	1
Iron	ND		50	6.1	ug/L		04/21/15 12:22	04/27/15 13:44	1
Silver	ND		1.0	0.036	ug/L		04/21/15 12:22	04/27/15 13:44	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-139169/1-A
Matrix: Water
Analysis Batch: 139903

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 139169

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	9.89	J	500	5.8	ug/L		04/21/15 12:22	04/27/15 13:44	1
Magnesium	ND		500	1.2	ug/L		04/21/15 12:22	04/27/15 13:44	1
Sodium	51.9	J	500	3.8	ug/L		04/21/15 12:22	04/27/15 13:44	1
Nickel	ND		1.0	0.17	ug/L		04/21/15 12:22	04/27/15 13:44	1
Lead	ND		1.0	0.019	ug/L		04/21/15 12:22	04/27/15 13:44	1
Antimony	ND		2.0	0.019	ug/L		04/21/15 12:22	04/27/15 13:44	1
Selenium	ND		5.0	0.42	ug/L		04/21/15 12:22	04/27/15 13:44	1
Thallium	ND		1.0	0.015	ug/L		04/21/15 12:22	04/27/15 13:44	1
Vanadium	ND		1.0	0.082	ug/L		04/21/15 12:22	04/27/15 13:44	1
Zinc	ND		5.0	0.96	ug/L		04/21/15 12:22	04/27/15 13:44	1
Manganese	ND		5.0	0.039	ug/L		04/21/15 12:22	04/27/15 13:44	1

Lab Sample ID: LCS 180-139169/2-A
Matrix: Water
Analysis Batch: 139903

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 139169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	1720		ug/L		86	80 - 120
Arsenic	40.0	37.8		ug/L		95	80 - 120
Barium	2000	1810		ug/L		90	80 - 120
Beryllium	50.0	44.5		ug/L		89	80 - 120
Cadmium	50.0	47.0		ug/L		94	80 - 120
Calcium	50000	46500		ug/L		93	80 - 120
Chromium	200	187		ug/L		93	80 - 120
Cobalt	500	459		ug/L		92	80 - 120
Copper	250	231		ug/L		92	80 - 120
Iron	1000	922		ug/L		92	80 - 120
Silver	50.0	46.9		ug/L		94	80 - 120
Potassium	50000	46400		ug/L		93	80 - 120
Magnesium	50000	42700		ug/L		85	80 - 120
Sodium	50000	44900		ug/L		90	80 - 120
Nickel	500	460		ug/L		92	80 - 120
Lead	20.0	19.7		ug/L		99	80 - 120
Antimony	500	463		ug/L		93	80 - 120
Selenium	10.0	10.5		ug/L		105	80 - 120
Thallium	50.0	48.6		ug/L		97	80 - 120
Vanadium	500	462		ug/L		92	80 - 120
Zinc	500	452		ug/L		90	80 - 120
Manganese	500	430		ug/L		86	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-140555/1-A
Matrix: Water
Analysis Batch: 140674

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140555

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/05/15 07:44	05/05/15 14:03	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 180-140555/2-A
Matrix: Water
Analysis Batch: 140674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140555

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.41		ug/L		96	80 - 120

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 180-141426/1-A
Matrix: Water
Analysis Batch: 141485

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141426

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		0.10	0.086	mg/L		05/13/15 10:00	05/13/15 14:37	1

Lab Sample ID: LCS 180-141426/2-A
Matrix: Water
Analysis Batch: 141485

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141426

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	2.00	1.84		mg/L		92	90 - 110

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 180-140363/52
Matrix: Water
Analysis Batch: 140363

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/02/15 09:10	1

Lab Sample ID: LCS 180-140363/51
Matrix: Water
Analysis Batch: 140363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	4.00	4.02		mg/L		101	90 - 110

Method: 9014 - Cyanide

Lab Sample ID: MB 180-139985/4-A
Matrix: Water
Analysis Batch: 140061

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139985

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		10	2.5	ug/L		04/29/15 12:00	04/29/15 13:41	1

Method: 9014 - Cyanide (Continued)

Lab Sample ID: HLCS 180-139985/2-A
Matrix: Water
Analysis Batch: 140061

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139985

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	250	237		ug/L		95	90 - 110

Lab Sample ID: LCS 180-139985/3-A
Matrix: Water
Analysis Batch: 140061

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139985

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	200	201		ug/L		101	85 - 115

Lab Sample ID: LLCS 180-139985/1-A
Matrix: Water
Analysis Batch: 140061

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139985

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	50.0	50.3		ug/L		101	90 - 110

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-139298/1-A
Matrix: Water
Analysis Batch: 139345

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139298

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	0.617	J	3.0	0.59	mg/L		04/22/15 12:30	04/22/15 17:39	1

Lab Sample ID: LCS 180-139298/2-A
Matrix: Water
Analysis Batch: 139345

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139298

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	19.2	17.4		mg/L		91	85 - 115

Method: SM 5310C - TOC

Lab Sample ID: MB 180-139630/29
Matrix: Water
Analysis Batch: 139630

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1.0	0.19	mg/L			04/23/15 21:37	1

Lab Sample ID: LCS 180-139630/27
Matrix: Water
Analysis Batch: 139630

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	20.0	19.2		mg/L		96	80 - 120

Method: SM 5310C - TOC (Continued)

Lab Sample ID: LCSD 180-139630/28
Matrix: Water
Analysis Batch: 139630

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	20.0	19.2		mg/L		96	80 - 120	0	20

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-179660/10-A
Matrix: Water
Analysis Batch: 179800

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 179660

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/07/15 04:47	05/07/15 12:51	1

Lab Sample ID: LCS 240-179660/11-A
Matrix: Water
Analysis Batch: 179800

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 179660

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	1.69	1.67		mg/L		99	53 - 134

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total

Lab Sample ID: MB 240-178164/1-A
Matrix: Water
Analysis Batch: 178320

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 178164

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		04/27/15 13:15	04/28/15 13:15	1

Lab Sample ID: LCS 240-178164/2-A
Matrix: Water
Analysis Batch: 178320

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 178164

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	7.77	6.59		mg/L		85	65 - 144

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-43224-1

CBBT Thimble Shoal

Lot #: H5D210419

Carrie Gamber

TestAmerica Pittsburgh
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TESTAMERICA LABORATORIES, INC.

Bruce Wagner
Project Manager

April 29, 2015

ANALYTICAL METHODS SUMMARY

H5D210419

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

SAMPLE SUMMARY

H5D210419

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M6MRN	001	EQB-PUMP	04/16/15	16:20

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H5D210419

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

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The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the

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concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

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Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration

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W = amount of sample extracted (grams or liters)
S = percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: EQB-PUMP

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D210419 - 001	**Work Order #....:**	M6MRN1AA	**Matrix.....:**	WS
Date Sampled....:	04/16/15	**Date Received....:**	04/21/15	**Units....:**	pg/L
Prep Date....:	04/22/15			**Dilution Factor:**	1
Prep Batch # ....:	5112013				
Initial Wgt/Vol :	1013 mL	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/28/15	1	ND	9.9	0.028	1.0	0.028
1,2,3,7,8-PeCDD	4/28/15	1	ND	49	0.045	0.5	0.022
1,2,3,4,7,8-HxCDD	**4/28/15**	**1**	**0.14 Q B J**	**49**	**0.077**	**0.1**	**0.014**
1,2,3,6,7,8-HxCDD	**4/28/15**	**1**	**0.19 Q B J**	**49**	**0.081**	**0.1**	**0.019**
1,2,3,7,8,9-HxCDD	**4/28/15**	**1**	**0.25 Q B J**	**49**	**0.074**	**0.1**	**0.025**
1,2,3,4,6,7,8-HpCDD	**4/28/15**	**1**	**1.3 Q B J**	**49**	**0.049**	**0.01**	**0.013**
OCDD	**4/28/15**	**1**	**5.9 B J**	**99**	**0.075**	**0.001**	**0.0059**
2,3,7,8-TCDF	4/28/15	1	ND	9.9	0.018	0.1	0.0018
1,2,3,7,8-PeCDF	4/28/15	1	ND	49	0.037	0.05	0.0018
2,3,4,7,8-PeCDF	4/28/15	1	ND	49	0.033	0.5	0.016
1,2,3,4,7,8-HxCDF	4/28/15	1	ND	49	0.063	0.1	0.0063
1,2,3,6,7,8-HxCDF	**4/28/15**	**1**	**0.12 Q B J**	**49**	**0.061**	**0.1**	**0.012**
2,3,4,6,7,8-HxCDF	**4/28/15**	**1**	**0.30 Q B J**	**49**	**0.061**	**0.1**	**0.030**
1,2,3,7,8,9-HxCDF	4/28/15	1	ND	49	0.088	0.1	0.0088
1,2,3,4,6,7,8-HpCDF	**4/28/15**	**1**	**0.34 Q B J**	**49**	**0.054**	**0.01**	**0.0034**
1,2,3,4,7,8,9-HpCDF	**4/28/15**	**1**	**0.73 B J**	**49**	**0.076**	**0.01**	**0.0073**
OCDF	**4/28/15**	**1**	**3.1 B J**	**99**	**0.027**	**0.001**	**0.0031**
Total TEQ Concentration							**0.22**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	40	(25 - 164)
13C-1,2,3,7,8-PeCDD	51	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	50	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	43	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	53	(23 - 140)
13C-OCDD	42	(17 - 157)
13C-2,3,7,8-TCDF	45	(24 - 169)
13C-1,2,3,7,8-PeCDF	46	(24 - 185)
13C-2,3,4,7,8-PeCDF	50	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	48	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	43	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	47	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	41	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	46	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	46	(26 - 138)
13C-OCDF	36	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

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TestAmerica Pittsburgh

Client Sample ID: EQB-PUMP

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	99	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D220000 - 013B	**Work Order #....:**	M6M2K1AA	**Matrix....:**	WATER
Dilution Factor:	1				
Prep Date....:	04/22/15	**Analysis Date....:**	04/28/15		
Prep Batch # ....:	5112013				
Initial Wgt/Vol :	1000 mL	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	0.43	pg/L
1,2,3,7,8-PeCDD	**1.5**	**Q J**	**50**	**0.11**	**pg/L**
1,2,3,4,7,8-HxCDD	**0.23**	**Q J**	**50**	**0.077**	**pg/L**
1,2,3,6,7,8-HxCDD	**0.36**	**Q J**	**50**	**0.079**	**pg/L**
1,2,3,7,8,9-HxCDD	**0.29**	**Q J**	**50**	**0.074**	**pg/L**
1,2,3,4,6,7,8-HpCDD	**1.0**	**J**	**50**	**0.032**	**pg/L**
OCDD	**5.1**	**Q J**	**100**	**0.021**	**pg/L**
2,3,7,8-TCDF	ND		10	0.055	pg/L
1,2,3,7,8-PeCDF	**0.60**	**J**	**50**	**0.032**	**pg/L**
2,3,4,7,8-PeCDF	**0.38**	**J**	**50**	**0.032**	**pg/L**
1,2,3,4,7,8-HxCDF	**0.69**	**J**	**50**	**0.041**	**pg/L**
1,2,3,6,7,8-HxCDF	**0.51**	**Q J**	**50**	**0.039**	**pg/L**
2,3,4,6,7,8-HxCDF	**0.51**	**J**	**50**	**0.044**	**pg/L**
1,2,3,7,8,9-HxCDF	**0.83**	**J**	**50**	**0.049**	**pg/L**
1,2,3,4,6,7,8-HpCDF	**0.79**	**J**	**50**	**0.036**	**pg/L**
1,2,3,4,7,8,9-HpCDF	**0.92**	**J**	**50**	**0.048**	**pg/L**
OCDF	**3.2**	**J**	**100**	**0.026**	**pg/L**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	83	25 - 164
13C-1,2,3,7,8-PeCDD	89	25 - 181
13C-1,2,3,4,7,8-HxCDD	86	32 - 141
13C-1,2,3,6,7,8-HxCDD	83	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	102	23 - 140
13C-OCDD	78	17 - 157
13C-2,3,7,8-TCDF	80	24 - 169
13C-1,2,3,7,8-PeCDF	83	24 - 185
13C-2,3,4,7,8-PeCDF	79	21 - 178
13C-1,2,3,4,7,8-HxCDF	82	26 - 152
13C-1,2,3,6,7,8-HxCDF	76	26 - 123
13C-2,3,4,6,7,8-HxCDF	80	28 - 136
13C-1,2,3,7,8,9-HxCDF	79	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	86	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	85	26 - 138
13C-OCDF	64	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D220000 - 013B	**Work Order #....:**	M6M2K1AA	**Matrix....:**	WATER
Dilution Factor:	1				
Prep Date....:	04/22/15	**Analysis Date....:**	04/28/15		
Prep Batch # ....:	5112013				
Initial Wgt/Vol :	1000 mL	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	102	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D210419	**Work Order # ...:**	M6M2K1AC-LCS	**Matrix .....:**	WATER
LCS Lot-Sample# :	H5D220000 - 013				
Prep Date .....:	04/22/15	**Analysis Date ..:**	04/28/15		
Prep Batch # ...:	5112013				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	1000 mL				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**200**	**202**	**pg/L**	**101**		**(67 - 158)**
1,2,3,7,8-PeCDD	**1000**	**1040**	**pg/L**	**104**	**B**	**(70 - 142)**
1,2,3,4,7,8-HxCDD	**1000**	**1060**	**pg/L**	**106**	**B**	**(70 - 164)**
1,2,3,6,7,8-HxCDD	**1000**	**1000**	**pg/L**	**100**	**B**	**(76 - 134)**
1,2,3,7,8,9-HxCDD	**1000**	**1090**	**pg/L**	**109**	**B**	**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**1000**	**1000**	**pg/L**	**100**	**B**	**(70 - 140)**
OCDD	**2000**	**1910**	**pg/L**	**95**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**200**	**207**	**pg/L**	**103**		**(75 - 158)**
1,2,3,7,8-PeCDF	**1000**	**933**	**pg/L**	**93**	**B**	**(80 - 134)**
2,3,4,7,8-PeCDF	**1000**	**1040**	**pg/L**	**104**	**B**	**(68 - 160)**
1,2,3,4,7,8-HxCDF	**1000**	**1010**	**pg/L**	**101**	**B**	**(72 - 134)**
1,2,3,6,7,8-HxCDF	**1000**	**994**	**pg/L**	**99**	**B**	**(84 - 130)**
2,3,4,6,7,8-HxCDF	**1000**	**1010**	**pg/L**	**101**	**B**	**(70 - 156)**
1,2,3,7,8,9-HxCDF	**1000**	**996**	**pg/L**	**100**	**B**	**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**1000**	**993**	**pg/L**	**99**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**1000**	**1010**	**pg/L**	**101**	**B**	**(78 - 138)**
OCDF	**2000**	**2000**	**pg/L**	**100**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	84	(20 - 175)
13C-1,2,3,7,8-PeCDD	89	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	83	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	82	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	95	(26 - 166)
13C-OCDD	78	(13 - 199)
13C-2,3,7,8-TCDF	82	(22 - 152)
13C-1,2,3,7,8-PeCDF	86	(21 - 192)
13C-2,3,4,7,8-PeCDF	86	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	83	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	77	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	81	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	77	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	83	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	82	(20 - 186)
13C-OCDF	68	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	103	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSD 210419

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-196300.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43224-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/12/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EQB-PUMP (180-43224-1)	4/16/15	16:20 Eastern		Water			X	2	RL/ND PH7

CUSTODY SEALS INTACT
RECEIVED AT RT 0.4/CT 0.4°C
DKD 4-21-15
1 COOLER FED X#
5682 3725 5690

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4/21/15 [signature]		[signature]	4-21-15 10:20	TA KNOX

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSD210414

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : 565 Correction factor: 0.0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received on COC
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?	✓		✓	☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: 4252 2007	✓			☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	✓		✓	☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?	✓			If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		✓		☐ **19a** Other

Comments/Actions Taken

Labeling Verified by: _____ **Date:** _____

pH test strip lot number: HC432654

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: _____

Sample Receiving Associate: _____ Date: 4-21-15

QA026R29.doc, 041115

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): 15204.01, 0009

Page 1 of 1

Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Semivolatiles and PAHs SW846 8270C	Metals SW846 6020/7471A	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Butyl Tins Unger Method	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon	Remarks
4/16/15	1620	X		EQB-PUMP	20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SEE PROJECT SPECIFIC ANALYTE LIST

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

180-43224 Chain of Custody

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
	4/16/15 1700		4/17/15 1015
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time
	4/17/15 0630		4/17/15 0945

OCEAN WATER
Parallel Thimble Shoal Tunnel

Debbie Watson 4-18-15 9:00

From: (757) 671-1291
Emily Bauer
TestAmerica (formerly STL)
5135 Cleveland Street

Virginia Beach, VA 23462

Origin ID: NTUA

FedEx Express

J151215022303uv

Ship Date: 17APR15
ActWgt: 49.0 LB
CAD: 8247985/INET3610

Delivery Address Bar Code

180-43224 Waybill

SHIP TO: (412) 963-7058 BILL RECIPIENT

Sample Receiving
TestAmerica Pittsburgh
301 Alpha Drive

Pittsburgh, PA 15238

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 7733 9818 1362
0201

X0 AGCA

15238
PA-US
PIT

Uncorrected temp 3.8 °C
Thermometer ID
CF 0 Initials
PT-WI-SR-001 effective 7/26/13

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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From: (757) 671-1291
Emily Bauer
TestAmerica (formerly STL)
5135 Cleveland Street

Virginia Beach, VA 23462

Origin ID: NTUA

FedEx Express

J151215022303uv

Ship Date: 17APR15
ActWgt: 54.0 LB
CAD: 8247985/INET3610

Delivery Address Bar Code

SHIP TO: (412) 963-7058 BILL RECIPIENT

Sample Receiving
TestAmerica Pittsburgh
301 Alpha Drive

Pittsburgh, PA 15238

Ref #
Invoice #
PO #
Dept #

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 7733 9816 7120

X0 AGCA

15238
PA-US
PIT

Uncorrected temp 5.7 °C
Thermometer ID
CF C Initials

PT-WI-SR-001 effective 7/26/13

After printing this label:
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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43224-1

Login Number: 43224
List Number: 1
Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43224-1

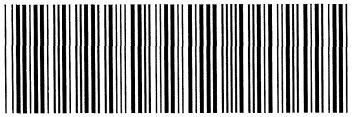
Login Number: 43224
List Number: 2
Creator: Atherton, Joel E

List Source: TestAmerica Burlington
List Creation: 04/21/15 11:08 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	TAMPER EVIDENT TAPE
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.0ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record


180-43224 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	COC No: 180-196298.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.			Job #: 180-43224-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 5/12/2015		
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email:	WO #:		
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_GC/3510C_14d Organotins (GC/FPD)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EQB-PUMP (180-43224-1)	4/16/15	16:20 Eastern		Water			X	2	

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 4/20/15	Company	Received by:	Date/Time: 4/21/15 1030	Company TA BLK
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

ORIGIN ID:AGCA (412) 963-7058
SAMPLE RECEIVING
TEST AMERICA LABORATORIES INC
301 ALPHA DR

PITTSBURGH, PA 152381330
UNITED STATES US

SHIP DATE: 20APR15
ACTWGT: 32.0 LB MAN
CAD: 741733/CAFE2807

BILL RECIPIENT

TO SHIPPING/RECEIVING
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: S180-23674

FedEx Express

TRK# 0201 5682 3725 5704

TUE - 21 APR 10:30A
PRIORITY OVERN

XH BTVA

05403
VT-US BTV

RT 716 1 A
10:30
5704

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

4.21 C4.7

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-196299.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-43224-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 5/12/2015			Preservation Codes:
City: North Canton	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify) Other:
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

C30

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_P_E/365_Prep Total Phosphorus as P	SM4500Norg_C/SM4500Norg_C_P Nitrogen-Total Kjeldahl	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
EQB-PUMP (180-43224-1)	4/16/15	16:20 Eastern		Water			X	X	2	

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
				4/21/15 920	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative Login # : 43724
Canton Facility

Client TA Perth Site Name

Cooler unpacked by:

Cooler Received on 4/21/15 Opened on 4/22/15

FedEx: 1st Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # Foam Box (Client Cooler) Box Other

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

~~IR GUN# A (CF +4.0 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. 4.2 °C Corrected Cooler Temp. 4.7 °C ☐ See Multiple Cooler Form

~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 (Yes) No
   -Were custody seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   -Were custody seals on the bottle(s)? Yes (No)
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the sampler(s) clearly identified on the COC? Yes (No)
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels be reconciled with the COC? (Yes) No
9. Were correct bottle(s) used for the test(s) indicated? (Yes) No
10. Sufficient quantity received to perform indicated analyses? (Yes) No
11. Were sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# HC425511
12. Were VOAs on the COC? Yes (No)
13. Were air bubbles >6 mm in any VOA vials? Yes No (NA)
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # Yes (No)

Contacted PM Date by via Verbal Voice Mail Other

Concerning

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

15. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-43249-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/10/2015 4:35 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/10/2015
Revision: 3

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Raw QC Data 1795

Method 8081B Low Level Blank Data 1795

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits
*	LCS or LCSD is outside acceptance limits.
cn	Refer to Case Narrative for further detail
F1	MS and/or MSD Recovery is outside acceptance limits.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
W	PS: Post-digestion spike was outside control limits

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-43249-1 REVISED 2

NOTE: This report has been revised to include Manganese per EA Engineering's request.

NOTE: This report has been revised to correct the reporting units for nitrate/nitrite as a di leach to mg/kg. The results have also been updated to reflect this correction.

NOTE: This data package has been revised to remove unnecessary surrogates that were originally reported and also to make case narrative corrections.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/20/2015; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 3.6º C, 3.8º C, 3.8º C, 4.0º C and 4.1º C.

SEMIVOALTILES
The following sample was diluted due to the nature of the sample matrix. The extract was dark in color and oily: OCREF-SED (180-43249-1). As such, surrogate recoveries will be considered as estimated and elevated reporting limits (RLs) are provided.

2,4-Dimethylphenol and Benzidine failed the recovery criteria low for the MS of sample TS-WAT (180-43249-2) in batch 180-140958.
2,4-Dimethylphenol, Benzidine, Hexachlorocyclopentadiene and Pentachlorophenol failed the recovery criteria low for the MSD of sample TS-WAT (180-43249-2) in batch 180-140958.

PESTICIDES
2,4'-DDD and Endrin were detected in method blank MB 180-140096/1-B at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

PCB CONGENERS
PCB-205 (Surr) failed the surrogate recovery criteria high for TS-WAT (180-43249-2).

The continuing calibration verification (CCV) associated with batch 140217 recovered above the upper control limit for BZ-8, 126, 28, 66, and 77. The samples associated with this CCV were non-detects or estimated values for the affected analytes; therefore, the data have been reported.

ORGANOPHOSPHORUS PESTICIDES
The continuing calibration verification (CCV) associated with batch 139370 recovered above the upper control limit for Dichlorvos. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

ORGANOTINS
The samples in this delivery group were analyzed for alkyltins. The samples were analyzed using an internal standard method of analysis with tetra-n-propyltin as the internal standard. Peak areas were used to measure the instrument response in performing calibration and quantification. The analytical report forms correctly list the alkyltin analytes as unsubstituted alkyltin compounds. The analysis of three of the compounds employed the use of alkyltin chlorides. The results from the alkyltin chlorides required conversion factors to reflect the concentrations of the unsubstituted forms. For instance, tributyltin chloride was converted to tributyltin using a conversion factor of 0.89. Dibutyltin dichloride was converted to dibutyltin using a factor of 0.77. Monobutyltin trichloride was converted to monobutyltin using a factor of 0.62 and the surrogate, tripentyltin chloride was converted to tripentyltin using a factor of 0.90.

Monobutyltin has poor extraction efficiency exhibiting a mean recovery of typically less than 5%. The low mean recovery is typical of

routine implementation of this method. Although the laboratory has reported control limits of 10-48% for this analyte these control limits are not based on historical performance and do not indicate expected performance of this analyte by this method. The laboratory does not use the recovery or performance of this compound as a basis for acceptance of the analytical batch. All analytical results, both positive and non-detects are considered qualitative values and are flagged with a cn qualifier. TS-WAT (180-43249-2), TS-WAT (180-43249-2[MS]), TS-WAT (180-43249-2[MSD]), NODS-WAT (180-43249-3), (LCS 200-87292/2-A), (LCS 200-87373/2-A), (MB 200-87292/1-A) and (MB 200-87373/1-A)

Monobutyltin failed the recovery criteria low for LCS 200-87292/2-A. Monobutyltin failed the recovery criteria low for LCS 200-87373/2-A.

Monobutyltin failed the recovery criteria low for the MS/MSD of sample TS-WAT (180-43249-2) in batch 200-87797.

AVS/SEM

Zinc SEM was detected in method blank MB 180-139589/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

METALS

The following samples were diluted due to the nature of the sample matrix: TS-WAT (180-43249-2), TS-WAT (180-43249-2[MS]), TS-WAT (180-43249-2[MSD]), NODS-WAT (180-43249-3), (180-43249-R-2-A PDS) and (180-43249-R-2-A SD ^). Elevated reporting limits (RLs) are provided.

The following samples were diluted to bring the concentration of sodium within the calibration range: TS-WAT (180-43249-2), TS-WAT (180-43249-2[MS]), TS-WAT (180-43249-2[MSD]), NODS-WAT (180-43249-3), (180-43249-R-2-A PDS) and (180-43249-R-2-A SD ^). Elevated reporting limits (RLs) are provided.

Calcium, Magnesium, Potassium, Sodium and Thallium were detected in method blank MB 180-139168/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Calcium, Magnesium, Potassium and Sodium failed the recovery criteria low for the MS/MSD of sample TS-WAT (180-43249-2) in batch 180-139903. Selenium failed the recovery criteria high. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

The post digestion spike % recovery for calcium and selenium associated with batch 139168 was outside of control limits.

GENERAL CHEMSITRY

Sample OCREF-SED (180-43249-1) required dilution prior to analysis for total phosphorus. The reporting limits have been adjusted accordingly.

Total Phosphorus as P exceeded the RPD limit for the MSD of sample TS-WAT (180-43249-2) in batch 240-179800.

Total Organic Carbon - Duplicates failed the recovery criteria low for the MS/MSD of sample TS-WAT (180-43249-2) in batch 180-139959.

The reporting limit for Lloyd Kahn TOC analysis is a nominal value and does not reflect adjustments in sample mass processed on an individual basis.

SUBCONTRACT WORK

Method 1613 B Dioxins/Furans + TEQs (EA criteria): This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43249-1

Client Sample ID: OCREF-SED

Lab Sample ID: 180-43249-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoranthene	4.1	J	23	2.5	ug/Kg	5	☼	8270D LL	Total/NA
delta-BHC	0.014	J p	0.058	0.0090	ug/Kg	1	☼	8081B_LL	Total/NA
gamma-BHC (Lindane)	0.016	J p	0.058	0.010	ug/Kg	1	☼	8081B_LL	Total/NA
4,4'-DDE	0.013	J p	0.058	0.0088	ug/Kg	1	☼	8081B_LL	Total/NA
Chlorobenside - RA	0.032	J p	0.058	0.030	ug/Kg	1	☼	8081B_LL	Total/NA
DCPA - RA	0.0093	J p	0.058	0.0089	ug/Kg	1	☼	8081B_LL	Total/NA
PCB-44	0.080	J p	0.70	0.078	ug/Kg	1	☼	8082A	Total/NA
PCB-206	0.059	J p	0.70	0.049	ug/Kg	1	☼	8082A	Total/NA
DCB Decachlorobiphenyl	0.079	J p	0.70	0.049	ug/Kg	1	☼	8082A	Total/NA
Copper SEM	1.1		0.87	0.078	mg/Kg	1	☼	6010B	SEM/AVS
Lead SEM	2.8		0.35	0.069	mg/Kg	1	☼	6010B	SEM/AVS
Nickel SEM	3.4		1.4	0.040	mg/Kg	1	☼	6010B	SEM/AVS
Zinc SEM	16	B	3.5	0.26	mg/Kg	1	☼	6010B	SEM/AVS
Aluminum	3300		2.1	0.20	mg/Kg	1	☼	6020A	Total/NA
Antimony	0.016	J	0.14	0.0018	mg/Kg	1	☼	6020A	Total/NA
Arsenic	2.7		0.069	0.012	mg/Kg	1	☼	6020A	Total/NA
Barium	5.7		0.69	0.0074	mg/Kg	1	☼	6020A	Total/NA
Beryllium	0.17		0.069	0.0052	mg/Kg	1	☼	6020A	Total/NA
Cadmium	0.022	J	0.069	0.0048	mg/Kg	1	☼	6020A	Total/NA
Chromium	8.2		0.14	0.0042	mg/Kg	1	☼	6020A	Total/NA
Calcium	7600		34	0.91	mg/Kg	1	☼	6020A	Total/NA
Cobalt	3.1		0.034	0.0010	mg/Kg	1	☼	6020A	Total/NA
Copper	1.9		0.14	0.023	mg/Kg	1	☼	6020A	Total/NA
Iron	6500		3.4	0.24	mg/Kg	1	☼	6020A	Total/NA
Lead	3.2		0.069	0.0026	mg/Kg	1	☼	6020A	Total/NA
Nickel	5.7		0.069	0.0078	mg/Kg	1	☼	6020A	Total/NA
Potassium	810		34	0.94	mg/Kg	1	☼	6020A	Total/NA
Selenium	0.11	J	0.34	0.035	mg/Kg	1	☼	6020A	Total/NA
Magnesium	2800		34	0.13	mg/Kg	1	☼	6020A	Total/NA
Silver	0.0076	J	0.069	0.0027	mg/Kg	1	☼	6020A	Total/NA
Thallium	0.062	J	0.069	0.0014	mg/Kg	1	☼	6020A	Total/NA
Sodium	2800		34	0.94	mg/Kg	1	☼	6020A	Total/NA
Zinc	20		0.34	0.045	mg/Kg	1	☼	6020A	Total/NA
Vanadium	8.7		0.069	0.0054	mg/Kg	1	☼	6020A	Total/NA
Manganese	97		0.34	0.0071	mg/Kg	1	☼	6020A	Total/NA
Mercury	0.0099	J	0.023	0.0077	mg/Kg	1	☼	7471B	Total/NA
SEM/AVS Ratio	0.65		0.0010	0.0010	NONE	1		SEM	SEM/AVS
Ammonia, distilled	5.1	J	7.0	4.5	mg/Kg	1	☼	350.1	Total/NA
Sulfide	33	J	42	8.3	mg/Kg	1	☼	9034	Total/NA
Total Organic Carbon - Duplicates	1600		1400	120	mg/Kg	1	☼	Lloyd Kahn	Total/NA
Total Phosphorus as P	390		130	12	mg/Kg	10	☼	SM4500 P E-1999	Total/NA
Nitrogen, Kjeldahl	210		190	66	mg/Kg	1	☼	SM4500_NH3_E	Total/NA
Nitrate Nitrite as N	1.7		1.4	0.30	mg/Kg	1	☼	353.2	Soluble
Acid Volatile Sulfides (AVS)	16	J	21	4.2	mg/Kg	1	☼	9034	SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper SEM	0.017		0.014	0.0012	umol/g	1	☼	6010B	SEM/AVS
Lead SEM	0.013		0.0017	0.00033	umol/g	1	☼	6010B	SEM/AVS
Nickel SEM	0.058		0.024	0.00068	umol/g	1	☼	6010B	SEM/AVS
Zinc SEM	0.24	B	0.053	0.0040	umol/g	1	☼	6010B	SEM/AVS

This Detection Summary does not include radiochemical test results.

Client Sample ID: OCREF-SED (Continued) — Lab Sample ID: 180-43249-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acid Volatile Sulfides (AVS)	0.51	J	0.65	0.13	umol/g	1	☼	9034	SEM/AVS

Client Sample ID: TS-WAT — Lab Sample ID: 180-43249-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
alpha-BHC	0.0038		0.0012	0.00062	ug/L	1		8081B_LL	Total/NA
PCB-8	1.4		0.95	0.31	ng/L	1		8082A	Total/NA
PCB-44	0.25	J p	0.95	0.073	ng/L	1		8082A	Total/NA
PCB-52	0.45	J	0.95	0.14	ng/L	1		8082A	Total/NA
PCB-156	0.089	J p	0.95	0.075	ng/L	1		8082A	Total/NA
Aluminum	91	J	300	26	ug/L	10		6020A	Total Recoverable
Barium	16	J	100	0.98	ug/L	10		6020A	Total Recoverable
Calcium	260000	B	5000	28	ug/L	10		6020A	Total Recoverable
Chromium	7.3	J	20	5.4	ug/L	10		6020A	Total Recoverable
Cobalt	0.87	J	5.0	0.26	ug/L	10		6020A	Total Recoverable
Copper	8.1	J	20	2.4	ug/L	10		6020A	Total Recoverable
Iron	91	J	500	61	ug/L	10		6020A	Total Recoverable
Potassium	240000	B	5000	58	ug/L	10		6020A	Total Recoverable
Magnesium	820000	B	5000	12	ug/L	10		6020A	Total Recoverable
Sodium	7400000	B	25000	190	ug/L	50		6020A	Total Recoverable
Lead	0.38	J	10	0.19	ug/L	10		6020A	Total Recoverable
Thallium	0.53	J B	10	0.15	ug/L	10		6020A	Total Recoverable
Manganese	7.9	J	50	0.39	ug/L	10		6020A	Total Recoverable
Ammonia, distilled	0.17		0.10	0.086	mg/L	1		350.1	Total/NA
Total Organic Carbon - Duplicates	0.97	J F1	1.0	0.19	mg/L	1		SM 5310C	Total/NA
Nitrogen, Kjeldahl	2.7	J	5.0	1.7	mg/L	1		SM4500_NH3_E	Total/NA

Client Sample ID: NODS-WAT — Lab Sample ID: 180-43249-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	0.44	J	1.9	0.42	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.031	J	0.19	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.035	J	0.19	0.022	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	0.11	J	0.19	0.035	ug/L	1		8270D LL	Total/NA
Chrysene	0.16	J	0.19	0.030	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene	0.17	J	0.19	0.047	ug/L	1		8270D LL	Total/NA
Benzo[k]fluoranthene	0.16	J	0.19	0.029	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	0.048	J	0.19	0.027	ug/L	1		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	0.15	J	0.19	0.042	ug/L	1		8270D LL	Total/NA
Dibenz(a,h)anthracene	0.14	J	0.19	0.026	ug/L	1		8270D LL	Total/NA
Benzo[g,h,i]perylene	0.14	J	0.19	0.028	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: NODS-WAT (Continued)

Lab Sample ID: 180-43249-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-44	0.21	J	0.94	0.073	ng/L	1		8082A	Total/NA
PCB-52	0.26	J p	0.94	0.14	ng/L	1		8082A	Total/NA
PCB-101	0.19	J p	0.94	0.14	ng/L	1		8082A	Total/NA
Barium	8.4	J	100	0.98	ug/L	10		6020A	Total Recoverable
Calcium	350000	B	5000	28	ug/L	10		6020A	Total Recoverable
Chromium	9.7	J	20	5.4	ug/L	10		6020A	Total Recoverable
Cobalt	0.31	J	5.0	0.26	ug/L	10		6020A	Total Recoverable
Potassium	340000	B	5000	58	ug/L	10		6020A	Total Recoverable
Magnesium	1100000	B	5000	12	ug/L	10		6020A	Total Recoverable
Sodium	9900000	B	25000	190	ug/L	50		6020A	Total Recoverable
Antimony	0.41	J	20	0.19	ug/L	10		6020A	Total Recoverable
Manganese	2.1	J	50	0.39	ug/L	10		6020A	Total Recoverable
Ammonia, distilled	0.086	J	0.10	0.086	mg/L	1		350.1	Total/NA
Total Organic Carbon - Duplicates	0.38	J	1.0	0.19	mg/L	1		SM 5310C	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: OCREF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-1
Matrix: Sediment
Percent Solids: 71.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		2300	490	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
1,2-Dichlorobenzene	ND		120	12	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
1,3-Dichlorobenzene	ND		120	9.1	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
1,4-Dichlorobenzene	ND		120	8.3	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Benzoic acid	ND		590	48	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Bis(2-chloroethyl)ether	ND		23	3.1	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Bis(2-chloroethoxy)methane	ND		120	7.7	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Bis(2-ethylhexyl) phthalate	ND		230	19	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
4-Bromophenyl phenyl ether	ND		120	10	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Butyl benzyl phthalate	ND		120	16	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
4-Chloro-3-methylphenol	ND		120	11	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
2-Chloronaphthalene	ND		23	2.4	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
2-Chlorophenol	ND		120	9.5	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
4-Chlorophenyl phenyl ether	ND		120	13	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Di-n-butyl phthalate	ND		120	15	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
3,3'-Dichlorobenzidine	ND		120	12	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
2,4-Dichlorophenol	ND		23	2.3	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Diethyl phthalate	ND		120	13	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
4,6-Dinitro-2-methylphenol	ND		590	47	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
2,4-Dimethylphenol	ND		120	18	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Dimethyl phthalate	ND		120	13	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
2,4-Dinitrophenol	ND		590	140	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
2,4-Dinitrotoluene	ND		120	9.4	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
2,6-Dinitrotoluene	ND		120	12	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
1,2-Diphenylhydrazine(as Azobenzene)	ND		120	15	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Di-n-octyl phthalate	ND		120	12	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Hexachlorobenzene	ND		23	2.5	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Hexachlorobutadiene	ND		23	2.6	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Hexachloroethane	ND		120	8.4	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Hexachlorocyclopentadiene	ND		120	13	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Isophorone	ND		120	8.8	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
2-Methylphenol	ND		120	8.2	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Methylphenol, 3 & 4	ND		120	11	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Nitrobenzene	ND		230	9.7	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
2-Nitrophenol	ND		120	13	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
4-Nitrophenol	ND		590	43	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
N-Nitrosodiphenylamine	ND		120	11	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
N-Nitrosodimethylamine	ND		120	10	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
N-Nitrosodi-n-propylamine	ND		23	2.7	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
2,2'-oxybis[1-chloropropane]	ND		23	2.5	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Pentachlorophenol	ND		120	10	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Phenol	ND		23	2.8	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
1,2,4-Trichlorobenzene	ND		120	6.5	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
2,4,6-Trichlorophenol	ND		120	17	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
2-Methylnaphthalene	ND		23	2.1	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
1-Methylnaphthalene	ND		23	2.5	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Naphthalene	ND		23	2.0	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Acenaphthylene	ND		23	2.7	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: OCREF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-1
Matrix: Sediment
Percent Solids: 71.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		23	2.2	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Fluorene	ND		23	3.1	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Phenanthrene	ND		23	3.7	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Anthracene	ND		23	2.3	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Fluoranthene	**4.1**	**J**	23	2.5	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Pyrene	ND		23	2.4	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Benzo[a]anthracene	ND		23	2.9	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Chrysene	ND		23	2.8	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Benzo[b]fluoranthene	ND		23	3.7	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Benzo[k]fluoranthene	ND		23	4.7	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Benzo[a]pyrene	ND		23	2.3	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Indeno[1,2,3-cd]pyrene	ND		23	2.4	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Dibenz(a,h)anthracene	ND		23	2.6	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Benzo[g,h,i]perylene	ND		23	2.3	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Benzyl alcohol	ND		120	14	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5
Dibenzofuran	ND		120	11	ug/Kg	☼	04/30/15 03:00	05/05/15 14:40	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*38 - 103*	*04/30/15 03:00*	*05/05/15 14:40*	*5*
2-Fluorophenol (Surr)	*73*		*34 - 103*	*04/30/15 03:00*	*05/05/15 14:40*	*5*
2,4,6-Tribromophenol (Surr)	*55*		*20 - 113*	*04/30/15 03:00*	*05/05/15 14:40*	*5*
Nitrobenzene-d5 (Surr)	*74*		*41 - 108*	*04/30/15 03:00*	*05/05/15 14:40*	*5*
Phenol-d5 (Surr)	*76*		*35 - 103*	*04/30/15 03:00*	*05/05/15 14:40*	*5*
Terphenyl-d14 (Surr)	*59*		*28 - 109*	*04/30/15 03:00*	*05/05/15 14:40*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: TS-WAT
Date Collected: 04/17/15 13:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND	F1	19	4.6	ug/L		04/23/15 11:21	05/08/15 16:01	1
1,2-Dichlorobenzene	ND		0.96	0.10	ug/L		04/23/15 11:21	05/08/15 16:01	1
1,3-Dichlorobenzene	ND		0.96	0.072	ug/L		04/23/15 11:21	05/08/15 16:01	1
1,4-Dichlorobenzene	ND		0.96	0.16	ug/L		04/23/15 11:21	05/08/15 16:01	1
Benzoic acid	ND		4.8	1.6	ug/L		04/23/15 11:21	05/08/15 16:01	1
Bis(2-chloroethyl)ether	ND		0.96	0.030	ug/L		04/23/15 11:21	05/08/15 16:01	1
Bis(2-chloroethoxy)methane	ND		0.96	0.13	ug/L		04/23/15 11:21	05/08/15 16:01	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.42	ug/L		04/23/15 11:21	05/08/15 16:01	1
4-Bromophenyl phenyl ether	ND		0.96	0.11	ug/L		04/23/15 11:21	05/08/15 16:01	1
Butyl benzyl phthalate	ND		0.96	0.21	ug/L		04/23/15 11:21	05/08/15 16:01	1
4-Chloro-3-methylphenol	ND		0.96	0.16	ug/L		04/23/15 11:21	05/08/15 16:01	1
2-Chloronaphthalene	ND		0.19	0.030	ug/L		04/23/15 11:21	05/08/15 16:01	1
2-Chlorophenol	ND		0.96	0.22	ug/L		04/23/15 11:21	05/08/15 16:01	1
4-Chlorophenyl phenyl ether	ND		0.96	0.077	ug/L		04/23/15 11:21	05/08/15 16:01	1
Di-n-butyl phthalate	ND		0.96	0.23	ug/L		04/23/15 11:21	05/08/15 16:01	1
3,3'-Dichlorobenzidine	ND		0.96	0.14	ug/L		04/23/15 11:21	05/08/15 16:01	1
2,4-Dichlorophenol	ND		0.96	0.065	ug/L		04/23/15 11:21	05/08/15 16:01	1
Diethyl phthalate	ND		0.96	0.29	ug/L		04/23/15 11:21	05/08/15 16:01	1
4,6-Dinitro-2-methylphenol	ND		4.8	1.5	ug/L		04/23/15 11:21	05/08/15 16:01	1
2,4-Dimethylphenol	ND	F1	0.96	0.16	ug/L		04/23/15 11:21	05/08/15 16:01	1
Dimethyl phthalate	ND		0.96	0.18	ug/L		04/23/15 11:21	05/08/15 16:01	1
2,4-Dinitrophenol	ND		4.8	2.4	ug/L		04/23/15 11:21	05/08/15 16:01	1
2,4-Dinitrotoluene	ND		0.96	0.21	ug/L		04/23/15 11:21	05/08/15 16:01	1
2,6-Dinitrotoluene	ND		0.96	0.13	ug/L		04/23/15 11:21	05/08/15 16:01	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.96	0.11	ug/L		04/23/15 11:21	05/08/15 16:01	1
Di-n-octyl phthalate	ND		0.96	0.20	ug/L		04/23/15 11:21	05/08/15 16:01	1
Hexachlorobenzene	ND		0.96	0.059	ug/L		04/23/15 11:21	05/08/15 16:01	1
Hexachlorobutadiene	ND		0.96	0.090	ug/L		04/23/15 11:21	05/08/15 16:01	1
Hexachloroethane	ND		0.96	0.13	ug/L		04/23/15 11:21	05/08/15 16:01	1
Hexachlorocyclopentadiene	ND	F1	0.96	0.13	ug/L		04/23/15 11:21	05/08/15 16:01	1
Isophorone	ND		0.96	0.071	ug/L		04/23/15 11:21	05/08/15 16:01	1
2-Methylphenol	ND		0.96	0.18	ug/L		04/23/15 11:21	05/08/15 16:01	1
Methylphenol, 3 & 4	ND		0.96	0.20	ug/L		04/23/15 11:21	05/08/15 16:01	1
Nitrobenzene	ND		1.9	0.14	ug/L		04/23/15 11:21	05/08/15 16:01	1
2-Nitrophenol	ND		0.96	0.11	ug/L		04/23/15 11:21	05/08/15 16:01	1
4-Nitrophenol	ND		4.8	0.77	ug/L		04/23/15 11:21	05/08/15 16:01	1
N-Nitrosodiphenylamine	ND		0.96	0.12	ug/L		04/23/15 11:21	05/08/15 16:01	1
N-Nitrosodimethylamine	ND		0.96	0.11	ug/L		04/23/15 11:21	05/08/15 16:01	1
N-Nitrosodi-n-propylamine	ND		0.96	0.048	ug/L		04/23/15 11:21	05/08/15 16:01	1
2,2'-oxybis[1-chloropropane]	ND		0.96	0.023	ug/L		04/23/15 11:21	05/08/15 16:01	1
Pentachlorophenol	ND	F1	0.96	0.48	ug/L		04/23/15 11:21	05/08/15 16:01	1
Phenol	ND		0.96	0.053	ug/L		04/23/15 11:21	05/08/15 16:01	1
1,2,4-Trichlorobenzene	ND		0.96	0.082	ug/L		04/23/15 11:21	05/08/15 16:01	1
2,4,6-Trichlorophenol	ND		0.96	0.29	ug/L		04/23/15 11:21	05/08/15 16:01	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		04/23/15 11:21	05/08/15 16:01	1
1-Methylnaphthalene	ND		0.19	0.030	ug/L		04/23/15 11:21	05/08/15 16:01	1
Naphthalene	ND		0.19	0.022	ug/L		04/23/15 11:21	05/08/15 16:01	1
Acenaphthylene	ND		0.19	0.021	ug/L		04/23/15 11:21	05/08/15 16:01	1
Acenaphthene	ND		0.19	0.028	ug/L		04/23/15 11:21	05/08/15 16:01	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: TS-WAT
Date Collected: 04/17/15 13:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.023	ug/L		04/23/15 11:21	05/08/15 16:01	1
Phenanthrene	ND		0.19	0.040	ug/L		04/23/15 11:21	05/08/15 16:01	1
Anthracene	ND		0.19	0.018	ug/L		04/23/15 11:21	05/08/15 16:01	1
Fluoranthene	ND		0.19	0.020	ug/L		04/23/15 11:21	05/08/15 16:01	1
Pyrene	ND		0.19	0.022	ug/L		04/23/15 11:21	05/08/15 16:01	1
Benzo[a]anthracene	ND		0.19	0.035	ug/L		04/23/15 11:21	05/08/15 16:01	1
Chrysene	ND		0.19	0.030	ug/L		04/23/15 11:21	05/08/15 16:01	1
Benzo[b]fluoranthene	ND		0.19	0.047	ug/L		04/23/15 11:21	05/08/15 16:01	1
Benzo[k]fluoranthene	ND		0.19	0.029	ug/L		04/23/15 11:21	05/08/15 16:01	1
Benzo[a]pyrene	ND		0.19	0.027	ug/L		04/23/15 11:21	05/08/15 16:01	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.042	ug/L		04/23/15 11:21	05/08/15 16:01	1
Dibenz(a,h)anthracene	ND		0.19	0.026	ug/L		04/23/15 11:21	05/08/15 16:01	1
Benzo[g,h,i]perylene	ND		0.19	0.028	ug/L		04/23/15 11:21	05/08/15 16:01	1
Benzyl alcohol	ND		0.96	0.19	ug/L		04/23/15 11:21	05/08/15 16:01	1
Dibenzofuran	ND		0.96	0.093	ug/L		04/23/15 11:21	05/08/15 16:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*28 - 109*	*04/23/15 11:21*	*05/08/15 16:01*	*1*
2-Fluorophenol (Surr)	*47*		*20 - 105*	*04/23/15 11:21*	*05/08/15 16:01*	*1*
2,4,6-Tribromophenol (Surr)	*49*		*30 - 118*	*04/23/15 11:21*	*05/08/15 16:01*	*1*
Nitrobenzene-d5 (Surr)	*53*		*27 - 114*	*04/23/15 11:21*	*05/08/15 16:01*	*1*
Phenol-d5 (Surr)	*56*		*25 - 105*	*04/23/15 11:21*	*05/08/15 16:01*	*1*
Terphenyl-d14 (Surr)	*61*		*20 - 118*	*04/23/15 11:21*	*05/08/15 16:01*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: NODS-WAT
Date Collected: 04/18/15 08:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.6	ug/L		04/23/15 11:21	05/08/15 17:20	1
1,2-Dichlorobenzene	ND		0.96	0.10	ug/L		04/23/15 11:21	05/08/15 17:20	1
1,3-Dichlorobenzene	ND		0.96	0.072	ug/L		04/23/15 11:21	05/08/15 17:20	1
1,4-Dichlorobenzene	ND		0.96	0.16	ug/L		04/23/15 11:21	05/08/15 17:20	1
Benzoic acid	ND		4.8	1.6	ug/L		04/23/15 11:21	05/08/15 17:20	1
Bis(2-chloroethyl)ether	ND		0.96	0.030	ug/L		04/23/15 11:21	05/08/15 17:20	1
Bis(2-chloroethoxy)methane	ND		0.96	0.13	ug/L		04/23/15 11:21	05/08/15 17:20	1
Bis(2-ethylhexyl) phthalate	**0.44**	**J**	1.9	0.42	ug/L		04/23/15 11:21	05/08/15 17:20	1
4-Bromophenyl phenyl ether	ND		0.96	0.11	ug/L		04/23/15 11:21	05/08/15 17:20	1
Butyl benzyl phthalate	ND		0.96	0.21	ug/L		04/23/15 11:21	05/08/15 17:20	1
4-Chloro-3-methylphenol	ND		0.96	0.16	ug/L		04/23/15 11:21	05/08/15 17:20	1
2-Chloronaphthalene	ND		0.19	0.030	ug/L		04/23/15 11:21	05/08/15 17:20	1
2-Chlorophenol	ND		0.96	0.22	ug/L		04/23/15 11:21	05/08/15 17:20	1
4-Chlorophenyl phenyl ether	ND		0.96	0.077	ug/L		04/23/15 11:21	05/08/15 17:20	1
Di-n-butyl phthalate	ND		0.96	0.23	ug/L		04/23/15 11:21	05/08/15 17:20	1
3,3'-Dichlorobenzidine	ND		0.96	0.14	ug/L		04/23/15 11:21	05/08/15 17:20	1
2,4-Dichlorophenol	ND		0.96	0.065	ug/L		04/23/15 11:21	05/08/15 17:20	1
Diethyl phthalate	ND		0.96	0.29	ug/L		04/23/15 11:21	05/08/15 17:20	1
4,6-Dinitro-2-methylphenol	ND		4.8	1.5	ug/L		04/23/15 11:21	05/08/15 17:20	1
2,4-Dimethylphenol	ND		0.96	0.16	ug/L		04/23/15 11:21	05/08/15 17:20	1
Dimethyl phthalate	ND		0.96	0.18	ug/L		04/23/15 11:21	05/08/15 17:20	1
2,4-Dinitrophenol	ND		4.8	2.4	ug/L		04/23/15 11:21	05/08/15 17:20	1
2,4-Dinitrotoluene	ND		0.96	0.21	ug/L		04/23/15 11:21	05/08/15 17:20	1
2,6-Dinitrotoluene	ND		0.96	0.13	ug/L		04/23/15 11:21	05/08/15 17:20	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.96	0.11	ug/L		04/23/15 11:21	05/08/15 17:20	1
Di-n-octyl phthalate	ND		0.96	0.20	ug/L		04/23/15 11:21	05/08/15 17:20	1
Hexachlorobenzene	ND		0.96	0.059	ug/L		04/23/15 11:21	05/08/15 17:20	1
Hexachlorobutadiene	ND		0.96	0.090	ug/L		04/23/15 11:21	05/08/15 17:20	1
Hexachloroethane	ND		0.96	0.13	ug/L		04/23/15 11:21	05/08/15 17:20	1
Hexachlorocyclopentadiene	ND		0.96	0.13	ug/L		04/23/15 11:21	05/08/15 17:20	1
Isophorone	ND		0.96	0.071	ug/L		04/23/15 11:21	05/08/15 17:20	1
2-Methylphenol	ND		0.96	0.18	ug/L		04/23/15 11:21	05/08/15 17:20	1
Methylphenol, 3 & 4	ND		0.96	0.20	ug/L		04/23/15 11:21	05/08/15 17:20	1
Nitrobenzene	ND		1.9	0.14	ug/L		04/23/15 11:21	05/08/15 17:20	1
2-Nitrophenol	ND		0.96	0.11	ug/L		04/23/15 11:21	05/08/15 17:20	1
4-Nitrophenol	ND		4.8	0.77	ug/L		04/23/15 11:21	05/08/15 17:20	1
N-Nitrosodiphenylamine	ND		0.96	0.12	ug/L		04/23/15 11:21	05/08/15 17:20	1
N-Nitrosodimethylamine	ND		0.96	0.11	ug/L		04/23/15 11:21	05/08/15 17:20	1
N-Nitrosodi-n-propylamine	ND		0.96	0.048	ug/L		04/23/15 11:21	05/08/15 17:20	1
2,2'-oxybis[1-chloropropane]	ND		0.96	0.023	ug/L		04/23/15 11:21	05/08/15 17:20	1
Pentachlorophenol	ND		0.96	0.48	ug/L		04/23/15 11:21	05/08/15 17:20	1
Phenol	ND		0.96	0.053	ug/L		04/23/15 11:21	05/08/15 17:20	1
1,2,4-Trichlorobenzene	ND		0.96	0.082	ug/L		04/23/15 11:21	05/08/15 17:20	1
2,4,6-Trichlorophenol	ND		0.96	0.29	ug/L		04/23/15 11:21	05/08/15 17:20	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		04/23/15 11:21	05/08/15 17:20	1
1-Methylnaphthalene	ND		0.19	0.030	ug/L		04/23/15 11:21	05/08/15 17:20	1
Naphthalene	ND		0.19	0.022	ug/L		04/23/15 11:21	05/08/15 17:20	1
Acenaphthylene	ND		0.19	0.021	ug/L		04/23/15 11:21	05/08/15 17:20	1
Acenaphthene	ND		0.19	0.028	ug/L		04/23/15 11:21	05/08/15 17:20	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: NODS-WAT
Date Collected: 04/18/15 08:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.023	ug/L		04/23/15 11:21	05/08/15 17:20	1
Phenanthrene	ND		0.19	0.040	ug/L		04/23/15 11:21	05/08/15 17:20	1
Anthracene	ND		0.19	0.018	ug/L		04/23/15 11:21	05/08/15 17:20	1
Fluoranthene	**0.031**	**J**	0.19	0.020	ug/L		04/23/15 11:21	05/08/15 17:20	1
Pyrene	**0.035**	**J**	0.19	0.022	ug/L		04/23/15 11:21	05/08/15 17:20	1
Benzo[a]anthracene	**0.11**	**J**	0.19	0.035	ug/L		04/23/15 11:21	05/08/15 17:20	1
Chrysene	**0.16**	**J**	0.19	0.030	ug/L		04/23/15 11:21	05/08/15 17:20	1
Benzo[b]fluoranthene	**0.17**	**J**	0.19	0.047	ug/L		04/23/15 11:21	05/08/15 17:20	1
Benzo[k]fluoranthene	**0.16**	**J**	0.19	0.029	ug/L		04/23/15 11:21	05/08/15 17:20	1
Benzo[a]pyrene	**0.048**	**J**	0.19	0.027	ug/L		04/23/15 11:21	05/08/15 17:20	1
Indeno[1,2,3-cd]pyrene	**0.15**	**J**	0.19	0.042	ug/L		04/23/15 11:21	05/08/15 17:20	1
Dibenz(a,h)anthracene	**0.14**	**J**	0.19	0.026	ug/L		04/23/15 11:21	05/08/15 17:20	1
Benzo[g,h,i]perylene	**0.14**	**J**	0.19	0.028	ug/L		04/23/15 11:21	05/08/15 17:20	1
Benzyl alcohol	ND		0.96	0.19	ug/L		04/23/15 11:21	05/08/15 17:20	1
Dibenzofuran	ND		0.96	0.093	ug/L		04/23/15 11:21	05/08/15 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*28 - 109*	*04/23/15 11:21*	*05/08/15 17:20*	*1*
2-Fluorophenol (Surr)	*50*		*20 - 105*	*04/23/15 11:21*	*05/08/15 17:20*	*1*
2,4,6-Tribromophenol (Surr)	*54*		*30 - 118*	*04/23/15 11:21*	*05/08/15 17:20*	*1*
Nitrobenzene-d5 (Surr)	*56*		*27 - 114*	*04/23/15 11:21*	*05/08/15 17:20*	*1*
Phenol-d5 (Surr)	*58*		*25 - 105*	*04/23/15 11:21*	*05/08/15 17:20*	*1*
Terphenyl-d14 (Surr)	*64*		*20 - 118*	*04/23/15 11:21*	*05/08/15 17:20*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: OCREF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-1
Matrix: Sediment
Percent Solids: 71.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.058	0.010	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
alpha-BHC	ND		0.058	0.0095	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
beta-BHC	ND		0.058	0.015	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
delta-BHC	**0.014**	**J p**	0.058	0.0090	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
gamma-BHC (Lindane)	**0.016**	**J p**	0.058	0.010	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
Chlordane (technical)	ND		0.58	0.026	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
4,4'-DDD	ND		0.058	0.0076	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
4,4'-DDE	**0.013**	**J p**	0.058	0.0088	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
4,4'-DDT	ND		0.058	0.0087	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
Dieldrin	ND		0.058	0.0097	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
Endosulfan I	ND		0.058	0.011	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
Endosulfan II	ND		0.058	0.010	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
Endosulfan sulfate	ND		0.058	0.0061	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
Endrin	ND		0.058	0.011	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
Endrin aldehyde	ND		0.058	0.011	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
Heptachlor	ND		0.058	0.013	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
Heptachlor epoxide	ND		0.058	0.011	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
Methoxychlor	ND		0.12	0.012	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1
Toxaphene	ND		2.3	0.39	ug/Kg	☼	04/30/15 03:35	05/06/15 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*45*		*10 - 140*	*04/30/15 03:35*	*05/06/15 17:00*	*1*
Tetrachloro-m-xylene	*50*		*10 - 140*	*04/30/15 03:35*	*05/06/15 17:00*	*1*
DCB Decachlorobiphenyl (Surr)	*45*		*10 - 140*	*04/30/15 03:35*	*05/06/15 17:00*	*1*
DCB Decachlorobiphenyl (Surr)	*45*		*10 - 140*	*04/30/15 03:35*	*05/06/15 17:00*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: TS-WAT
Date Collected: 04/17/15 13:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00078	ug/L		04/21/15 13:00	04/24/15 00:22	1
alpha-BHC	**0.0038**		0.0012	0.00062	ug/L		04/21/15 13:00	04/24/15 00:22	1
beta-BHC	ND		0.0012	0.00094	ug/L		04/21/15 13:00	04/24/15 00:22	1
delta-BHC	ND		0.0012	0.00036	ug/L		04/21/15 13:00	04/24/15 00:22	1
gamma-BHC (Lindane)	ND		0.0012	0.00075	ug/L		04/21/15 13:00	04/24/15 00:22	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		04/21/15 13:00	04/24/15 00:22	1
4,4'-DDD	ND		0.0012	0.00063	ug/L		04/21/15 13:00	04/24/15 00:22	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		04/21/15 13:00	04/24/15 00:22	1
4,4'-DDT	ND		0.0012	0.00070	ug/L		04/21/15 13:00	04/24/15 00:22	1
Dieldrin	ND		0.0012	0.00077	ug/L		04/21/15 13:00	04/24/15 00:22	1
Endosulfan I	ND		0.0012	0.00089	ug/L		04/21/15 13:00	04/24/15 00:22	1
Endosulfan II	ND		0.0012	0.00092	ug/L		04/21/15 13:00	04/24/15 00:22	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		04/21/15 13:00	04/24/15 00:22	1
Endrin	ND		0.0012	0.00091	ug/L		04/21/15 13:00	04/24/15 00:22	1
Endrin aldehyde	ND		0.0012	0.00085	ug/L		04/21/15 13:00	04/24/15 00:22	1
Heptachlor	ND		0.0012	0.00093	ug/L		04/21/15 13:00	04/24/15 00:22	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		04/21/15 13:00	04/24/15 00:22	1
Methoxychlor	ND		0.0024	0.00086	ug/L		04/21/15 13:00	04/24/15 00:22	1
Toxaphene	ND		0.094	0.018	ug/L		04/21/15 13:00	04/24/15 00:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*96*		*60 - 111*	*04/21/15 13:00*	*04/24/15 00:22*	*1*
Tetrachloro-m-xylene	*86*		*60 - 111*	*04/21/15 13:00*	*04/24/15 00:22*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 122*	*04/21/15 13:00*	*04/24/15 00:22*	*1*
DCB Decachlorobiphenyl (Surr)	*80*		*45 - 122*	*04/21/15 13:00*	*04/24/15 00:22*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: NODS-WAT
Date Collected: 04/18/15 08:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00078	ug/L		04/21/15 13:00	04/24/15 01:09	1
alpha-BHC	ND		0.0012	0.00062	ug/L		04/21/15 13:00	04/24/15 01:09	1
beta-BHC	ND		0.0012	0.00094	ug/L		04/21/15 13:00	04/24/15 01:09	1
delta-BHC	ND		0.0012	0.00036	ug/L		04/21/15 13:00	04/24/15 01:09	1
gamma-BHC (Lindane)	ND		0.0012	0.00075	ug/L		04/21/15 13:00	04/24/15 01:09	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		04/21/15 13:00	04/24/15 01:09	1
4,4'-DDD	ND		0.0012	0.00063	ug/L		04/21/15 13:00	04/24/15 01:09	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		04/21/15 13:00	04/24/15 01:09	1
4,4'-DDT	ND		0.0012	0.00070	ug/L		04/21/15 13:00	04/24/15 01:09	1
Dieldrin	ND		0.0012	0.00077	ug/L		04/21/15 13:00	04/24/15 01:09	1
Endosulfan I	ND		0.0012	0.00089	ug/L		04/21/15 13:00	04/24/15 01:09	1
Endosulfan II	ND		0.0012	0.00092	ug/L		04/21/15 13:00	04/24/15 01:09	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		04/21/15 13:00	04/24/15 01:09	1
Endrin	ND		0.0012	0.00091	ug/L		04/21/15 13:00	04/24/15 01:09	1
Endrin aldehyde	ND		0.0012	0.00085	ug/L		04/21/15 13:00	04/24/15 01:09	1
Heptachlor	ND		0.0012	0.00093	ug/L		04/21/15 13:00	04/24/15 01:09	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		04/21/15 13:00	04/24/15 01:09	1
Methoxychlor	ND		0.0024	0.00086	ug/L		04/21/15 13:00	04/24/15 01:09	1
Toxaphene	ND		0.094	0.018	ug/L		04/21/15 13:00	04/24/15 01:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*92*		*60 - 111*	*04/21/15 13:00*	*04/24/15 01:09*	*1*
Tetrachloro-m-xylene	*90*		*60 - 111*	*04/21/15 13:00*	*04/24/15 01:09*	*1*
DCB Decachlorobiphenyl (Surr)	*89*		*45 - 122*	*04/21/15 13:00*	*04/24/15 01:09*	*1*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 122*	*04/21/15 13:00*	*04/24/15 01:09*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: OCREF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-1
Matrix: Sediment
Percent Solids: 71.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenside	**0.032**	**J p**	0.058	0.030	ug/Kg	☼	04/30/15 03:35	05/07/15 20:58	1
DCPA	**0.0093**	**J p**	0.058	0.0089	ug/Kg	☼	04/30/15 03:35	05/07/15 20:58	1
2,4'-DDD	ND		0.058	0.0035	ug/Kg	☼	04/30/15 03:35	05/07/15 20:58	1
2,4'-DDE	ND		0.058	0.0054	ug/Kg	☼	04/30/15 03:35	05/07/15 20:58	1
2,4'-DDT	ND		0.058	0.0050	ug/Kg	☼	04/30/15 03:35	05/07/15 20:58	1
Mirex	ND		0.058	0.0054	ug/Kg	☼	04/30/15 03:35	05/07/15 20:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*54*		*10 - 140*	*04/30/15 03:35*	*05/07/15 20:58*	*1*
Tetrachloro-m-xylene	*57*		*10 - 140*	*04/30/15 03:35*	*05/07/15 20:58*	*1*
DCB Decachlorobiphenyl (Surr)	*62*		*10 - 140*	*04/30/15 03:35*	*05/07/15 20:58*	*1*
DCB Decachlorobiphenyl (Surr)	*63*		*10 - 140*	*04/30/15 03:35*	*05/07/15 20:58*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: TS-WAT
Date Collected: 04/17/15 13:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenside	ND		0.0030	0.0014	ug/L		04/21/15 13:00	04/24/15 17:31	1
DCPA	ND		0.0024	0.00032	ug/L		04/21/15 13:00	04/24/15 17:31	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		04/21/15 13:00	04/24/15 17:31	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		04/21/15 13:00	04/24/15 17:31	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		04/21/15 13:00	04/24/15 17:31	1
Mirex	ND		0.0012	0.00045	ug/L		04/21/15 13:00	04/24/15 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*98*		*60 - 111*	*04/21/15 13:00*	*04/24/15 17:31*	*1*
Tetrachloro-m-xylene	*90*		*60 - 111*	*04/21/15 13:00*	*04/24/15 17:31*	*1*
DCB Decachlorobiphenyl (Surr)	*100*		*45 - 122*	*04/21/15 13:00*	*04/24/15 17:31*	*1*
DCB Decachlorobiphenyl (Surr)	*99*		*45 - 122*	*04/21/15 13:00*	*04/24/15 17:31*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: NODS-WAT
Date Collected: 04/18/15 08:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenside	ND		0.0030	0.0014	ug/L		04/21/15 13:00	04/24/15 18:17	1
DCPA	ND		0.0024	0.00032	ug/L		04/21/15 13:00	04/24/15 18:17	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		04/21/15 13:00	04/24/15 18:17	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		04/21/15 13:00	04/24/15 18:17	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		04/21/15 13:00	04/24/15 18:17	1
Mirex	ND		0.0012	0.00045	ug/L		04/21/15 13:00	04/24/15 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*93*		*60 - 111*	*04/21/15 13:00*	*04/24/15 18:17*	*1*
Tetrachloro-m-xylene	*91*		*60 - 111*	*04/21/15 13:00*	*04/24/15 18:17*	*1*
DCB Decachlorobiphenyl (Surr)	*100*		*45 - 122*	*04/21/15 13:00*	*04/24/15 18:17*	*1*
DCB Decachlorobiphenyl (Surr)	*95*		*45 - 122*	*04/21/15 13:00*	*04/24/15 18:17*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: OCREF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-1
Matrix: Sediment
Percent Solids: 71.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.70	0.23	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-18	ND		0.70	0.20	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-28	ND		0.70	0.10	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-44	**0.080**	**J p**	0.70	0.078	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-49	ND		0.70	0.14	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-52	ND		0.70	0.13	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-66	ND		0.70	0.063	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-77	ND		0.70	0.075	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-87	ND		0.70	0.071	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-101	ND		0.70	0.082	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-105	ND		0.70	0.057	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-118	ND		0.70	0.063	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-126	ND		0.70	0.23	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-128	ND		0.70	0.074	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-138	ND		0.70	0.058	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-153	ND		0.70	0.060	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-156	ND		0.70	0.047	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-169	ND		0.70	0.045	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-170	ND		0.70	0.053	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-180	ND		0.70	0.060	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-183	ND		0.70	0.15	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-184	ND		0.70	0.063	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-187	ND		0.70	0.086	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-195	ND		0.70	0.14	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
PCB-206	**0.059**	**J p**	0.70	0.049	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1
DCB Decachlorobiphenyl	**0.079**	**J p**	0.70	0.049	ug/Kg	☼	04/24/15 04:41	05/01/15 23:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*59*		*35 - 140*	*04/24/15 04:41*	*05/01/15 23:57*	*1*
Tetrachloro-m-xylene (Surr)	*61*		*35 - 140*	*04/24/15 04:41*	*05/01/15 23:57*	*1*
PCB-205 (Surr)	*70*		*35 - 140*	*04/24/15 04:41*	*05/01/15 23:57*	*1*
PCB-205 (Surr)	*82*		*35 - 140*	*04/24/15 04:41*	*05/01/15 23:57*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: TS-WAT
Date Collected: 04/17/15 13:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	**1.4**		0.95	0.31	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-18	ND		0.95	0.18	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-28	ND		0.95	0.22	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-44	**0.25**	**J p**	0.95	0.073	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-49	ND		0.95	0.14	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-52	**0.45**	**J**	0.95	0.14	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-66	ND		0.95	0.12	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-77	ND		0.95	0.15	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-87	ND		0.95	0.076	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-101	ND		0.95	0.14	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-105	ND		0.95	0.076	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-118	ND		0.95	0.11	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-126	ND		0.95	0.30	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-128	ND		0.95	0.081	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-138	ND		0.95	0.14	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-153	ND		0.95	0.11	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-156	**0.089**	**J p**	0.95	0.075	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-169	ND		0.95	0.21	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-170	ND		0.95	0.11	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-180	ND		0.95	0.076	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-183	ND		0.95	0.26	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-184	ND		0.95	0.14	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-187	ND		0.95	0.38	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-195	ND		0.95	0.098	ng/L		04/21/15 11:45	05/01/15 14:26	1
PCB-206	ND		0.95	0.16	ng/L		04/21/15 11:45	05/01/15 14:26	1
DCB Decachlorobiphenyl	ND		0.95	0.10	ng/L		04/21/15 11:45	05/01/15 14:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*98*		*35 - 140*	*04/21/15 11:45*	*05/01/15 14:26*	*1*
Tetrachloro-m-xylene (Surr)	*91*		*35 - 140*	*04/21/15 11:45*	*05/01/15 14:26*	*1*
PCB-205 (Surr)	*102*		*35 - 140*	*04/21/15 11:45*	*05/01/15 14:26*	*1*
PCB-205 (Surr)	*149*	*X*	*35 - 140*	*04/21/15 11:45*	*05/01/15 14:26*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: NODS-WAT
Date Collected: 04/18/15 08:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.94	0.30	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-18	ND		0.94	0.18	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-28	ND		0.94	0.22	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-44	**0.21**	**J**	0.94	0.073	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-49	ND		0.94	0.14	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-52	**0.26**	**J p**	0.94	0.14	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-66	ND		0.94	0.12	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-77	ND		0.94	0.15	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-87	ND		0.94	0.075	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-101	**0.19**	**J p**	0.94	0.14	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-105	ND		0.94	0.075	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-118	ND		0.94	0.11	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-126	ND		0.94	0.30	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-128	ND		0.94	0.080	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-138	ND		0.94	0.14	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-153	ND		0.94	0.11	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-156	ND		0.94	0.074	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-169	ND		0.94	0.21	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-170	ND		0.94	0.11	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-180	ND		0.94	0.075	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-183	ND		0.94	0.25	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-184	ND		0.94	0.13	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-187	ND		0.94	0.38	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-195	ND		0.94	0.097	ng/L		04/21/15 11:45	05/01/15 16:02	1
PCB-206	ND		0.94	0.16	ng/L		04/21/15 11:45	05/01/15 16:02	1
DCB Decachlorobiphenyl	ND		0.94	0.099	ng/L		04/21/15 11:45	05/01/15 16:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*86*		*35 - 140*	*04/21/15 11:45*	*05/01/15 16:02*	*1*
Tetrachloro-m-xylene (Surr)	*81*		*35 - 140*	*04/21/15 11:45*	*05/01/15 16:02*	*1*
PCB-205 (Surr)	*86*		*35 - 140*	*04/21/15 11:45*	*05/01/15 16:02*	*1*
PCB-205 (Surr)	*96*		*35 - 140*	*04/21/15 11:45*	*05/01/15 16:02*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: OCREF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-1
Matrix: Sediment
Percent Solids: 71.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Demeton, Total	ND		46	4.2	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Malathion	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Methyl parathion	ND		23	2.0	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Parathion	ND		23	1.8	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Bolstar	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Chlorpyrifos	ND		23	2.3	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Coumaphos	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Diazinon	ND		23	2.3	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Dichlorvos	ND		23	2.0	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Dimethoate	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Disulfoton	ND		23	2.5	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
EPN	ND		23	2.0	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Mocap	ND		23	2.3	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Famphur	ND		23	2.3	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Fensulfothion	ND		23	1.8	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Fenthion	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Mevinphos	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Phorate	ND		23	2.3	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Ronnel	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Stirophos	ND		23	2.3	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Sulfotepp	ND		23	2.2	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Thionazin	ND		23	2.3	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Tokuthion	ND		23	2.3	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
Trichloronate	ND		23	2.7	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1
O,O,O-Triethyl phosphorothioate	ND		23	4.5	ug/Kg	☼	04/23/15 05:11	04/23/15 17:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*74*		*47 - 130*	*04/23/15 05:11*	*04/23/15 17:03*	*1*
Tributyl phosphate	*71*		*47 - 130*	*04/23/15 05:11*	*04/23/15 17:03*	*1*
Triphenylphosphate	*82*		*55 - 125*	*04/23/15 05:11*	*04/23/15 17:03*	*1*
Triphenylphosphate	*83*		*55 - 125*	*04/23/15 05:11*	*04/23/15 17:03*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: TS-WAT
Date Collected: 04/17/15 13:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.95	0.11	ug/L		04/21/15 11:45	04/22/15 09:45	1
Demeton, Total	ND		1.9	0.16	ug/L		04/21/15 11:45	04/22/15 09:45	1
Malathion	ND		0.95	0.10	ug/L		04/21/15 11:45	04/22/15 09:45	1
Methyl parathion	ND		0.95	0.11	ug/L		04/21/15 11:45	04/22/15 09:45	1
Parathion	ND		0.95	0.15	ug/L		04/21/15 11:45	04/22/15 09:45	1
Bolstar	ND		0.95	0.10	ug/L		04/21/15 11:45	04/22/15 09:45	1
Chlorpyrifos	ND		0.95	0.097	ug/L		04/21/15 11:45	04/22/15 09:45	1
Coumaphos	ND		0.95	0.14	ug/L		04/21/15 11:45	04/22/15 09:45	1
Diazinon	ND		0.95	0.090	ug/L		04/21/15 11:45	04/22/15 09:45	1
Dichlorvos	ND		0.95	0.081	ug/L		04/21/15 11:45	04/22/15 09:45	1
Dimethoate	ND		0.95	0.11	ug/L		04/21/15 11:45	04/22/15 09:45	1
Disulfoton	ND		0.95	0.096	ug/L		04/21/15 11:45	04/22/15 09:45	1
EPN	ND		0.95	0.11	ug/L		04/21/15 11:45	04/22/15 09:45	1
Mocap	ND		0.95	0.096	ug/L		04/21/15 11:45	04/22/15 09:45	1
Famphur	ND		0.95	0.12	ug/L		04/21/15 11:45	04/22/15 09:45	1
Fensulfothion	ND		0.95	0.16	ug/L		04/21/15 11:45	04/22/15 09:45	1
Fenthion	ND		0.95	0.081	ug/L		04/21/15 11:45	04/22/15 09:45	1
Mevinphos	ND		0.95	0.093	ug/L		04/21/15 11:45	04/22/15 09:45	1
Phorate	ND		0.95	0.088	ug/L		04/21/15 11:45	04/22/15 09:45	1
Ronnel	ND		0.95	0.097	ug/L		04/21/15 11:45	04/22/15 09:45	1
Stirophos	ND		0.95	0.091	ug/L		04/21/15 11:45	04/22/15 09:45	1
Sulfotepp	ND		0.95	0.090	ug/L		04/21/15 11:45	04/22/15 09:45	1
Thionazin	ND		0.95	0.095	ug/L		04/21/15 11:45	04/22/15 09:45	1
Tokuthion	ND		0.95	0.089	ug/L		04/21/15 11:45	04/22/15 09:45	1
Trichloronate	ND		0.95	0.094	ug/L		04/21/15 11:45	04/22/15 09:45	1
O,O,O-Triethyl phosphorothioate	ND		0.95	0.095	ug/L		04/21/15 11:45	04/22/15 09:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*95*		*49 - 122*	*04/21/15 11:45*	*04/22/15 09:45*	*1*
Tributyl phosphate	*92*		*49 - 122*	*04/21/15 11:45*	*04/22/15 09:45*	*1*
Triphenylphosphate	*97*		*45 - 145*	*04/21/15 11:45*	*04/22/15 09:45*	*1*
Triphenylphosphate	*100*		*45 - 145*	*04/21/15 11:45*	*04/22/15 09:45*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: NODS-WAT
Date Collected: 04/18/15 08:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.94	0.11	ug/L		04/21/15 11:45	04/22/15 11:26	1
Demeton, Total	ND		1.9	0.16	ug/L		04/21/15 11:45	04/22/15 11:26	1
Malathion	ND		0.94	0.10	ug/L		04/21/15 11:45	04/22/15 11:26	1
Methyl parathion	ND		0.94	0.10	ug/L		04/21/15 11:45	04/22/15 11:26	1
Parathion	ND		0.94	0.15	ug/L		04/21/15 11:45	04/22/15 11:26	1
Bolstar	ND		0.94	0.10	ug/L		04/21/15 11:45	04/22/15 11:26	1
Chlorpyrifos	ND		0.94	0.096	ug/L		04/21/15 11:45	04/22/15 11:26	1
Coumaphos	ND		0.94	0.14	ug/L		04/21/15 11:45	04/22/15 11:26	1
Diazinon	ND		0.94	0.089	ug/L		04/21/15 11:45	04/22/15 11:26	1
Dichlorvos	ND		0.94	0.080	ug/L		04/21/15 11:45	04/22/15 11:26	1
Dimethoate	ND		0.94	0.11	ug/L		04/21/15 11:45	04/22/15 11:26	1
Disulfoton	ND		0.94	0.095	ug/L		04/21/15 11:45	04/22/15 11:26	1
EPN	ND		0.94	0.11	ug/L		04/21/15 11:45	04/22/15 11:26	1
Mocap	ND		0.94	0.095	ug/L		04/21/15 11:45	04/22/15 11:26	1
Famphur	ND		0.94	0.12	ug/L		04/21/15 11:45	04/22/15 11:26	1
Fensulfothion	ND		0.94	0.16	ug/L		04/21/15 11:45	04/22/15 11:26	1
Fenthion	ND		0.94	0.080	ug/L		04/21/15 11:45	04/22/15 11:26	1
Mevinphos	ND		0.94	0.092	ug/L		04/21/15 11:45	04/22/15 11:26	1
Phorate	ND		0.94	0.087	ug/L		04/21/15 11:45	04/22/15 11:26	1
Ronnel	ND		0.94	0.097	ug/L		04/21/15 11:45	04/22/15 11:26	1
Stirophos	ND		0.94	0.090	ug/L		04/21/15 11:45	04/22/15 11:26	1
Sulfotepp	ND		0.94	0.089	ug/L		04/21/15 11:45	04/22/15 11:26	1
Thionazin	ND		0.94	0.095	ug/L		04/21/15 11:45	04/22/15 11:26	1
Tokuthion	ND		0.94	0.088	ug/L		04/21/15 11:45	04/22/15 11:26	1
Trichloronate	ND		0.94	0.094	ug/L		04/21/15 11:45	04/22/15 11:26	1
O,O,O-Triethyl phosphorothioate	ND		0.94	0.094	ug/L		04/21/15 11:45	04/22/15 11:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*93*		*49 - 122*	*04/21/15 11:45*	*04/22/15 11:26*	*1*
Tributyl phosphate	*90*		*49 - 122*	*04/21/15 11:45*	*04/22/15 11:26*	*1*
Triphenylphosphate	*96*		*45 - 145*	*04/21/15 11:45*	*04/22/15 11:26*	*1*
Triphenylphosphate	*99*		*45 - 145*	*04/21/15 11:45*	*04/22/15 11:26*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-WAT
Date Collected: 04/17/15 13:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.048	0.048	ug/L		04/27/15 15:02	05/05/15 01:50	1
Tributyltin	ND		0.043	0.043	ug/L		04/27/15 15:02	05/05/15 01:50	1
Dibutyltin	ND		0.038	0.038	ug/L		04/27/15 15:02	05/05/15 01:50	1
Monobutyltin	ND	F1 * cn	0.60	0.60	ug/L		04/27/15 15:02	05/05/15 01:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*68*		*15 - 150*	*04/27/15 15:02*	*05/05/15 01:50*	*1*
Tripentyltin	*82*		*15 - 150*	*04/27/15 15:02*	*05/05/15 01:50*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: NODS-WAT
Date Collected: 04/18/15 08:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.050	0.050	ug/L		04/24/15 09:33	05/04/15 23:09	1
Tributyltin	ND		0.045	0.045	ug/L		04/24/15 09:33	05/04/15 23:09	1
Dibutyltin	ND		0.039	0.039	ug/L		04/24/15 09:33	05/04/15 23:09	1
Monobutyltin	ND	* cn	0.62	0.62	ug/L		04/24/15 09:33	05/04/15 23:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*25*		*15 - 150*	*04/24/15 09:33*	*05/04/15 23:09*	*1*
Tripentyltin	*32*		*15 - 150*	*04/24/15 09:33*	*05/04/15 23:09*	*1*

Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: OCREF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-1
Matrix: Sediment
Percent Solids: 71.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.17	0.0057	mg/Kg	☼	04/24/15 13:10	04/28/15 14:26	1
Copper SEM	**1.1**		0.87	0.078	mg/Kg	☼	04/24/15 13:10	04/28/15 14:26	1
Lead SEM	**2.8**		0.35	0.069	mg/Kg	☼	04/24/15 13:10	04/28/15 14:26	1
Nickel SEM	**3.4**		1.4	0.040	mg/Kg	☼	04/24/15 13:10	04/28/15 14:26	1
Zinc SEM	**16**	**B**	3.5	0.26	mg/Kg	☼	04/24/15 13:10	04/28/15 14:26	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.0016	0.000051	umol/g	☼	04/24/15 13:10	04/28/15 14:26	1
Copper SEM	**0.017**		0.014	0.0012	umol/g	☼	04/24/15 13:10	04/28/15 14:26	1
Lead SEM	**0.013**		0.0017	0.00033	umol/g	☼	04/24/15 13:10	04/28/15 14:26	1
Nickel SEM	**0.058**		0.024	0.00068	umol/g	☼	04/24/15 13:10	04/28/15 14:26	1
Zinc SEM	**0.24**	**B**	0.053	0.0040	umol/g	☼	04/24/15 13:10	04/28/15 14:26	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: OCREF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-1
Matrix: Sediment
Percent Solids: 71.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	3300		2.1	0.20	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Antimony	0.016	J	0.14	0.0018	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Arsenic	2.7		0.069	0.012	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Barium	5.7		0.69	0.0074	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Beryllium	0.17		0.069	0.0052	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Cadmium	0.022	J	0.069	0.0048	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Chromium	8.2		0.14	0.0042	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Calcium	7600		34	0.91	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Cobalt	3.1		0.034	0.0010	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Copper	1.9		0.14	0.023	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Iron	6500		3.4	0.24	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Lead	3.2		0.069	0.0026	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Nickel	5.7		0.069	0.0078	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Potassium	810		34	0.94	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Selenium	0.11	J	0.34	0.035	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Magnesium	2800		34	0.13	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Silver	0.0076	J	0.069	0.0027	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Thallium	0.062	J	0.069	0.0014	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Sodium	2800		34	0.94	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Zinc	20		0.34	0.045	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Vanadium	8.7		0.069	0.0054	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1
Manganese	97		0.34	0.0071	mg/Kg	☼	04/29/15 11:56	04/30/15 00:14	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: TS-WAT
Date Collected: 04/17/15 13:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**91**	**J**	300	26	ug/L		04/21/15 12:18	04/27/15 11:49	10
Arsenic	ND		10	2.9	ug/L		04/21/15 12:18	04/27/15 11:49	10
Barium	**16**	**J**	100	0.98	ug/L		04/21/15 12:18	04/27/15 11:49	10
Beryllium	ND		10	0.37	ug/L		04/21/15 12:18	04/27/15 11:49	10
Cadmium	ND		10	1.1	ug/L		04/21/15 12:18	04/27/15 11:49	10
Calcium	**260000**	**B**	5000	28	ug/L		04/21/15 12:18	04/27/15 11:49	10
Chromium	**7.3**	**J**	20	5.4	ug/L		04/21/15 12:18	04/27/15 11:49	10
Cobalt	**0.87**	**J**	5.0	0.26	ug/L		04/21/15 12:18	04/27/15 11:49	10
Copper	**8.1**	**J**	20	2.4	ug/L		04/21/15 12:18	04/27/15 11:49	10
Iron	**91**	**J**	500	61	ug/L		04/21/15 12:18	04/27/15 11:49	10
Silver	ND		10	0.36	ug/L		04/21/15 12:18	04/27/15 11:49	10
Potassium	**240000**	**B**	5000	58	ug/L		04/21/15 12:18	04/27/15 11:49	10
Magnesium	**820000**	**B**	5000	12	ug/L		04/21/15 12:18	04/27/15 11:49	10
Sodium	**7400000**	**B**	25000	190	ug/L		04/21/15 12:18	04/27/15 19:41	50
Nickel	ND		10	1.7	ug/L		04/21/15 12:18	04/27/15 11:49	10
Lead	**0.38**	**J**	10	0.19	ug/L		04/21/15 12:18	04/27/15 11:49	10
Antimony	ND		20	0.19	ug/L		04/21/15 12:18	04/27/15 11:49	10
Selenium	ND	F1	50	4.2	ug/L		04/21/15 12:18	04/27/15 11:49	10
Thallium	**0.53**	**J B**	10	0.15	ug/L		04/21/15 12:18	04/27/15 11:49	10
Vanadium	ND		10	0.82	ug/L		04/21/15 12:18	04/27/15 11:49	10
Zinc	ND		50	9.6	ug/L		04/21/15 12:18	04/27/15 11:49	10
Manganese	**7.9**	**J**	50	0.39	ug/L		04/21/15 12:18	04/27/15 11:49	10

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: NODS-WAT
Date Collected: 04/18/15 08:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		300	26	ug/L		04/21/15 12:18	04/27/15 12:15	10
Arsenic	ND		10	2.9	ug/L		04/21/15 12:18	04/27/15 12:15	10
Barium	**8.4**	**J**	100	0.98	ug/L		04/21/15 12:18	04/27/15 12:15	10
Beryllium	ND		10	0.37	ug/L		04/21/15 12:18	04/27/15 12:15	10
Cadmium	ND		10	1.1	ug/L		04/21/15 12:18	04/27/15 12:15	10
Calcium	**350000**	**B**	5000	28	ug/L		04/21/15 12:18	04/27/15 12:15	10
Chromium	**9.7**	**J**	20	5.4	ug/L		04/21/15 12:18	04/27/15 12:15	10
Cobalt	**0.31**	**J**	5.0	0.26	ug/L		04/21/15 12:18	04/27/15 12:15	10
Copper	ND		20	2.4	ug/L		04/21/15 12:18	04/27/15 12:15	10
Iron	ND		500	61	ug/L		04/21/15 12:18	04/27/15 12:15	10
Silver	ND		10	0.36	ug/L		04/21/15 12:18	04/27/15 12:15	10
Potassium	**340000**	**B**	5000	58	ug/L		04/21/15 12:18	04/27/15 12:15	10
Magnesium	**1100000**	**B**	5000	12	ug/L		04/21/15 12:18	04/27/15 12:15	10
Sodium	**9900000**	**B**	25000	190	ug/L		04/21/15 12:18	04/27/15 20:06	50
Nickel	ND		10	1.7	ug/L		04/21/15 12:18	04/27/15 12:15	10
Lead	ND		10	0.19	ug/L		04/21/15 12:18	04/27/15 12:15	10
Antimony	**0.41**	**J**	20	0.19	ug/L		04/21/15 12:18	04/27/15 12:15	10
Selenium	ND		50	4.2	ug/L		04/21/15 12:18	04/27/15 12:15	10
Thallium	ND		10	0.15	ug/L		04/21/15 12:18	04/27/15 12:15	10
Vanadium	ND		10	0.82	ug/L		04/21/15 12:18	04/27/15 12:15	10
Zinc	ND		50	9.6	ug/L		04/21/15 12:18	04/27/15 12:15	10
Manganese	**2.1**	**J**	50	0.39	ug/L		04/21/15 12:18	04/27/15 12:15	10

Method: 7470A - Mercury (CVAA)

Client Sample ID: TS-WAT
Date Collected: 04/17/15 13:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/01/15 08:44	05/01/15 14:11	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: NODS-WAT
Date Collected: 04/18/15 08:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/01/15 08:44	05/01/15 14:17	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: OCREF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-1
Matrix: Sediment
Percent Solids: 71.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0099	J	0.023	0.0077	mg/Kg	☼	05/06/15 08:38	05/06/15 14:45	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: OCREF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	**0.65**		0.0010	0.0010	NONE			05/01/15 09:36	1

General Chemistry

Client Sample ID: OCREF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**29**		0.10	0.10	%			04/21/15 15:36	1
Ammonia, distilled	**5.1**	**J**	7.0	4.5	mg/Kg	☼	05/08/15 17:30	05/11/15 13:16	1
Cyanide, Total	ND		0.36	0.12	mg/Kg	☼	04/28/15 08:30	04/28/15 11:34	1
Sulfide	**33**	**J**	42	8.3	mg/Kg	☼	04/24/15 16:00	04/24/15 20:24	1
Total Organic Carbon - Duplicates	**1600**		1400	120	mg/Kg	☼		04/24/15 09:00	1
Total Phosphorus as P	**390**		130	12	mg/Kg	☼	04/26/15 04:23	04/26/15 09:28	10
Nitrogen, Kjeldahl	**210**		190	66	mg/Kg	☼	04/30/15 11:00	05/01/15 12:16	1

General Chemistry

Client Sample ID: TS-WAT
Date Collected: 04/17/15 13:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**0.17**		0.10	0.086	mg/L		05/13/15 10:00	05/13/15 14:40	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 10:24	1
Cyanide, Total	ND		10	2.5	ug/L		05/01/15 08:10	05/01/15 14:44	1
Sulfide	ND		3.0	0.59	mg/L		04/24/15 16:00	04/24/15 20:04	1
Total Organic Carbon - Duplicates	**0.97**	**J F1**	1.0	0.19	mg/L			04/28/15 16:21	1
Total Phosphorus as P	ND	F2	0.10	0.050	mg/L		05/07/15 04:49	05/07/15 12:51	1
Nitrogen, Kjeldahl	**2.7**	**J**	5.0	1.7	mg/L		04/27/15 13:15	04/28/15 13:31	1

General Chemistry

Client Sample ID: NODS-WAT
Date Collected: 04/18/15 08:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**0.086**	**J**	0.10	0.086	mg/L		05/13/15 10:00	05/13/15 14:46	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 10:29	1
Cyanide, Total	ND		10	2.5	ug/L		05/01/15 08:10	05/01/15 14:49	1
Sulfide	ND		3.0	0.59	mg/L		04/24/15 16:00	04/24/15 20:08	1
Total Organic Carbon - Duplicates	**0.38**	**J**	1.0	0.19	mg/L			04/28/15 17:02	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/07/15 04:57	05/07/15 12:54	1
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		04/27/15 13:15	04/28/15 13:36	1

General Chemistry - Soluble

Client Sample ID: OCREF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-1
Matrix: Sediment
Percent Solids: 71.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.7		1.4	0.30	mg/Kg	☼		05/02/15 10:36	1

General Chemistry - SEM/AVS

Client Sample ID: OCREF-SED
Date Collected: 04/18/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43249-1
Matrix: Sediment
Percent Solids: 71.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	16	J	21	4.2	mg/Kg	☼	04/24/15 13:10	04/24/15 19:52	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	0.51	J	0.65	0.13	umol/g	☼	04/24/15 13:10	04/24/15 19:52	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
1,2,4-Trichlorobenzene	17	0.92	ug/Kg	8270D LL
1,2,4-Trichlorobenzene	1.0	0.085	ug/L	8270D LL
1,2-Dichlorobenzene	17	1.7	ug/Kg	8270D LL
1,2-Dichlorobenzene	1.0	0.11	ug/L	8270D LL
1,2-Diphenylhydrazine(as Azobenzene)	17	2.1	ug/Kg	8270D LL
1,2-Diphenylhydrazine(as Azobenzene)	1.0	0.12	ug/L	8270D LL
1,3-Dichlorobenzene	17	1.3	ug/Kg	8270D LL
1,3-Dichlorobenzene	1.0	0.075	ug/L	8270D LL
1,4-Dichlorobenzene	17	1.2	ug/Kg	8270D LL
1,4-Dichlorobenzene	1.0	0.16	ug/L	8270D LL
1-Methylnaphthalene	3.4	0.36	ug/Kg	8270D LL
1-Methylnaphthalene	0.20	0.031	ug/L	8270D LL
2,2'-oxybis[1-chloropropane]	3.4	0.36	ug/Kg	8270D LL
2,2'-oxybis[1-chloropropane]	1.0	0.024	ug/L	8270D LL
2,4,6-Trichlorophenol	17	2.5	ug/Kg	8270D LL
2,4,6-Trichlorophenol	1.0	0.30	ug/L	8270D LL
2,4-Dichlorophenol	3.4	0.33	ug/Kg	8270D LL
2,4-Dichlorophenol	1.0	0.067	ug/L	8270D LL
2,4-Dimethylphenol	17	2.6	ug/Kg	8270D LL
2,4-Dimethylphenol	1.0	0.17	ug/L	8270D LL
2,4-Dinitrophenol	85	20	ug/Kg	8270D LL
2,4-Dinitrophenol	5.0	2.5	ug/L	8270D LL
2,4-Dinitrotoluene	17	1.3	ug/Kg	8270D LL
2,4-Dinitrotoluene	1.0	0.21	ug/L	8270D LL
2,6-Dinitrotoluene	17	1.7	ug/Kg	8270D LL
2,6-Dinitrotoluene	1.0	0.14	ug/L	8270D LL
2-Chloronaphthalene	3.4	0.35	ug/Kg	8270D LL
2-Chloronaphthalene	0.20	0.031	ug/L	8270D LL
2-Chlorophenol	17	1.4	ug/Kg	8270D LL
2-Chlorophenol	1.0	0.23	ug/L	8270D LL
2-Methylnaphthalene	3.4	0.30	ug/Kg	8270D LL
2-Methylnaphthalene	0.20	0.019	ug/L	8270D LL
2-Methylphenol	17	1.2	ug/Kg	8270D LL
2-Methylphenol	1.0	0.19	ug/L	8270D LL
2-Nitrophenol	17	1.8	ug/Kg	8270D LL
2-Nitrophenol	1.0	0.11	ug/L	8270D LL
3,3'-Dichlorobenzidine	17	1.8	ug/Kg	8270D LL
3,3'-Dichlorobenzidine	1.0	0.15	ug/L	8270D LL
4,6-Dinitro-2-methylphenol	85	6.7	ug/Kg	8270D LL
4,6-Dinitro-2-methylphenol	5.0	1.6	ug/L	8270D LL
4-Bromophenyl phenyl ether	17	1.5	ug/Kg	8270D LL
4-Bromophenyl phenyl ether	1.0	0.12	ug/L	8270D LL
4-Chloro-3-methylphenol	17	1.5	ug/Kg	8270D LL
4-Chloro-3-methylphenol	1.0	0.17	ug/L	8270D LL
4-Chlorophenyl phenyl ether	17	1.9	ug/Kg	8270D LL
4-Chlorophenyl phenyl ether	1.0	0.080	ug/L	8270D LL
4-Nitrophenol	85	6.1	ug/Kg	8270D LL
4-Nitrophenol	5.0	0.80	ug/L	8270D LL
Acenaphthene	3.4	0.32	ug/Kg	8270D LL
Acenaphthene	0.20	0.029	ug/L	8270D LL
Acenaphthylene	3.4	0.38	ug/Kg	8270D LL
Acenaphthylene	0.20	0.022	ug/L	8270D LL

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	RL	MDL	Units	Method
Anthracene	3.4	0.33	ug/Kg	8270D LL
Anthracene	0.20	0.019	ug/L	8270D LL
Benzidine	340	70	ug/Kg	8270D LL
Benzidine	20	4.7	ug/L	8270D LL
Benzo[a]anthracene	3.4	0.42	ug/Kg	8270D LL
Benzo[a]anthracene	0.20	0.037	ug/L	8270D LL
Benzo[a]pyrene	3.4	0.33	ug/Kg	8270D LL
Benzo[a]pyrene	0.20	0.028	ug/L	8270D LL
Benzo[b]fluoranthene	3.4	0.52	ug/Kg	8270D LL
Benzo[b]fluoranthene	0.20	0.049	ug/L	8270D LL
Benzo[g,h,i]perylene	3.4	0.33	ug/Kg	8270D LL
Benzo[g,h,i]perylene	0.20	0.029	ug/L	8270D LL
Benzo[k]fluoranthene	3.4	0.67	ug/Kg	8270D LL
Benzo[k]fluoranthene	0.20	0.030	ug/L	8270D LL
Benzoic acid	85	6.9	ug/Kg	8270D LL
Benzoic acid	5.0	1.6	ug/L	8270D LL
Benzyl alcohol	17	2.0	ug/Kg	8270D LL
Benzyl alcohol	1.0	0.20	ug/L	8270D LL
Bis(2-chloroethoxy)methane	17	1.1	ug/Kg	8270D LL
Bis(2-chloroethoxy)methane	1.0	0.13	ug/L	8270D LL
Bis(2-chloroethyl)ether	3.4	0.45	ug/Kg	8270D LL
Bis(2-chloroethyl)ether	1.0	0.032	ug/L	8270D LL
Bis(2-ethylhexyl) phthalate	33	2.7	ug/Kg	8270D LL
Bis(2-ethylhexyl) phthalate	2.0	0.44	ug/L	8270D LL
Butyl benzyl phthalate	17	2.3	ug/Kg	8270D LL
Butyl benzyl phthalate	1.0	0.21	ug/L	8270D LL
Chrysene	3.4	0.40	ug/Kg	8270D LL
Chrysene	0.20	0.031	ug/L	8270D LL
Dibenz(a,h)anthracene	3.4	0.37	ug/Kg	8270D LL
Dibenz(a,h)anthracene	0.20	0.027	ug/L	8270D LL
Dibenzofuran	17	1.6	ug/Kg	8270D LL
Dibenzofuran	1.0	0.097	ug/L	8270D LL
Diethyl phthalate	17	1.8	ug/Kg	8270D LL
Diethyl phthalate	1.0	0.30	ug/L	8270D LL
Dimethyl phthalate	17	1.8	ug/Kg	8270D LL
Dimethyl phthalate	1.0	0.18	ug/L	8270D LL
Di-n-butyl phthalate	17	2.1	ug/Kg	8270D LL
Di-n-butyl phthalate	1.0	0.24	ug/L	8270D LL
Di-n-octyl phthalate	17	1.8	ug/Kg	8270D LL
Di-n-octyl phthalate	1.0	0.20	ug/L	8270D LL
Fluoranthene	3.4	0.36	ug/Kg	8270D LL
Fluoranthene	0.20	0.021	ug/L	8270D LL
Fluorene	3.4	0.44	ug/Kg	8270D LL
Fluorene	0.20	0.024	ug/L	8270D LL
Hexachlorobenzene	3.4	0.36	ug/Kg	8270D LL
Hexachlorobenzene	1.0	0.061	ug/L	8270D LL
Hexachlorobutadiene	3.4	0.37	ug/Kg	8270D LL
Hexachlorobutadiene	1.0	0.094	ug/L	8270D LL
Hexachlorocyclopentadiene	17	1.8	ug/Kg	8270D LL
Hexachlorocyclopentadiene	1.0	0.14	ug/L	8270D LL
Hexachloroethane	17	1.2	ug/Kg	8270D LL
Hexachloroethane	1.0	0.14	ug/L	8270D LL

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	RL	MDL	Units	Method
Indeno[1,2,3-cd]pyrene	3.4	0.34	ug/Kg	8270D LL
Indeno[1,2,3-cd]pyrene	0.20	0.043	ug/L	8270D LL
Isophorone	17	1.3	ug/Kg	8270D LL
Isophorone	1.0	0.074	ug/L	8270D LL
Methylphenol, 3 & 4	17	1.6	ug/Kg	8270D LL
Methylphenol, 3 & 4	1.0	0.21	ug/L	8270D LL
Naphthalene	3.4	0.29	ug/Kg	8270D LL
Naphthalene	0.20	0.023	ug/L	8270D LL
Nitrobenzene	33	1.4	ug/Kg	8270D LL
Nitrobenzene	2.0	0.15	ug/L	8270D LL
N-Nitrosodimethylamine	17	1.4	ug/Kg	8270D LL
N-Nitrosodimethylamine	1.0	0.12	ug/L	8270D LL
N-Nitrosodi-n-propylamine	3.4	0.39	ug/Kg	8270D LL
N-Nitrosodi-n-propylamine	1.0	0.050	ug/L	8270D LL
N-Nitrosodiphenylamine	17	1.5	ug/Kg	8270D LL
N-Nitrosodiphenylamine	1.0	0.12	ug/L	8270D LL
Pentachlorophenol	17	1.5	ug/Kg	8270D LL
Pentachlorophenol	1.0	0.50	ug/L	8270D LL
Phenanthrene	3.4	0.53	ug/Kg	8270D LL
Phenanthrene	0.20	0.042	ug/L	8270D LL
Phenol	3.4	0.39	ug/Kg	8270D LL
Phenol	1.0	0.055	ug/L	8270D LL
Pyrene	3.4	0.34	ug/Kg	8270D LL
Pyrene	0.20	0.023	ug/L	8270D LL

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.042	0.0025	ug/Kg	8081B_LL
2,4'-DDD	0.0013	0.00016	ug/L	8081B_LL
2,4'-DDE	0.042	0.0039	ug/Kg	8081B_LL
2,4'-DDE	0.0013	0.00015	ug/L	8081B_LL
2,4'-DDT	0.042	0.0036	ug/Kg	8081B_LL
2,4'-DDT	0.0013	0.00022	ug/L	8081B_LL
4,4'-DDD	0.042	0.0055	ug/Kg	8081B_LL
4,4'-DDD	0.0013	0.00067	ug/L	8081B_LL
4,4'-DDE	0.042	0.0063	ug/Kg	8081B_LL
4,4'-DDE	0.0013	0.00079	ug/L	8081B_LL
4,4'-DDT	0.042	0.0063	ug/Kg	8081B_LL
4,4'-DDT	0.0013	0.00074	ug/L	8081B_LL
Aldrin	0.042	0.0075	ug/Kg	8081B_LL
Aldrin	0.0013	0.00083	ug/L	8081B_LL
alpha-BHC	0.042	0.0068	ug/Kg	8081B_LL
alpha-BHC	0.0013	0.00066	ug/L	8081B_LL
beta-BHC	0.042	0.011	ug/Kg	8081B_LL
beta-BHC	0.0013	0.0010	ug/L	8081B_LL
Chlordane (technical)	0.42	0.018	ug/Kg	8081B_LL
Chlordane (technical)	0.013	0.0017	ug/L	8081B_LL
Chlorobenside	0.042	0.022	ug/Kg	8081B_LL
Chlorobenside	0.0032	0.0015	ug/L	8081B_LL
DCPA	0.042	0.0064	ug/Kg	8081B_LL
DCPA	0.0025	0.00034	ug/L	8081B_LL

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Analyte	RL	MDL	Units	Method
delta-BHC	0.042	0.0064	ug/Kg	8081B_LL
delta-BHC	0.0013	0.00038	ug/L	8081B_LL
Dieldrin	0.042	0.0070	ug/Kg	8081B_LL
Dieldrin	0.0013	0.00082	ug/L	8081B_LL
Endosulfan I	0.042	0.0079	ug/Kg	8081B_LL
Endosulfan I	0.0013	0.00094	ug/L	8081B_LL
Endosulfan II	0.042	0.0074	ug/Kg	8081B_LL
Endosulfan II	0.0013	0.00098	ug/L	8081B_LL
Endosulfan sulfate	0.042	0.0044	ug/Kg	8081B_LL
Endosulfan sulfate	0.0013	0.00057	ug/L	8081B_LL
Endrin	0.042	0.0081	ug/Kg	8081B_LL
Endrin	0.0013	0.00096	ug/L	8081B_LL
Endrin aldehyde	0.042	0.0081	ug/Kg	8081B_LL
Endrin aldehyde	0.0013	0.00090	ug/L	8081B_LL
gamma-BHC (Lindane)	0.042	0.0073	ug/Kg	8081B_LL
gamma-BHC (Lindane)	0.0013	0.00080	ug/L	8081B_LL
Heptachlor	0.042	0.0093	ug/Kg	8081B_LL
Heptachlor	0.0013	0.00099	ug/L	8081B_LL
Heptachlor epoxide	0.042	0.0081	ug/Kg	8081B_LL
Heptachlor epoxide	0.0013	0.00097	ug/L	8081B_LL
Methoxychlor	0.083	0.0087	ug/Kg	8081B_LL
Methoxychlor	0.0025	0.00091	ug/L	8081B_LL
Mirex	0.042	0.0039	ug/Kg	8081B_LL
Mirex	0.0013	0.00048	ug/L	8081B_LL
Toxaphene	1.7	0.28	ug/Kg	8081B_LL
Toxaphene	0.10	0.019	ug/L	8081B_LL

Method: 8082A - PCB Congeners (GC)

Analyte	RL	MDL	Units	Method
DCB Decachlorobiphenyl	1.0	0.070	ug/Kg	8082A
DCB Decachlorobiphenyl	1.0	0.11	ng/L	8082A
PCB-101	1.0	0.12	ug/Kg	8082A
PCB-101	1.0	0.15	ng/L	8082A
PCB-105	1.0	0.082	ug/Kg	8082A
PCB-105	1.0	0.079	ng/L	8082A
PCB-118	1.0	0.090	ug/Kg	8082A
PCB-118	1.0	0.12	ng/L	8082A
PCB-126	1.0	0.33	ug/Kg	8082A
PCB-126	1.0	0.32	ng/L	8082A
PCB-128	1.0	0.11	ug/Kg	8082A
PCB-128	1.0	0.085	ng/L	8082A
PCB-138	1.0	0.084	ug/Kg	8082A
PCB-138	1.0	0.15	ng/L	8082A
PCB-153	1.0	0.086	ug/Kg	8082A
PCB-153	1.0	0.12	ng/L	8082A
PCB-156	1.0	0.067	ug/Kg	8082A
PCB-156	1.0	0.078	ng/L	8082A
PCB-169	1.0	0.064	ug/Kg	8082A
PCB-169	1.0	0.22	ng/L	8082A
PCB-170	1.0	0.076	ug/Kg	8082A
PCB-170	1.0	0.11	ng/L	8082A

Method: 8082A - PCB Congeners (GC) (Continued)

Analyte	RL	MDL	Units	Method
PCB-18	1.0	0.28	ug/Kg	8082A
PCB-18	1.0	0.19	ng/L	8082A
PCB-180	1.0	0.086	ug/Kg	8082A
PCB-180	1.0	0.080	ng/L	8082A
PCB-183	1.0	0.22	ug/Kg	8082A
PCB-183	1.0	0.27	ng/L	8082A
PCB-184	1.0	0.090	ug/Kg	8082A
PCB-184	1.0	0.14	ng/L	8082A
PCB-187	1.0	0.12	ug/Kg	8082A
PCB-187	1.0	0.40	ng/L	8082A
PCB-195	1.0	0.20	ug/Kg	8082A
PCB-195	1.0	0.10	ng/L	8082A
PCB-206	1.0	0.070	ug/Kg	8082A
PCB-206	1.0	0.17	ng/L	8082A
PCB-28	1.0	0.14	ug/Kg	8082A
PCB-28	1.0	0.23	ng/L	8082A
PCB-44	1.0	0.11	ug/Kg	8082A
PCB-44	1.0	0.077	ng/L	8082A
PCB-49	1.0	0.21	ug/Kg	8082A
PCB-49	1.0	0.15	ng/L	8082A
PCB-52	1.0	0.19	ug/Kg	8082A
PCB-52	1.0	0.15	ng/L	8082A
PCB-66	1.0	0.090	ug/Kg	8082A
PCB-66	1.0	0.13	ng/L	8082A
PCB-77	1.0	0.11	ug/Kg	8082A
PCB-77	1.0	0.16	ng/L	8082A
PCB-8	1.0	0.33	ug/Kg	8082A
PCB-8	1.0	0.32	ng/L	8082A
PCB-87	1.0	0.10	ug/Kg	8082A
PCB-87	1.0	0.079	ng/L	8082A

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
Azinphos-methyl	17	1.6	ug/Kg	8141B
Azinphos-methyl	1.0	0.11	ug/L	8141B
Bolstar	17	1.6	ug/Kg	8141B
Bolstar	1.0	0.11	ug/L	8141B
Chlorpyrifos	17	1.6	ug/Kg	8141B
Chlorpyrifos	1.0	0.10	ug/L	8141B
Coumaphos	17	1.6	ug/Kg	8141B
Coumaphos	1.0	0.15	ug/L	8141B
Demeton, Total	33	3.0	ug/Kg	8141B
Demeton, Total	2.0	0.16	ug/L	8141B
Diazinon	17	1.6	ug/Kg	8141B
Diazinon	1.0	0.094	ug/L	8141B
Dichlorvos	17	1.5	ug/Kg	8141B
Dichlorvos	1.0	0.085	ug/L	8141B
Dimethoate	17	1.6	ug/Kg	8141B
Dimethoate	1.0	0.12	ug/L	8141B
Disulfoton	17	1.8	ug/Kg	8141B
Disulfoton	1.0	0.10	ug/L	8141B

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43249-1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
EPN	17	1.4	ug/Kg	8141B
EPN	1.0	0.12	ug/L	8141B
Famphur	17	1.6	ug/Kg	8141B
Famphur	1.0	0.12	ug/L	8141B
Fensulfothion	17	1.3	ug/Kg	8141B
Fensulfothion	1.0	0.17	ug/L	8141B
Fenthion	17	1.6	ug/Kg	8141B
Fenthion	1.0	0.085	ug/L	8141B
Malathion	17	1.6	ug/Kg	8141B
Malathion	1.0	0.11	ug/L	8141B
Methyl parathion	17	1.5	ug/Kg	8141B
Methyl parathion	1.0	0.11	ug/L	8141B
Mevinphos	17	1.6	ug/Kg	8141B
Mevinphos	1.0	0.098	ug/L	8141B
Mocap	17	1.6	ug/Kg	8141B
Mocap	1.0	0.10	ug/L	8141B
O,O,O-Triethyl phosphorothioate	17	3.2	ug/Kg	8141B
O,O,O-Triethyl phosphorothioate	1.0	0.10	ug/L	8141B
Parathion	17	1.3	ug/Kg	8141B
Parathion	1.0	0.16	ug/L	8141B
Phorate	17	1.7	ug/Kg	8141B
Phorate	1.0	0.092	ug/L	8141B
Ronnel	17	1.6	ug/Kg	8141B
Ronnel	1.0	0.10	ug/L	8141B
Stirophos	17	1.7	ug/Kg	8141B
Stirophos	1.0	0.096	ug/L	8141B
Sulfotepp	17	1.6	ug/Kg	8141B
Sulfotepp	1.0	0.095	ug/L	8141B
Thionazin	17	1.6	ug/Kg	8141B
Thionazin	1.0	0.10	ug/L	8141B
Tokuthion	17	1.6	ug/Kg	8141B
Tokuthion	1.0	0.094	ug/L	8141B
Trichloronate	17	1.9	ug/Kg	8141B
Trichloronate	1.0	0.099	ug/L	8141B

Method: Organotins/GC - Organotins (GC/FPD)

Analyte	RL	MDL	Units	Method
Dibutyltin	0.039	0.039	ug/L	Organotins/GC
Monobutyltin	0.62	0.62	ug/L	Organotins/GC
Tetrabutyltin	0.050	0.050	ug/L	Organotins/GC
Tributyltin	0.045	0.045	ug/L	Organotins/GC

Method: 6010B - Metals (ICP) - SEM/AVS

Analyte	RL	MDL	Units	Method
Cadmium SEM	0.13	0.0041	mg/Kg	6010B
Cadmium SEM	0.0011	0.000036	umol/g	6010B
Copper SEM	0.63	0.056	mg/Kg	6010B
Copper SEM	0.0098	0.00088	umol/g	6010B
Lead SEM	0.25	0.050	mg/Kg	6010B
Lead SEM	0.0012	0.00024	umol/g	6010B

Method: 6010B - Metals (ICP) - SEM/AVS (Continued)

Analyte	RL	MDL	Units	Method
Nickel SEM	1.0	0.029	mg/Kg	6010B
Nickel SEM	0.017	0.00049	umol/g	6010B
Zinc SEM	2.5	0.18	mg/Kg	6010B
Zinc SEM	0.038	0.0028	umol/g	6010B

Method: 6020A - Metals (ICP/MS)

Analyte	RL	MDL	Units	Method
Aluminum	1.5	0.14	mg/Kg	6020A
Antimony	0.10	0.0013	mg/Kg	6020A
Arsenic	0.050	0.0091	mg/Kg	6020A
Barium	0.50	0.0054	mg/Kg	6020A
Beryllium	0.050	0.0038	mg/Kg	6020A
Cadmium	0.050	0.0035	mg/Kg	6020A
Calcium	25	0.66	mg/Kg	6020A
Chromium	0.10	0.0031	mg/Kg	6020A
Cobalt	0.025	0.00075	mg/Kg	6020A
Copper	0.10	0.017	mg/Kg	6020A
Iron	2.5	0.18	mg/Kg	6020A
Lead	0.050	0.0019	mg/Kg	6020A
Magnesium	25	0.094	mg/Kg	6020A
Manganese	0.25	0.0052	mg/Kg	6020A
Nickel	0.050	0.0057	mg/Kg	6020A
Potassium	25	0.68	mg/Kg	6020A
Selenium	0.25	0.025	mg/Kg	6020A
Silver	0.050	0.0020	mg/Kg	6020A
Sodium	25	0.68	mg/Kg	6020A
Thallium	0.050	0.0010	mg/Kg	6020A
Vanadium	0.050	0.0040	mg/Kg	6020A
Zinc	0.25	0.032	mg/Kg	6020A

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	RL	MDL	Units	Method
Aluminum	30	2.6	ug/L	6020A
Antimony	2.0	0.019	ug/L	6020A
Arsenic	1.0	0.29	ug/L	6020A
Barium	10	0.098	ug/L	6020A
Beryllium	1.0	0.037	ug/L	6020A
Cadmium	1.0	0.11	ug/L	6020A
Calcium	500	2.8	ug/L	6020A
Chromium	2.0	0.54	ug/L	6020A
Cobalt	0.50	0.026	ug/L	6020A
Copper	2.0	0.24	ug/L	6020A
Iron	50	6.1	ug/L	6020A
Lead	1.0	0.019	ug/L	6020A
Magnesium	500	1.2	ug/L	6020A
Manganese	5.0	0.039	ug/L	6020A
Nickel	1.0	0.17	ug/L	6020A
Potassium	500	5.8	ug/L	6020A
Selenium	5.0	0.42	ug/L	6020A
Silver	1.0	0.036	ug/L	6020A

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43249-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	RL	MDL	Units	Method
Sodium	500	3.8	ug/L	6020A
Thallium	1.0	0.015	ug/L	6020A
Vanadium	1.0	0.082	ug/L	6020A
Zinc	5.0	0.96	ug/L	6020A

Method: 7470A - Mercury (CVAA)

Analyte	RL	MDL	Units	Method
Mercury	0.20	0.078	ug/L	7470A

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	RL	MDL	Units	Method
Mercury	0.017	0.0057	mg/Kg	7471B

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	RL	MDL	Units	Method
SEM/AVS Ratio	0.0010	0.0010	NONE	SEM

General Chemistry

Analyte	RL	MDL	Units	Method
Percent Moisture	0.10	0.10	%	2540G
Ammonia, distilled	5.0	3.2	mg/Kg	350.1
Ammonia, distilled	0.10	0.086	mg/L	350.1
Nitrate Nitrite as N	0.10	0.022	mg/L	353.2
Cyanide, Total	0.25	0.082	mg/Kg	9014
Cyanide, Total	10	2.5	ug/L	9014
Sulfide	30	6.0	mg/Kg	9034
Sulfide	3.0	0.59	mg/L	9034
Total Organic Carbon - Duplicates	1000	89	mg/Kg	Lloyd Kahn
Total Organic Carbon - Duplicates	1.0	0.19	mg/L	SM 5310C
Total Phosphorus as P	10	0.91	mg/Kg	SM4500 P E-1999
Total Phosphorus as P	0.10	0.050	mg/L	SM4500 P E-1999
Nitrogen, Kjeldahl	150	51	mg/Kg	SM4500_NH3_E
Nitrogen, Kjeldahl	5.0	1.7	mg/L	SM4500_NH3_E

General Chemistry - Soluble

Analyte	RL	MDL	Units	Method
Nitrate Nitrite as N	0.10	0.022	mg/Kg	353.2

General Chemistry - SEM/AVS

Analyte	RL	MDL	Units	Method
Acid Volatile Sulfides (AVS)	30	6.0	mg/Kg	9034
Acid Volatile Sulfides (AVS)	0.94	0.19	umol/g	9034

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43249-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(38-103)	(34-103)	(20-113)	(41-108)	(35-103)	(28-109)
180-43249-1	OCREF-SED	79	73	55	74	76	59
LCS 180-140093/2-A	Lab Control Sample	62	69	62	63	70	63
MB 180-140093/1-A	Method Blank	65	73	65	66	73	65

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(28-109)	(20-105)	(30-118)	(27-114)	(25-105)	(20-118)
180-43249-2	TS-WAT	52	47	49	53	56	61
180-43249-2 MS	TS-WAT	74	71	77	79	82	74
180-43249-2 MSD	TS-WAT	74	71	78	79	82	73
180-43249-3	NODS-WAT	54	50	54	56	58	64
LCS 180-139440/2-A	Lab Control Sample	63	63	67	63	69	67
MB 180-139440/1-A	Method Blank	58	57	60	57	64	73

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(10-140)	(10-140)	(10-140)	(10-140)
180-43249-1	OCREF-SED	45	50	45	45
180-43249-1 - RA	OCREF-SED	54	57	62	63
LCS 180-140096/2-B	Lab Control Sample	76	73	72	73
MB 180-140096/1-B	Method Blank	87	86	88	87

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43249-1

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	TCX1 (60-111)	TCX2 (60-111)	DCB1 (45-122)	DCB2 (45-122)
180-43249-2	TS-WAT	96	86	84	80
180-43249-2 - RA	TS-WAT	98	90	100	99
180-43249-2 MS	TS-WAT	105	89	84	82
180-43249-2 MSD	TS-WAT	104	87	86	86
180-43249-3	NODS-WAT	92	90	89	86
180-43249-3 - RA	NODS-WAT	93	91	100	95
LCS 180-139211/2-A	Lab Control Sample	104	98	94	92
MB 180-139211/1-A	Method Blank	95	95	88	82
MB 180-139211/1-A	Method Blank	98	99	104	101

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: Sediment — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	TCX1 (35-140)	TCX2 (35-140)	B-205 (Su (35-140)	B-205 (Su (35-140)
180-43249-1	OCREF-SED	59	61	70	82
LCS 180-139502/2-C	Lab Control Sample	77	76	85	94
MB 180-139502/1-C	Method Blank	79	78	85	95

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	TCX1 (35-140)	TCX2 (35-140)	B-205 (Su (35-140)	B-205 (Su (35-140)
180-43249-2	TS-WAT	98	91	102	149 X
180-43249-2 MS	TS-WAT	94	93	98	130
180-43249-2 MSD	TS-WAT	94	95	105 p	467 X
180-43249-3	NODS-WAT	86	81	86	96
LCS 180-139209/2-A	Lab Control Sample	73	72	81	104
MB 180-139209/1-A	Method Blank	75	75	77	100

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43249-1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Matrix: Sediment — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(47-130)	(47-130)	(55-125)	(55-125)
180-43249-1	OCREF-SED	74	71	82	83
LCS 180-139360/2-A	Lab Control Sample	109	112	114	114
MB 180-139360/1-A	Method Blank	87	84	106	108

Surrogate Legend

TBPH = Tributyl phosphate
TPP = Triphenylphosphate

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(49-122)	(49-122)	(45-145)	(45-145)
180-43249-2	TS-WAT	95	92	97	100
180-43249-2 MS	TS-WAT	98	101	99	98
180-43249-2 MSD	TS-WAT	101	102	99	101
180-43249-3	NODS-WAT	93	90	96	99
LCS 180-139207/2-A	Lab Control Sample	98	100	96	98
MB 180-139207/1-A	Method Blank	90	87	92	94

Surrogate Legend

TBPH = Tributyl phosphate
TPP = Triphenylphosphate

Method: Organotins/GC - Organotins (GC/FPD)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TPT1	TPT2
Lab Sample ID	Client Sample ID	(15-150)	(15-150)
180-43249-2	TS-WAT	68	82
180-43249-2 MS	TS-WAT	86	82
180-43249-2 MSD	TS-WAT	81	84
180-43249-3	NODS-WAT	25	32
LCS 200-87292/2-A	Lab Control Sample	45	54
LCS 200-87373/2-A	Lab Control Sample	61	70
MB 200-87292/1-A	Method Blank	54	52
MB 200-87373/1-A	Method Blank	86	87

Surrogate Legend

TPT = Tripentyltin

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-139440/1-A
Matrix: Water
Analysis Batch: 140958

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		20	4.7	ug/L		04/23/15 11:21	05/08/15 09:47	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		04/23/15 11:21	05/08/15 09:47	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		04/23/15 11:21	05/08/15 09:47	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzoic acid	ND		5.0	1.6	ug/L		04/23/15 11:21	05/08/15 09:47	1
Bis(2-chloroethyl)ether	ND		1.0	0.032	ug/L		04/23/15 11:21	05/08/15 09:47	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		04/23/15 11:21	05/08/15 09:47	1
Bis(2-ethylhexyl) phthalate	ND		2.0	0.44	ug/L		04/23/15 11:21	05/08/15 09:47	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		04/23/15 11:21	05/08/15 09:47	1
Butyl benzyl phthalate	ND		1.0	0.21	ug/L		04/23/15 11:21	05/08/15 09:47	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		04/23/15 11:21	05/08/15 09:47	1
2-Chloronaphthalene	ND		0.20	0.031	ug/L		04/23/15 11:21	05/08/15 09:47	1
2-Chlorophenol	ND		1.0	0.23	ug/L		04/23/15 11:21	05/08/15 09:47	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		04/23/15 11:21	05/08/15 09:47	1
Di-n-butyl phthalate	ND		1.0	0.24	ug/L		04/23/15 11:21	05/08/15 09:47	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,4-Dichlorophenol	ND		1.0	0.067	ug/L		04/23/15 11:21	05/08/15 09:47	1
Diethyl phthalate	ND		1.0	0.30	ug/L		04/23/15 11:21	05/08/15 09:47	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		04/23/15 11:21	05/08/15 09:47	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		04/23/15 11:21	05/08/15 09:47	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.12	ug/L		04/23/15 11:21	05/08/15 09:47	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		04/23/15 11:21	05/08/15 09:47	1
Hexachlorobenzene	ND		1.0	0.061	ug/L		04/23/15 11:21	05/08/15 09:47	1
Hexachlorobutadiene	ND		1.0	0.094	ug/L		04/23/15 11:21	05/08/15 09:47	1
Hexachloroethane	ND		1.0	0.14	ug/L		04/23/15 11:21	05/08/15 09:47	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		04/23/15 11:21	05/08/15 09:47	1
Isophorone	ND		1.0	0.074	ug/L		04/23/15 11:21	05/08/15 09:47	1
2-Methylphenol	ND		1.0	0.19	ug/L		04/23/15 11:21	05/08/15 09:47	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		04/23/15 11:21	05/08/15 09:47	1
Nitrobenzene	ND		2.0	0.15	ug/L		04/23/15 11:21	05/08/15 09:47	1
2-Nitrophenol	ND		1.0	0.11	ug/L		04/23/15 11:21	05/08/15 09:47	1
4-Nitrophenol	ND		5.0	0.80	ug/L		04/23/15 11:21	05/08/15 09:47	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		04/23/15 11:21	05/08/15 09:47	1
N-Nitrosodimethylamine	ND		1.0	0.12	ug/L		04/23/15 11:21	05/08/15 09:47	1
N-Nitrosodi-n-propylamine	ND		1.0	0.050	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,2'-oxybis[1-chloropropane]	ND		1.0	0.024	ug/L		04/23/15 11:21	05/08/15 09:47	1
Pentachlorophenol	ND		1.0	0.50	ug/L		04/23/15 11:21	05/08/15 09:47	1
Phenol	ND		1.0	0.055	ug/L		04/23/15 11:21	05/08/15 09:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		04/23/15 11:21	05/08/15 09:47	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		04/23/15 11:21	05/08/15 09:47	1
2-Methylnaphthalene	ND		0.20	0.019	ug/L		04/23/15 11:21	05/08/15 09:47	1
1-Methylnaphthalene	ND		0.20	0.031	ug/L		04/23/15 11:21	05/08/15 09:47	1
Naphthalene	ND		0.20	0.023	ug/L		04/23/15 11:21	05/08/15 09:47	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-139440/1-A
Matrix: Water
Analysis Batch: 140958

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		0.20	0.022	ug/L		04/23/15 11:21	05/08/15 09:47	1
Acenaphthene	ND		0.20	0.029	ug/L		04/23/15 11:21	05/08/15 09:47	1
Fluorene	ND		0.20	0.024	ug/L		04/23/15 11:21	05/08/15 09:47	1
Phenanthrene	ND		0.20	0.042	ug/L		04/23/15 11:21	05/08/15 09:47	1
Anthracene	ND		0.20	0.019	ug/L		04/23/15 11:21	05/08/15 09:47	1
Fluoranthene	ND		0.20	0.021	ug/L		04/23/15 11:21	05/08/15 09:47	1
Pyrene	ND		0.20	0.023	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzo[a]anthracene	ND		0.20	0.037	ug/L		04/23/15 11:21	05/08/15 09:47	1
Chrysene	ND		0.20	0.031	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzo[b]fluoranthene	ND		0.20	0.049	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzo[k]fluoranthene	ND		0.20	0.030	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzo[a]pyrene	ND		0.20	0.028	ug/L		04/23/15 11:21	05/08/15 09:47	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.043	ug/L		04/23/15 11:21	05/08/15 09:47	1
Dibenz(a,h)anthracene	ND		0.20	0.027	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzo[g,h,i]perylene	ND		0.20	0.029	ug/L		04/23/15 11:21	05/08/15 09:47	1
Benzyl alcohol	ND		1.0	0.20	ug/L		04/23/15 11:21	05/08/15 09:47	1
Dibenzofuran	ND		1.0	0.097	ug/L		04/23/15 11:21	05/08/15 09:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*28 - 109*	*04/23/15 11:21*	*05/08/15 09:47*	*1*
2-Fluorophenol (Surr)	*57*		*20 - 105*	*04/23/15 11:21*	*05/08/15 09:47*	*1*
2,4,6-Tribromophenol (Surr)	*60*		*30 - 118*	*04/23/15 11:21*	*05/08/15 09:47*	*1*
Nitrobenzene-d5 (Surr)	*57*		*27 - 114*	*04/23/15 11:21*	*05/08/15 09:47*	*1*
Phenol-d5 (Surr)	*64*		*25 - 105*	*04/23/15 11:21*	*05/08/15 09:47*	*1*
Terphenyl-d14 (Surr)	*73*		*20 - 118*	*04/23/15 11:21*	*05/08/15 09:47*	*1*

Lab Sample ID: LCS 180-139440/2-A
Matrix: Water
Analysis Batch: 140958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	20.0	6.24	J	ug/L		31	10 - 100
1,2-Dichlorobenzene	20.0	13.4		ug/L		67	40 - 100
1,3-Dichlorobenzene	20.0	13.3		ug/L		66	38 - 100
1,4-Dichlorobenzene	20.0	13.2		ug/L		66	39 - 100
Benzoic acid	20.0	13.8		ug/L		69	14 - 117
Bis(2-chloroethyl)ether	20.0	13.4		ug/L		67	42 - 100
Bis(2-chloroethoxy)methane	20.0	13.3		ug/L		67	45 - 100
Bis(2-ethylhexyl) phthalate	20.0	16.3		ug/L		81	35 - 118
4-Bromophenyl phenyl ether	20.0	14.0		ug/L		70	46 - 100
Butyl benzyl phthalate	20.0	16.0		ug/L		80	45 - 105
4-Chloro-3-methylphenol	20.0	14.5		ug/L		73	47 - 100
2-Chloronaphthalene	20.0	12.4		ug/L		62	42 - 100
2-Chlorophenol	20.0	13.9		ug/L		69	41 - 100
4-Chlorophenyl phenyl ether	20.0	13.9		ug/L		69	48 - 100
Di-n-butyl phthalate	20.0	15.1		ug/L		76	49 - 101
3,3'-Dichlorobenzidine	20.0	13.5		ug/L		67	41 - 100
2,4-Dichlorophenol	20.0	13.6		ug/L		68	45 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139440/2-A
Matrix: Water
Analysis Batch: 140958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diethyl phthalate	20.0	13.1		ug/L		66	48 - 100
4,6-Dinitro-2-methylphenol	40.0	30.3		ug/L		76	46 - 100
2,4-Dimethylphenol	20.0	13.7		ug/L		69	45 - 100
Dimethyl phthalate	20.0	13.8		ug/L		69	49 - 100
2,4-Dinitrophenol	40.0	24.9		ug/L		62	36 - 100
2,4-Dinitrotoluene	20.0	15.3		ug/L		76	49 - 100
2,6-Dinitrotoluene	20.0	15.0		ug/L		75	50 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	14.9		ug/L		75	49 - 100
Di-n-octyl phthalate	20.0	17.5		ug/L		88	40 - 105
Hexachlorobenzene	20.0	13.8		ug/L		69	45 - 100
Hexachlorobutadiene	20.0	12.4		ug/L		62	42 - 100
Hexachloroethane	20.0	14.3		ug/L		71	39 - 100
Hexachlorocyclopentadiene	20.0	12.8		ug/L		64	37 - 109
Isophorone	20.0	13.2		ug/L		66	48 - 100
2-Methylphenol	20.0	14.2		ug/L		71	43 - 100
Methylphenol, 3 & 4	20.0	13.6		ug/L		68	41 - 100
Nitrobenzene	20.0	12.8		ug/L		64	47 - 100
2-Nitrophenol	20.0	13.7		ug/L		68	45 - 100
4-Nitrophenol	40.0	30.0		ug/L		75	44 - 129
N-Nitrosodiphenylamine	40.0	27.3		ug/L		68	48 - 100
N-Nitrosodimethylamine	20.0	12.4		ug/L		62	41 - 100
N-Nitrosodi-n-propylamine	20.0	13.6		ug/L		68	42 - 100
2,2'-oxybis[1-chloropropane]	20.0	13.1		ug/L		65	38 - 100
Pentachlorophenol	40.0	24.4		ug/L		61	36 - 105
Phenol	20.0	13.6		ug/L		68	43 - 100
1,2,4-Trichlorobenzene	20.0	12.5		ug/L		63	43 - 100
2,4,6-Trichlorophenol	20.0	13.6		ug/L		68	47 - 101
2-Methylnaphthalene	20.0	14.0		ug/L		70	44 - 100
1-Methylnaphthalene	20.0	13.5		ug/L		68	43 - 100
Naphthalene	20.0	13.2		ug/L		66	44 - 100
Acenaphthylene	20.0	14.4		ug/L		72	47 - 100
Acenaphthene	20.0	13.2		ug/L		66	47 - 100
Fluorene	20.0	14.5		ug/L		73	48 - 100
Phenanthrene	20.0	15.1		ug/L		75	48 - 100
Anthracene	20.0	14.9		ug/L		75	49 - 100
Fluoranthene	20.0	14.5		ug/L		72	48 - 100
Pyrene	20.0	15.9		ug/L		79	44 - 100
Benzo[a]anthracene	20.0	15.3		ug/L		77	50 - 100
Chrysene	20.0	15.2		ug/L		76	49 - 100
Benzo[b]fluoranthene	20.0	14.4		ug/L		72	43 - 100
Benzo[k]fluoranthene	20.0	16.6		ug/L		83	47 - 100
Benzo[a]pyrene	20.0	15.8		ug/L		79	47 - 100
Indeno[1,2,3-cd]pyrene	20.0	15.9		ug/L		80	47 - 100
Dibenz(a,h)anthracene	20.0	15.9		ug/L		79	48 - 100
Benzo[g,h,i]perylene	20.0	16.0		ug/L		80	48 - 100
Benzyl alcohol	20.0	14.4		ug/L		72	41 - 100
Dibenzofuran	20.0	14.6		ug/L		73	47 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-139440/2-A
Matrix: Water
Analysis Batch: 140958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139440

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	63		28 - 109
2-Fluorophenol (Surr)	63		20 - 105
2,4,6-Tribromophenol (Surr)	67		30 - 118
Nitrobenzene-d5 (Surr)	63		27 - 114
Phenol-d5 (Surr)	69		25 - 105
Terphenyl-d14 (Surr)	67		20 - 118

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 140958

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139440

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	ND	F1	19.2	ND	F1	ug/L		0	10 - 100
1,2-Dichlorobenzene	ND		19.2	10.4		ug/L		54	40 - 100
1,3-Dichlorobenzene	ND		19.2	10.1		ug/L		53	38 - 100
1,4-Dichlorobenzene	ND		19.2	10.1		ug/L		53	39 - 100
Benzoic acid	ND		19.2	6.65		ug/L		35	14 - 117
Bis(2-chloroethyl)ether	ND		19.2	11.3		ug/L		59	42 - 100
Bis(2-chloroethoxy)methane	ND		19.2	11.6		ug/L		60	45 - 100
Bis(2-ethylhexyl) phthalate	ND		19.2	13.7		ug/L		71	35 - 118
4-Bromophenyl phenyl ether	ND		19.2	11.8		ug/L		61	46 - 100
Butyl benzyl phthalate	ND		19.2	13.7		ug/L		71	45 - 105
4-Chloro-3-methylphenol	ND		19.2	11.8		ug/L		61	47 - 100
2-Chloronaphthalene	ND		19.2	10.4		ug/L		54	42 - 100
2-Chlorophenol	ND		19.2	11.2		ug/L		58	41 - 100
4-Chlorophenyl phenyl ether	ND		19.2	11.4		ug/L		59	48 - 100
Di-n-butyl phthalate	ND		19.2	12.8		ug/L		66	49 - 101
3,3'-Dichlorobenzidine	ND		19.2	10.7		ug/L		56	41 - 100
2,4-Dichlorophenol	ND		19.2	11.2		ug/L		58	45 - 100
Diethyl phthalate	ND		19.2	11.3		ug/L		59	48 - 100
4,6-Dinitro-2-methylphenol	ND		38.5	20.4		ug/L		53	46 - 100
2,4-Dimethylphenol	ND	F1	19.2	7.21	F1	ug/L		37	45 - 100
Dimethyl phthalate	ND		19.2	11.7		ug/L		61	49 - 100
2,4-Dinitrophenol	ND		38.5	15.4		ug/L		40	36 - 100
2,4-Dinitrotoluene	ND		19.2	12.6		ug/L		65	49 - 100
2,6-Dinitrotoluene	ND		19.2	12.3		ug/L		64	50 - 100
1,2-Diphenylhydrazine(as Azobenzene)	ND		19.2	12.4		ug/L		64	49 - 100
Di-n-octyl phthalate	ND		19.2	14.6		ug/L		76	40 - 105
Hexachlorobenzene	ND		19.2	11.6		ug/L		60	45 - 100
Hexachlorobutadiene	ND		19.2	9.59		ug/L		50	42 - 100
Hexachloroethane	ND		19.2	10.8		ug/L		56	39 - 100
Hexachlorocyclopentadiene	ND	F1	19.2	7.11		ug/L		37	37 - 109
Isophorone	ND		19.2	11.5		ug/L		60	48 - 100
2-Methylphenol	ND		19.2	9.96		ug/L		52	43 - 100
Methylphenol, 3 & 4	ND		19.2	10.0		ug/L		52	41 - 100
Nitrobenzene	ND		19.2	11.0		ug/L		57	47 - 100
2-Nitrophenol	ND		19.2	11.6		ug/L		60	45 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 140958

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139440

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Nitrophenol	ND		38.5	21.9		ug/L		57	44 - 129
N-Nitrosodiphenylamine	ND		38.5	22.1		ug/L		57	48 - 100
N-Nitrosodimethylamine	ND		19.2	10.6		ug/L		55	41 - 100
N-Nitrosodi-n-propylamine	ND		19.2	11.7		ug/L		61	42 - 100
2,2'-oxybis[1-chloropropane]	ND		19.2	10.6		ug/L		55	38 - 100
Pentachlorophenol	ND	F1	38.5	14.4		ug/L		37	36 - 105
Phenol	ND		19.2	10.7		ug/L		56	43 - 100
1,2,4-Trichlorobenzene	ND		19.2	10.1		ug/L		53	43 - 100
2,4,6-Trichlorophenol	ND		19.2	10.6		ug/L		55	47 - 101
2-Methylnaphthalene	ND		19.2	12.0		ug/L		62	44 - 100
1-Methylnaphthalene	ND		19.2	11.4		ug/L		59	43 - 100
Naphthalene	ND		19.2	10.8		ug/L		56	44 - 100
Acenaphthylene	ND		19.2	11.7		ug/L		61	47 - 100
Acenaphthene	ND		19.2	11.3		ug/L		59	47 - 100
Fluorene	ND		19.2	12.2		ug/L		63	48 - 100
Phenanthrene	ND		19.2	13.3		ug/L		69	48 - 100
Anthracene	ND		19.2	12.2		ug/L		64	49 - 100
Fluoranthene	ND		19.2	13.0		ug/L		68	48 - 100
Pyrene	ND		19.2	15.0		ug/L		78	44 - 100
Benzo[a]anthracene	ND		19.2	13.5		ug/L		70	50 - 100
Chrysene	ND		19.2	13.5		ug/L		70	49 - 100
Benzo[b]fluoranthene	ND		19.2	12.3		ug/L		64	43 - 100
Benzo[k]fluoranthene	ND		19.2	13.7		ug/L		71	47 - 100
Benzo[a]pyrene	ND		19.2	12.9		ug/L		67	47 - 100
Indeno[1,2,3-cd]pyrene	ND		19.2	13.2		ug/L		69	47 - 100
Dibenz(a,h)anthracene	ND		19.2	13.3		ug/L		69	48 - 100
Benzo[g,h,i]perylene	ND		19.2	13.1		ug/L		68	48 - 100
Benzyl alcohol	ND		19.2	11.2		ug/L		58	41 - 100
Dibenzofuran	ND		19.2	12.0		ug/L		62	47 - 100

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*74*		*28 - 109*
2-Fluorophenol (Surr)	*71*		*20 - 105*
2,4,6-Tribromophenol (Surr)	*77*		*30 - 118*
Nitrobenzene-d5 (Surr)	*79*		*27 - 114*
Phenol-d5 (Surr)	*82*		*25 - 105*
Terphenyl-d14 (Surr)	*74*		*20 - 118*

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 140958

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139440

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzidine	ND	F1	20.0	ND	F1	ug/L		0	10 - 100	NC	35
1,2-Dichlorobenzene	ND		20.0	10.6		ug/L		53	40 - 100	1	20
1,3-Dichlorobenzene	ND		20.0	10.2		ug/L		51	38 - 100	1	17
1,4-Dichlorobenzene	ND		20.0	10.4		ug/L		52	39 - 100	3	18
Benzoic acid	ND		20.0	6.92		ug/L		35	14 - 117	4	20

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 140958

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139440

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bis(2-chloroethyl)ether	ND		20.0	11.6		ug/L		58	42 - 100	3	28
Bis(2-chloroethoxy)methane	ND		20.0	11.8		ug/L		59	45 - 100	2	28
Bis(2-ethylhexyl) phthalate	ND		20.0	14.0		ug/L		70	35 - 118	2	35
4-Bromophenyl phenyl ether	ND		20.0	11.9		ug/L		60	46 - 100	1	22
Butyl benzyl phthalate	ND		20.0	13.8		ug/L		69	45 - 105	1	23
4-Chloro-3-methylphenol	ND		20.0	11.8		ug/L		59	47 - 100	0	27
2-Chloronaphthalene	ND		20.0	10.6		ug/L		53	42 - 100	2	26
2-Chlorophenol	ND		20.0	11.8		ug/L		59	41 - 100	5	28
4-Chlorophenyl phenyl ether	ND		20.0	11.8		ug/L		59	48 - 100	3	25
Di-n-butyl phthalate	ND		20.0	12.9		ug/L		65	49 - 101	1	21
3,3'-Dichlorobenzidine	ND		20.0	11.4		ug/L		57	41 - 100	6	28
2,4-Dichlorophenol	ND		20.0	11.5		ug/L		58	45 - 100	2	29
Diethyl phthalate	ND		20.0	11.4		ug/L		57	48 - 100	1	20
4,6-Dinitro-2-methylphenol	ND		40.0	20.8		ug/L		52	46 - 100	2	19
2,4-Dimethylphenol	ND	F1	20.0	7.04	F1	ug/L		35	45 - 100	2	25
Dimethyl phthalate	ND		20.0	12.1		ug/L		60	49 - 100	3	24
2,4-Dinitrophenol	ND		40.0	16.0		ug/L		40	36 - 100	3	18
2,4-Dinitrotoluene	ND		20.0	13.0		ug/L		65	49 - 100	3	21
2,6-Dinitrotoluene	ND		20.0	12.5		ug/L		63	50 - 100	2	23
1,2-Diphenylhydrazine(as Azobenzene)	ND		20.0	12.7		ug/L		63	49 - 100	2	22
Di-n-octyl phthalate	ND		20.0	15.3		ug/L		76	40 - 105	5	23
Hexachlorobenzene	ND		20.0	11.9		ug/L		59	45 - 100	2	19
Hexachlorobutadiene	ND		20.0	9.89		ug/L		49	42 - 100	3	18
Hexachloroethane	ND		20.0	11.1		ug/L		55	39 - 100	3	16
Hexachlorocyclopentadiene	ND	F1	20.0	7.06	F1	ug/L		35	37 - 109	1	16
Isophorone	ND		20.0	11.9		ug/L		59	48 - 100	3	30
2-Methylphenol	ND		20.0	10.2		ug/L		51	43 - 100	2	28
Methylphenol, 3 & 4	ND		20.0	10.4		ug/L		52	41 - 100	4	28
Nitrobenzene	ND		20.0	11.1		ug/L		56	47 - 100	1	27
2-Nitrophenol	ND		20.0	11.8		ug/L		59	45 - 100	1	31
4-Nitrophenol	ND		40.0	22.5		ug/L		56	44 - 129	2	21
N-Nitrosodiphenylamine	ND		40.0	22.9		ug/L		57	48 - 100	4	21
N-Nitrosodimethylamine	ND		20.0	10.7		ug/L		54	41 - 100	2	30
N-Nitrosodi-n-propylamine	ND		20.0	11.9		ug/L		59	42 - 100	1	27
2,2'-oxybis[1-chloropropane]	ND		20.0	10.7		ug/L		54	38 - 100	1	28
Pentachlorophenol	ND	F1	40.0	14.2	F1	ug/L		35	36 - 105	1	15
Phenol	ND		20.0	11.0		ug/L		55	43 - 100	2	25
1,2,4-Trichlorobenzene	ND		20.0	10.4		ug/L		52	43 - 100	3	22
2,4,6-Trichlorophenol	ND		20.0	10.7		ug/L		53	47 - 101	0	28
2-Methylnaphthalene	ND		20.0	12.4		ug/L		62	44 - 100	4	27
1-Methylnaphthalene	ND		20.0	11.9		ug/L		60	43 - 100	4	27
Naphthalene	ND		20.0	10.9		ug/L		55	44 - 100	1	25
Acenaphthylene	ND		20.0	12.1		ug/L		61	47 - 100	3	26
Acenaphthene	ND		20.0	11.5		ug/L		58	47 - 100	1	25
Fluorene	ND		20.0	12.5		ug/L		63	48 - 100	3	22
Phenanthrene	ND		20.0	13.4		ug/L		67	48 - 100	1	20
Anthracene	ND		20.0	12.3		ug/L		62	49 - 100	1	20

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 140958

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139440

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoranthene	ND		20.0	13.5		ug/L		67	48 - 100	3	20
Pyrene	ND		20.0	15.0		ug/L		75	44 - 100	0	20
Benzo[a]anthracene	ND		20.0	13.8		ug/L		69	50 - 100	3	20
Chrysene	ND		20.0	13.8		ug/L		69	49 - 100	3	20
Benzo[b]fluoranthene	ND		20.0	13.4		ug/L		67	43 - 100	9	22
Benzo[k]fluoranthene	ND		20.0	14.1		ug/L		70	47 - 100	3	24
Benzo[a]pyrene	ND		20.0	13.8		ug/L		69	47 - 100	7	22
Indeno[1,2,3-cd]pyrene	ND		20.0	14.0		ug/L		70	47 - 100	6	21
Dibenz(a,h)anthracene	ND		20.0	14.1		ug/L		70	48 - 100	6	21
Benzo[g,h,i]perylene	ND		20.0	14.0		ug/L		70	48 - 100	7	21
Benzyl alcohol	ND		20.0	11.5		ug/L		58	41 - 100	3	32
Dibenzofuran	ND		20.0	12.2		ug/L		61	47 - 100	2	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*74*		*28 - 109*
2-Fluorophenol (Surr)	*71*		*20 - 105*
2,4,6-Tribromophenol (Surr)	*78*		*30 - 118*
Nitrobenzene-d5 (Surr)	*79*		*27 - 114*
Phenol-d5 (Surr)	*82*		*25 - 105*
Terphenyl-d14 (Surr)	*73*		*20 - 118*

Lab Sample ID: MB 180-140093/1-A
Matrix: Sediment
Analysis Batch: 140525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140093

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		340	70	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
1,2-Dichlorobenzene	ND		17	1.7	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
1,3-Dichlorobenzene	ND		17	1.3	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
1,4-Dichlorobenzene	ND		17	1.2	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Benzoic acid	ND		85	6.9	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Bis(2-chloroethyl)ether	ND		3.4	0.45	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Bis(2-chloroethoxy)methane	ND		17	1.1	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Bis(2-ethylhexyl) phthalate	ND		33	2.7	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
4-Bromophenyl phenyl ether	ND		17	1.5	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Butyl benzyl phthalate	ND		17	2.3	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
4-Chloro-3-methylphenol	ND		17	1.5	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
2-Chloronaphthalene	ND		3.4	0.35	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
2-Chlorophenol	ND		17	1.4	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
4-Chlorophenyl phenyl ether	ND		17	1.9	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Di-n-butyl phthalate	ND		17	2.1	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
3,3'-Dichlorobenzidine	ND		17	1.8	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
2,4-Dichlorophenol	ND		3.4	0.33	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Diethyl phthalate	ND		17	1.8	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
4,6-Dinitro-2-methylphenol	ND		85	6.7	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
2,4-Dimethylphenol	ND		17	2.6	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Dimethyl phthalate	ND		17	1.8	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
2,4-Dinitrophenol	ND		85	20	ug/Kg		04/30/15 03:00	05/05/15 05:29	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-140093/1-A
Matrix: Sediment
Analysis Batch: 140525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140093

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		17	1.3	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
2,6-Dinitrotoluene	ND		17	1.7	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		17	2.1	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Di-n-octyl phthalate	ND		17	1.8	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Hexachlorobenzene	ND		3.4	0.36	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Hexachlorobutadiene	ND		3.4	0.37	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Hexachloroethane	ND		17	1.2	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Hexachlorocyclopentadiene	ND		17	1.8	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Isophorone	ND		17	1.3	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
2-Methylphenol	ND		17	1.2	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Methylphenol, 3 & 4	ND		17	1.6	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Nitrobenzene	ND		33	1.4	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
2-Nitrophenol	ND		17	1.8	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
4-Nitrophenol	ND		85	6.1	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
N-Nitrosodiphenylamine	ND		17	1.5	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
N-Nitrosodimethylamine	ND		17	1.4	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
N-Nitrosodi-n-propylamine	ND		3.4	0.39	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
2,2'-oxybis[1-chloropropane]	ND		3.4	0.36	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Pentachlorophenol	ND		17	1.5	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Phenol	ND		3.4	0.39	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
1,2,4-Trichlorobenzene	ND		17	0.92	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
2,4,6-Trichlorophenol	ND		17	2.5	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
2-Methylnaphthalene	ND		3.4	0.30	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
1-Methylnaphthalene	ND		3.4	0.36	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Naphthalene	ND		3.4	0.29	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Acenaphthylene	ND		3.4	0.38	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Acenaphthene	ND		3.4	0.32	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Fluorene	ND		3.4	0.44	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Phenanthrene	ND		3.4	0.53	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Anthracene	ND		3.4	0.33	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Fluoranthene	ND		3.4	0.36	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Pyrene	ND		3.4	0.34	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Benzo[a]anthracene	ND		3.4	0.42	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Chrysene	ND		3.4	0.40	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Benzo[b]fluoranthene	ND		3.4	0.52	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Benzo[k]fluoranthene	ND		3.4	0.67	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Benzo[a]pyrene	ND		3.4	0.33	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Indeno[1,2,3-cd]pyrene	ND		3.4	0.34	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Dibenz(a,h)anthracene	ND		3.4	0.37	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Benzo[g,h,i]perylene	ND		3.4	0.33	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Benzyl alcohol	ND		17	2.0	ug/Kg		04/30/15 03:00	05/05/15 05:29	1
Dibenzofuran	ND		17	1.6	ug/Kg		04/30/15 03:00	05/05/15 05:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*38 - 103*	*04/30/15 03:00*	*05/05/15 05:29*	*1*
2-Fluorophenol (Surr)	*73*		*34 - 103*	*04/30/15 03:00*	*05/05/15 05:29*	*1*
2,4,6-Tribromophenol (Surr)	*65*		*20 - 113*	*04/30/15 03:00*	*05/05/15 05:29*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-140093/1-A
Matrix: Sediment
Analysis Batch: 140525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140093

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Surr)	66		41 - 108	04/30/15 03:00	05/05/15 05:29	1
Phenol-d5 (Surr)	73		35 - 103	04/30/15 03:00	05/05/15 05:29	1
Terphenyl-d14 (Surr)	65		28 - 109	04/30/15 03:00	05/05/15 05:29	1

Lab Sample ID: LCS 180-140093/2-A
Matrix: Sediment
Analysis Batch: 140525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140093

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	333	92.4	J	ug/Kg		28	10 - 101
1,2-Dichlorobenzene	333	190		ug/Kg		57	30 - 100
1,3-Dichlorobenzene	333	186		ug/Kg		56	30 - 100
1,4-Dichlorobenzene	333	188		ug/Kg		56	29 - 100
Benzoic acid	333	191		ug/Kg		57	10 - 131
Bis(2-chloroethyl)ether	333	196		ug/Kg		59	31 - 100
Bis(2-chloroethoxy)methane	333	204		ug/Kg		61	31 - 100
Bis(2-ethylhexyl) phthalate	333	238		ug/Kg		71	32 - 106
4-Bromophenyl phenyl ether	333	192		ug/Kg		57	33 - 100
Butyl benzyl phthalate	333	237		ug/Kg		71	33 - 105
4-Chloro-3-methylphenol	333	229		ug/Kg		69	37 - 100
2-Chloronaphthalene	333	180		ug/Kg		54	29 - 100
2-Chlorophenol	333	201		ug/Kg		60	31 - 100
4-Chlorophenyl phenyl ether	333	199		ug/Kg		60	35 - 100
Di-n-butyl phthalate	333	223		ug/Kg		67	36 - 102
3,3'-Dichlorobenzidine	333	195		ug/Kg		58	29 - 100
2,4-Dichlorophenol	333	211		ug/Kg		63	34 - 100
Diethyl phthalate	333	208		ug/Kg		62	36 - 103
4,6-Dinitro-2-methylphenol	667	478		ug/Kg		72	36 - 100
2,4-Dimethylphenol	333	213		ug/Kg		64	34 - 100
Dimethyl phthalate	333	209		ug/Kg		63	36 - 100
2,4-Dinitrophenol	667	497		ug/Kg		74	30 - 100
2,4-Dinitrotoluene	333	238		ug/Kg		71	36 - 102
2,6-Dinitrotoluene	333	218		ug/Kg		65	37 - 100
1,2-Diphenylhydrazine(as Azobenzene)	333	189		ug/Kg		57	29 - 103
Di-n-octyl phthalate	333	235		ug/Kg		71	26 - 112
Hexachlorobenzene	333	184		ug/Kg		55	30 - 104
Hexachlorobutadiene	333	171		ug/Kg		51	30 - 104
Hexachloroethane	333	189		ug/Kg		57	31 - 100
Hexachlorocyclopentadiene	333	187		ug/Kg		56	21 - 113
Isophorone	333	208		ug/Kg		62	34 - 100
2-Methylphenol	333	213		ug/Kg		64	33 - 100
Methylphenol, 3 & 4	333	216		ug/Kg		65	33 - 100
Nitrobenzene	333	199		ug/Kg		60	30 - 100
2-Nitrophenol	333	220		ug/Kg		66	33 - 100
4-Nitrophenol	667	437		ug/Kg		65	23 - 138
N-Nitrosodiphenylamine	667	406		ug/Kg		61	32 - 100
N-Nitrosodimethylamine	333	228		ug/Kg		68	23 - 102

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-140093/2-A
Matrix: Sediment
Analysis Batch: 140525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140093

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Nitrosodi-n-propylamine	333	201		ug/Kg		60	33 - 100
2,2'-oxybis[1-chloropropane]	333	204		ug/Kg		61	29 - 100
Pentachlorophenol	667	379		ug/Kg		57	24 - 106
Phenol	333	212		ug/Kg		64	34 - 100
1,2,4-Trichlorobenzene	333	187		ug/Kg		56	31 - 100
2,4,6-Trichlorophenol	333	211		ug/Kg		63	34 - 103
2-Methylnaphthalene	333	202		ug/Kg		61	33 - 100
1-Methylnaphthalene	333	190		ug/Kg		57	31 - 100
Naphthalene	333	198		ug/Kg		60	32 - 100
Acenaphthylene	333	205		ug/Kg		61	34 - 100
Acenaphthene	333	198		ug/Kg		59	34 - 100
Fluorene	333	211		ug/Kg		63	35 - 100
Phenanthrene	333	203		ug/Kg		61	33 - 100
Anthracene	333	208		ug/Kg		62	35 - 100
Fluoranthene	333	215		ug/Kg		64	36 - 100
Pyrene	333	207		ug/Kg		62	32 - 100
Benzo[a]anthracene	333	216		ug/Kg		65	37 - 100
Chrysene	333	210		ug/Kg		63	37 - 100
Benzo[b]fluoranthene	333	200		ug/Kg		60	31 - 100
Benzo[k]fluoranthene	333	208		ug/Kg		63	34 - 100
Benzo[a]pyrene	333	215		ug/Kg		64	36 - 100
Indeno[1,2,3-cd]pyrene	333	204		ug/Kg		61	31 - 103
Dibenz(a,h)anthracene	333	212		ug/Kg		64	31 - 106
Benzo[g,h,i]perylene	333	205		ug/Kg		61	29 - 106
Benzyl alcohol	333	219		ug/Kg		66	30 - 100
Dibenzofuran	333	204		ug/Kg		61	35 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*62*		*38 - 103*
2-Fluorophenol (Surr)	*69*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*62*		*20 - 113*
Nitrobenzene-d5 (Surr)	*63*		*41 - 108*
Phenol-d5 (Surr)	*70*		*35 - 103*
Terphenyl-d14 (Surr)	*63*		*28 - 109*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-139211/1-A
Matrix: Water
Analysis Batch: 139410

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00083	ug/L		04/21/15 13:00	04/23/15 23:51	1
alpha-BHC	ND		0.0013	0.00066	ug/L		04/21/15 13:00	04/23/15 23:51	1
beta-BHC	ND		0.0013	0.0010	ug/L		04/21/15 13:00	04/23/15 23:51	1
delta-BHC	ND		0.0013	0.00038	ug/L		04/21/15 13:00	04/23/15 23:51	1
gamma-BHC (Lindane)	ND		0.0013	0.00080	ug/L		04/21/15 13:00	04/23/15 23:51	1
Chlordane (technical)	ND		0.013	0.0017	ug/L		04/21/15 13:00	04/23/15 23:51	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 180-139211/1-A
Matrix: Water
Analysis Batch: 139410

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenside	ND		0.0032	0.0015	ug/L		04/21/15 13:00	04/23/15 23:51	1
4,4'-DDD	ND		0.0013	0.00067	ug/L		04/21/15 13:00	04/23/15 23:51	1
4,4'-DDE	ND		0.0013	0.00079	ug/L		04/21/15 13:00	04/23/15 23:51	1
4,4'-DDT	ND		0.0013	0.00074	ug/L		04/21/15 13:00	04/23/15 23:51	1
Dieldrin	ND		0.0013	0.00082	ug/L		04/21/15 13:00	04/23/15 23:51	1
Endosulfan I	ND		0.0013	0.00094	ug/L		04/21/15 13:00	04/23/15 23:51	1
Endosulfan II	ND		0.0013	0.00098	ug/L		04/21/15 13:00	04/23/15 23:51	1
Endosulfan sulfate	ND		0.0013	0.00057	ug/L		04/21/15 13:00	04/23/15 23:51	1
Endrin	ND		0.0013	0.00096	ug/L		04/21/15 13:00	04/23/15 23:51	1
Endrin aldehyde	ND		0.0013	0.00090	ug/L		04/21/15 13:00	04/23/15 23:51	1
Heptachlor	ND		0.0013	0.00099	ug/L		04/21/15 13:00	04/23/15 23:51	1
Heptachlor epoxide	ND		0.0013	0.00097	ug/L		04/21/15 13:00	04/23/15 23:51	1
Methoxychlor	ND		0.0025	0.00091	ug/L		04/21/15 13:00	04/23/15 23:51	1
Toxaphene	ND		0.10	0.019	ug/L		04/21/15 13:00	04/23/15 23:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*95*		*60 - 111*	*04/21/15 13:00*	*04/23/15 23:51*	*1*
Tetrachloro-m-xylene	*95*		*60 - 111*	*04/21/15 13:00*	*04/23/15 23:51*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*45 - 122*	*04/21/15 13:00*	*04/23/15 23:51*	*1*
DCB Decachlorobiphenyl (Surr)	*82*		*45 - 122*	*04/21/15 13:00*	*04/23/15 23:51*	*1*

Lab Sample ID: MB 180-139211/1-A
Matrix: Water
Analysis Batch: 139571

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenside	ND		0.0032	0.0015	ug/L		04/21/15 13:00	04/24/15 17:00	1
DCPA	ND		0.0025	0.00034	ug/L		04/21/15 13:00	04/24/15 17:00	1
2,4'-DDD	ND		0.0013	0.00016	ug/L		04/21/15 13:00	04/24/15 17:00	1
2,4'-DDE	ND		0.0013	0.00015	ug/L		04/21/15 13:00	04/24/15 17:00	1
2,4'-DDT	ND		0.0013	0.00022	ug/L		04/21/15 13:00	04/24/15 17:00	1
Mirex	ND		0.0013	0.00048	ug/L		04/21/15 13:00	04/24/15 17:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*98*		*60 - 111*	*04/21/15 13:00*	*04/24/15 17:00*	*1*
Tetrachloro-m-xylene	*99*		*60 - 111*	*04/21/15 13:00*	*04/24/15 17:00*	*1*
DCB Decachlorobiphenyl (Surr)	*104*		*45 - 122*	*04/21/15 13:00*	*04/24/15 17:00*	*1*
DCB Decachlorobiphenyl (Surr)	*101*		*45 - 122*	*04/21/15 13:00*	*04/24/15 17:00*	*1*

Lab Sample ID: LCS 180-139211/2-A
Matrix: Water
Analysis Batch: 139410

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139211

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0250	0.0247		ug/L		99	62 - 113
alpha-BHC	0.0250	0.0203		ug/L		81	58 - 114
beta-BHC	0.0250	0.0161		ug/L		64	37 - 133
delta-BHC	0.0250	0.0135		ug/L		54	20 - 137

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-139211/2-A
Matrix: Water
Analysis Batch: 139410

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139211

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
gamma-BHC (Lindane)	0.0250	0.0204		ug/L		82	57 - 120
4,4'-DDD	0.0250	0.0192		ug/L		77	48 - 120
4,4'-DDE	0.0250	0.0230		ug/L		92	47 - 120
4,4'-DDT	0.0250	0.0208		ug/L		83	39 - 131
Dieldrin	0.0250	0.0224		ug/L		90	51 - 121
Endosulfan I	0.0250	0.0225		ug/L		90	53 - 117
Endosulfan II	0.0250	0.0170		ug/L		68	44 - 122
Endosulfan sulfate	0.0250	0.0146		ug/L		58	42 - 122
Endrin	0.0250	0.0223		ug/L		89	31 - 138
Endrin aldehyde	0.0250	0.0165		ug/L		66	41 - 116
Heptachlor	0.0250	0.0246		ug/L		99	63 - 120
Heptachlor epoxide	0.0250	0.0233		ug/L		93	60 - 120
Methoxychlor	0.0250	0.0201		ug/L		80	35 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*104*		*60 - 111*
Tetrachloro-m-xylene	*98*		*60 - 111*
DCB Decachlorobiphenyl (Surr)	*94*		*45 - 122*
DCB Decachlorobiphenyl (Surr)	*92*		*45 - 122*

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 139410

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139211

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	ND		0.0238	0.0214		ug/L		90	62 - 113
alpha-BHC	0.0038		0.0238	0.0200		ug/L		68	58 - 114
beta-BHC	ND		0.0238	0.0170		ug/L		71	37 - 133
delta-BHC	ND		0.0238	0.0148		ug/L		62	20 - 137
gamma-BHC (Lindane)	ND		0.0238	0.0198		ug/L		83	57 - 120
4,4'-DDD	ND		0.0238	0.0182		ug/L		76	48 - 120
4,4'-DDE	ND		0.0238	0.0203		ug/L		85	47 - 120
4,4'-DDT	ND		0.0238	0.0212		ug/L		89	39 - 131
Dieldrin	ND		0.0238	0.0202		ug/L		85	51 - 121
Endosulfan I	ND		0.0238	0.0211		ug/L		89	53 - 117
Endosulfan II	ND		0.0238	0.0177		ug/L		74	44 - 122
Endosulfan sulfate	ND		0.0238	0.0167		ug/L		70	42 - 122
Endrin	ND		0.0238	0.0205		ug/L		86	31 - 138
Endrin aldehyde	ND		0.0238	0.0171		ug/L		72	41 - 116
Heptachlor	ND		0.0238	0.0221		ug/L		93	63 - 120
Heptachlor epoxide	ND		0.0238	0.0215		ug/L		90	60 - 120
Methoxychlor	ND		0.0238	0.0222		ug/L		93	35 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene	*105*		*60 - 111*
Tetrachloro-m-xylene	*89*		*60 - 111*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 122*

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 139410

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139211

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	82		45 - 122

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 139410

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139211

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin	ND		0.0243	0.0220		ug/L		91	62 - 113	3	22
alpha-BHC	0.0038		0.0243	0.0207		ug/L		70	58 - 114	4	20
beta-BHC	ND		0.0243	0.0172		ug/L		71	37 - 133	2	24
delta-BHC	ND		0.0243	0.0144		ug/L		59	20 - 137	3	26
gamma-BHC (Lindane)	ND		0.0243	0.0203		ug/L		84	57 - 120	2	21
4,4'-DDD	ND		0.0243	0.0195		ug/L		80	48 - 120	7	24
4,4'-DDE	ND		0.0243	0.0213		ug/L		88	47 - 120	5	20
4,4'-DDT	ND		0.0243	0.0219		ug/L		90	39 - 131	3	24
Dieldrin	ND		0.0243	0.0207		ug/L		85	51 - 121	2	20
Endosulfan I	ND		0.0243	0.0211		ug/L		87	53 - 117	0	22
Endosulfan II	ND		0.0243	0.0194		ug/L		80	44 - 122	9	21
Endosulfan sulfate	ND		0.0243	0.0180		ug/L		74	42 - 122	8	21
Endrin	ND		0.0243	0.0203		ug/L		84	31 - 138	1	24
Endrin aldehyde	ND		0.0243	0.0184		ug/L		76	41 - 116	8	25
Heptachlor	ND		0.0243	0.0223		ug/L		92	63 - 120	1	25
Heptachlor epoxide	ND		0.0243	0.0223		ug/L		92	60 - 120	4	20
Methoxychlor	ND		0.0243	0.0238		ug/L		98	35 - 137	7	27

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	104		60 - 111
Tetrachloro-m-xylene	87		60 - 111
DCB Decachlorobiphenyl (Surr)	86		45 - 122
DCB Decachlorobiphenyl (Surr)	86		45 - 122

Lab Sample ID: MB 180-140096/1-B
Matrix: Sediment
Analysis Batch: 140727

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140096

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.042	0.0075	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
alpha-BHC	ND		0.042	0.0068	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
beta-BHC	ND		0.042	0.011	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
delta-BHC	ND		0.042	0.0064	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
gamma-BHC (Lindane)	ND		0.042	0.0073	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
Chlordane (technical)	ND		0.42	0.018	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
Chlorobenside	ND		0.042	0.022	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
DCPA	ND		0.042	0.0064	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
4,4'-DDD	ND		0.042	0.0055	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
4,4'-DDE	ND		0.042	0.0063	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
4,4'-DDT	ND		0.042	0.0063	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
Dieldrin	ND		0.042	0.0070	ug/Kg		04/30/15 03:35	05/06/15 12:36	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 180-140096/1-B
Matrix: Sediment
Analysis Batch: 140727

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140096

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	ND		0.042	0.0079	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
2,4'-DDD	0.00913	J	0.042	0.0025	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
Endosulfan II	ND		0.042	0.0074	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
Endosulfan sulfate	ND		0.042	0.0044	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
2,4'-DDE	ND		0.042	0.0039	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
Endrin	0.0182	J	0.042	0.0081	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
Endrin aldehyde	ND		0.042	0.0081	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
2,4'-DDT	ND		0.042	0.0036	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
Heptachlor	ND		0.042	0.0093	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
Heptachlor epoxide	ND		0.042	0.0081	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
Methoxychlor	ND		0.083	0.0087	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
Mirex	ND		0.042	0.0039	ug/Kg		04/30/15 03:35	05/06/15 12:36	1
Toxaphene	ND		1.7	0.28	ug/Kg		04/30/15 03:35	05/06/15 12:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*87*		*10 - 140*	*04/30/15 03:35*	*05/06/15 12:36*	*1*
Tetrachloro-m-xylene	*86*		*10 - 140*	*04/30/15 03:35*	*05/06/15 12:36*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*10 - 140*	*04/30/15 03:35*	*05/06/15 12:36*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*10 - 140*	*04/30/15 03:35*	*05/06/15 12:36*	*1*

Lab Sample ID: LCS 180-140096/2-B
Matrix: Sediment
Analysis Batch: 140727

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140096

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	1.67	1.17		ug/Kg		70	10 - 150
alpha-BHC	1.67	1.10		ug/Kg		66	10 - 150
beta-BHC	1.67	1.21		ug/Kg		72	10 - 150
delta-BHC	1.67	0.796		ug/Kg		48	20 - 124
gamma-BHC (Lindane)	1.67	1.23		ug/Kg		74	10 - 150
4,4'-DDD	1.67	1.11		ug/Kg		66	15 - 150
4,4'-DDE	1.67	1.15		ug/Kg		69	10 - 150
4,4'-DDT	1.67	1.26		ug/Kg		75	10 - 150
Dieldrin	1.67	1.13		ug/Kg		68	20 - 150
Endosulfan I	1.67	1.09		ug/Kg		66	20 - 150
Endosulfan II	1.67	1.13		ug/Kg		68	10 - 150
Endosulfan sulfate	1.67	1.02		ug/Kg		61	13 - 140
Endrin	1.67	1.12		ug/Kg		67	10 - 150
Endrin aldehyde	1.67	1.01		ug/Kg		61	10 - 150
Heptachlor	1.67	1.22		ug/Kg		73	10 - 150
Heptachlor epoxide	1.67	1.13		ug/Kg		68	10 - 150
Methoxychlor	1.67	1.34		ug/Kg		80	10 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*76*		*10 - 140*
Tetrachloro-m-xylene	*73*		*10 - 140*
DCB Decachlorobiphenyl (Surr)	*72*		*10 - 140*

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-140096/2-B
Matrix: Sediment
Analysis Batch: 140727

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140096

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	73		10 - 140

Method: 8082A - PCB Congeners (GC)

Lab Sample ID: MB 180-139209/1-A
Matrix: Water
Analysis Batch: 140217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139209

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		1.0	0.32	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-18	ND		1.0	0.19	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-28	ND		1.0	0.23	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-44	ND		1.0	0.077	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-49	ND		1.0	0.15	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-52	ND		1.0	0.15	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-66	ND		1.0	0.13	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-77	ND		1.0	0.16	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-87	ND		1.0	0.079	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-101	ND		1.0	0.15	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-105	ND		1.0	0.079	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-118	ND		1.0	0.12	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-126	ND		1.0	0.32	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-128	ND		1.0	0.085	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-138	ND		1.0	0.15	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-153	ND		1.0	0.12	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-156	ND		1.0	0.078	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-169	ND		1.0	0.22	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-170	ND		1.0	0.11	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-180	ND		1.0	0.080	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-183	ND		1.0	0.27	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-184	ND		1.0	0.14	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-187	ND		1.0	0.40	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-195	ND		1.0	0.10	ng/L		04/21/15 11:45	05/01/15 13:20	1
PCB-206	ND		1.0	0.17	ng/L		04/21/15 11:45	05/01/15 13:20	1
DCB Decachlorobiphenyl	ND		1.0	0.11	ng/L		04/21/15 11:45	05/01/15 13:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	75		35 - 140	04/21/15 11:45	05/01/15 13:20	1
Tetrachloro-m-xylene (Surr)	75		35 - 140	04/21/15 11:45	05/01/15 13:20	1
PCB-205 (Surr)	77		35 - 140	04/21/15 11:45	05/01/15 13:20	1
PCB-205 (Surr)	100		35 - 140	04/21/15 11:45	05/01/15 13:20	1

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: LCS 180-139209/2-A
Matrix: Water
Analysis Batch: 140217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139209

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	20.0	17.9		ng/L		89	40 - 140
PCB-18	20.0	16.1		ng/L		81	40 - 140
PCB-28	20.0	16.4		ng/L		82	40 - 140
PCB-44	20.0	14.9		ng/L		75	40 - 140
PCB-49	20.0	15.3		ng/L		77	40 - 140
PCB-52	20.0	15.0		ng/L		75	40 - 140
PCB-66	20.0	17.6		ng/L		88	40 - 140
PCB-77	20.0	17.9		ng/L		90	40 - 140
PCB-87	20.0	18.9		ng/L		94	40 - 140
PCB-101	20.0	16.5		ng/L		83	40 - 140
PCB-105	20.0	17.0		ng/L		85	40 - 140
PCB-118	20.0	17.3		ng/L		86	40 - 140
PCB-126	20.0	15.0		ng/L		75	40 - 140
PCB-128	20.0	15.4		ng/L		77	40 - 140
PCB-138	20.0	16.1		ng/L		80	40 - 140
PCB-153	20.0	14.4		ng/L		72	40 - 140
PCB-156	20.0	16.7		ng/L		84	40 - 140
PCB-169	20.0	15.1		ng/L		76	40 - 140
PCB-170	20.0	15.3		ng/L		77	40 - 140
PCB-180	20.0	16.2		ng/L		81	40 - 140
PCB-183	20.0	14.5		ng/L		73	40 - 140
PCB-184	20.0	17.3		ng/L		87	40 - 140
PCB-187	20.0	15.7		ng/L		79	40 - 140
PCB-195	20.0	16.0		ng/L		80	40 - 140
PCB-206	20.0	14.5		ng/L		72	40 - 140
DCB Decachlorobiphenyl	20.0	15.7		ng/L		79	40 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*73*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*72*		*35 - 140*
PCB-205 (Surr)	*81*		*35 - 140*
PCB-205 (Surr)	*104*		*35 - 140*

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 140217

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139209

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	1.4		19.6	25.1		ng/L		121	40 - 140
PCB-18	ND		19.6	21.6		ng/L		110	40 - 140
PCB-28	ND		19.6	23.0		ng/L		117	40 - 140
PCB-44	0.25	J p	19.6	17.6		ng/L		88	40 - 140
PCB-49	ND		19.6	20.3		ng/L		104	40 - 140
PCB-52	0.45	J	19.6	17.2		ng/L		85	40 - 140
PCB-66	ND		19.6	24.8		ng/L		126	40 - 140
PCB-77	ND		19.6	27.2		ng/L		139	40 - 140
PCB-87	ND		19.6	24.0		ng/L		123	40 - 140
PCB-101	ND		19.6	21.0		ng/L		107	40 - 140

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 140217

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139209

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-105	ND		19.6	23.6		ng/L		121	40 - 140
PCB-118	ND		19.6	17.3		ng/L		88	40 - 140
PCB-126	ND		19.6	22.4		ng/L		114	40 - 140
PCB-128	ND		19.6	19.8		ng/L		101	40 - 140
PCB-138	ND		19.6	20.4		ng/L		104	40 - 140
PCB-153	ND		19.6	18.4		ng/L		94	40 - 140
PCB-156	0.089	J p	19.6	22.3		ng/L		113	40 - 140
PCB-169	ND		19.6	19.0		ng/L		97	40 - 140
PCB-170	ND		19.6	19.2		ng/L		98	40 - 140
PCB-180	ND		19.6	19.9		ng/L		102	40 - 140
PCB-183	ND		19.6	17.3		ng/L		88	40 - 140
PCB-184	ND		19.6	15.1	p	ng/L		77	40 - 140
PCB-187	ND		19.6	19.2		ng/L		98	40 - 140
PCB-195	ND		19.6	19.3		ng/L		98	40 - 140
PCB-206	ND		19.6	17.1		ng/L		87	40 - 140
DCB Decachlorobiphenyl	ND		19.6	15.7		ng/L		80	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*94*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*93*		*35 - 140*
PCB-205 (Surr)	*98*		*35 - 140*
PCB-205 (Surr)	*130*		*35 - 140*

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 140217

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139209

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-8	1.4		19.0	24.4		ng/L		121	40 - 140	3	35
PCB-18	ND		19.0	21.4		ng/L		112	40 - 140	1	35
PCB-28	ND		19.0	22.7		ng/L		119	40 - 140	1	35
PCB-44	0.25	J p	19.0	17.5		ng/L		90	40 - 140	1	35
PCB-49	ND		19.0	19.9		ng/L		104	40 - 140	2	35
PCB-52	0.45	J	19.0	16.4		ng/L		84	40 - 140	4	35
PCB-66	ND		19.0	24.7		ng/L		129	40 - 140	0	35
PCB-77	ND		19.0	26.1		ng/L		137	40 - 140	4	35
PCB-87	ND		19.0	23.2		ng/L		122	40 - 140	4	35
PCB-101	ND		19.0	20.8		ng/L		109	40 - 140	1	35
PCB-105	ND		19.0	22.4		ng/L		118	40 - 140	5	35
PCB-118	ND		19.0	16.4		ng/L		86	40 - 140	5	35
PCB-126	ND		19.0	22.2		ng/L		116	40 - 140	1	35
PCB-128	ND		19.0	18.6		ng/L		98	40 - 140	6	35
PCB-138	ND		19.0	19.2		ng/L		101	40 - 140	6	35
PCB-153	ND		19.0	17.7		ng/L		93	40 - 140	4	35
PCB-156	0.089	J p	19.0	20.9		ng/L		109	40 - 140	6	35
PCB-169	ND		19.0	18.8		ng/L		99	40 - 140	1	35
PCB-170	ND		19.0	18.0		ng/L		94	40 - 140	7	35
PCB-180	ND		19.0	19.0		ng/L		100	40 - 140	5	35

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 140217

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139209

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-183	ND		19.0	16.8		ng/L		88	40 - 140	3	35
PCB-184	ND		19.0	14.7	p	ng/L		77	40 - 140	3	35
PCB-187	ND		19.0	17.1		ng/L		90	40 - 140	12	35
PCB-195	ND		19.0	18.0		ng/L		94	40 - 140	7	35
PCB-206	ND		19.0	16.6		ng/L		87	40 - 140	3	35
DCB Decachlorobiphenyl	ND		19.0	15.2		ng/L		80	40 - 140	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*94*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*95*		*35 - 140*
PCB-205 (Surr)	*105*	*p*	*35 - 140*
PCB-205 (Surr)	*467*	*X*	*35 - 140*

Lab Sample ID: MB 180-139502/1-C
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139502

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.50	0.16	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-18	ND		0.50	0.14	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-28	ND		0.50	0.071	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-44	ND		0.50	0.056	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-49	ND		0.50	0.10	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-52	ND		0.50	0.096	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-66	ND		0.50	0.045	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-77	ND		0.50	0.054	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-87	ND		0.50	0.051	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-101	ND		0.50	0.059	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-105	ND		0.50	0.041	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-118	ND		0.50	0.045	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-126	ND		0.50	0.17	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-128	ND		0.50	0.053	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-138	ND		0.50	0.042	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-153	ND		0.50	0.043	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-156	ND		0.50	0.033	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-169	ND		0.50	0.032	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-170	ND		0.50	0.038	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-180	ND		0.50	0.043	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-183	ND		0.50	0.11	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-184	ND		0.50	0.045	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-187	ND		0.50	0.062	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-195	ND		0.50	0.099	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
PCB-206	ND		0.50	0.035	ug/Kg		04/24/15 04:41	05/01/15 17:40	1
DCB Decachlorobiphenyl	ND		0.50	0.035	ug/Kg		04/24/15 04:41	05/01/15 17:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*79*		*35 - 140*	*04/24/15 04:41*	*05/01/15 17:40*	*1*

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: MB 180-139502/1-C
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139502

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	78		35 - 140	04/24/15 04:41	05/01/15 17:40	1
PCB-205 (Surr)	85		35 - 140	04/24/15 04:41	05/01/15 17:40	1
PCB-205 (Surr)	95		35 - 140	04/24/15 04:41	05/01/15 17:40	1

Lab Sample ID: LCS 180-139502/2-C
Matrix: Sediment
Analysis Batch: 140217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139502

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	10.0	9.84		ug/Kg		98	50 - 140
PCB-18	10.0	9.05		ug/Kg		91	50 - 140
PCB-28	10.0	8.93		ug/Kg		89	50 - 140
PCB-44	10.0	8.29		ug/Kg		83	50 - 140
PCB-49	10.0	8.59		ug/Kg		86	50 - 140
PCB-52	10.0	8.41		ug/Kg		84	50 - 140
PCB-66	10.0	9.85		ug/Kg		99	50 - 140
PCB-77	10.0	10.1		ug/Kg		101	50 - 140
PCB-87	10.0	10.6		ug/Kg		106	50 - 140
PCB-101	10.0	9.20		ug/Kg		92	50 - 140
PCB-105	10.0	9.26		ug/Kg		93	50 - 140
PCB-118	10.0	9.61		ug/Kg		96	50 - 140
PCB-126	10.0	8.67		ug/Kg		87	50 - 140
PCB-128	10.0	8.53		ug/Kg		85	50 - 140
PCB-138	10.0	8.64		ug/Kg		86	50 - 140
PCB-153	10.0	8.31		ug/Kg		83	50 - 140
PCB-156	10.0	8.93		ug/Kg		89	50 - 140
PCB-169	10.0	7.90		ug/Kg		79	50 - 140
PCB-170	10.0	8.26		ug/Kg		83	50 - 140
PCB-180	10.0	8.63		ug/Kg		86	50 - 140
PCB-183	10.0	7.87		ug/Kg		79	50 - 140
PCB-184	10.0	9.52		ug/Kg		95	50 - 140
PCB-187	10.0	8.12		ug/Kg		81	50 - 140
PCB-195	10.0	8.53		ug/Kg		85	50 - 140
PCB-206	10.0	7.84		ug/Kg		78	50 - 140
DCB Decachlorobiphenyl	10.0	8.64		ug/Kg		86	50 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene (Surr)	77		35 - 140
Tetrachloro-m-xylene (Surr)	76		35 - 140
PCB-205 (Surr)	85		35 - 140
PCB-205 (Surr)	94		35 - 140

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Lab Sample ID: MB 180-139207/1-A
Matrix: Water
Analysis Batch: 139234

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139207

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		1.0	0.11	ug/L		04/21/15 11:45	04/22/15 08:37	1
Demeton, Total	ND		2.0	0.16	ug/L		04/21/15 11:45	04/22/15 08:37	1
Malathion	ND		1.0	0.11	ug/L		04/21/15 11:45	04/22/15 08:37	1
Methyl parathion	ND		1.0	0.11	ug/L		04/21/15 11:45	04/22/15 08:37	1
Parathion	ND		1.0	0.16	ug/L		04/21/15 11:45	04/22/15 08:37	1
Bolstar	ND		1.0	0.11	ug/L		04/21/15 11:45	04/22/15 08:37	1
Chlorpyrifos	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 08:37	1
Coumaphos	ND		1.0	0.15	ug/L		04/21/15 11:45	04/22/15 08:37	1
Diazinon	ND		1.0	0.094	ug/L		04/21/15 11:45	04/22/15 08:37	1
Dichlorvos	ND		1.0	0.085	ug/L		04/21/15 11:45	04/22/15 08:37	1
Dimethoate	ND		1.0	0.12	ug/L		04/21/15 11:45	04/22/15 08:37	1
Disulfoton	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 08:37	1
EPN	ND		1.0	0.12	ug/L		04/21/15 11:45	04/22/15 08:37	1
Mocap	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 08:37	1
Famphur	ND		1.0	0.12	ug/L		04/21/15 11:45	04/22/15 08:37	1
Fensulfothion	ND		1.0	0.17	ug/L		04/21/15 11:45	04/22/15 08:37	1
Fenthion	ND		1.0	0.085	ug/L		04/21/15 11:45	04/22/15 08:37	1
Mevinphos	ND		1.0	0.098	ug/L		04/21/15 11:45	04/22/15 08:37	1
Phorate	ND		1.0	0.092	ug/L		04/21/15 11:45	04/22/15 08:37	1
Ronnel	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 08:37	1
Stirophos	ND		1.0	0.096	ug/L		04/21/15 11:45	04/22/15 08:37	1
Sulfotepp	ND		1.0	0.095	ug/L		04/21/15 11:45	04/22/15 08:37	1
Thionazin	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 08:37	1
Tokuthion	ND		1.0	0.094	ug/L		04/21/15 11:45	04/22/15 08:37	1
Trichloronate	ND		1.0	0.099	ug/L		04/21/15 11:45	04/22/15 08:37	1
O,O,O-Triethyl phosphorothioate	ND		1.0	0.10	ug/L		04/21/15 11:45	04/22/15 08:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*90*		*49 - 122*	*04/21/15 11:45*	*04/22/15 08:37*	*1*
Tributyl phosphate	*87*		*49 - 122*	*04/21/15 11:45*	*04/22/15 08:37*	*1*
Triphenylphosphate	*92*		*45 - 145*	*04/21/15 11:45*	*04/22/15 08:37*	*1*
Triphenylphosphate	*94*		*45 - 145*	*04/21/15 11:45*	*04/22/15 08:37*	*1*

Lab Sample ID: LCS 180-139207/2-A
Matrix: Water
Analysis Batch: 139234

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139207

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	10.0	8.20		ug/L		82	40 - 150
Malathion	10.0	9.82		ug/L		98	50 - 150
Methyl parathion	10.0	9.08		ug/L		91	41 - 148
Parathion	10.0	9.52		ug/L		95	56 - 125
Bolstar	10.0	9.75		ug/L		98	50 - 150
Chlorpyrifos	10.0	9.76		ug/L		98	50 - 130
Coumaphos	10.0	9.18		ug/L		92	50 - 150
Diazinon	10.0	9.47		ug/L		95	50 - 150

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCS 180-139207/2-A
Matrix: Water
Analysis Batch: 139234

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139207

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorvos	10.0	9.72		ug/L		97	30 - 150
Dimethoate	10.0	10.1		ug/L		101	26 - 136
Disulfoton	10.0	9.56		ug/L		96	45 - 124
EPN	10.0	9.17		ug/L		92	50 - 150
Mocap	10.0	9.74		ug/L		97	40 - 150
Famphur	10.0	9.26		ug/L		93	52 - 131
Fensulfothion	10.0	10.2		ug/L		102	38 - 150
Fenthion	10.0	9.69		ug/L		97	10 - 150
Mevinphos	10.0	9.09		ug/L		91	30 - 150
Phorate	10.0	9.81		ug/L		98	41 - 135
Ronnel	10.0	9.36		ug/L		94	50 - 150
Stirophos	10.0	8.83		ug/L		88	50 - 150
Sulfotepp	10.0	9.67		ug/L		97	56 - 128
Thionazin	10.0	9.67		ug/L		97	44 - 128
Tokuthion	10.0	9.64		ug/L		96	50 - 150
Trichloronate	10.0	9.73		ug/L		97	10 - 150
O,O,O-Triethyl phosphorothioate	10.0	9.31		ug/L		93	31 - 131

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tributyl phosphate	*98*		*49 - 122*
Tributyl phosphate	*100*		*49 - 122*
Triphenylphosphate	*96*		*45 - 145*
Triphenylphosphate	*98*		*45 - 145*

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 139234

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139207

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	ND		9.52	8.12		ug/L		85	40 - 150
Malathion	ND		9.52	9.39		ug/L		99	50 - 150
Methyl parathion	ND		9.52	8.73		ug/L		92	41 - 148
Parathion	ND		9.52	9.17		ug/L		96	56 - 125
Bolstar	ND		9.52	9.40		ug/L		99	50 - 150
Chlorpyrifos	ND		9.52	9.37		ug/L		98	50 - 130
Coumaphos	ND		9.52	8.93		ug/L		94	50 - 150
Diazinon	ND		9.52	9.00		ug/L		94	50 - 150
Dichlorvos	ND		9.52	9.01		ug/L		95	30 - 150
Dimethoate	ND		9.52	9.76		ug/L		103	26 - 136
Disulfoton	ND		9.52	9.28		ug/L		97	45 - 124
EPN	ND		9.52	8.86		ug/L		93	50 - 150
Mocap	ND		9.52	9.29		ug/L		98	40 - 150
Famphur	ND		9.52	8.85		ug/L		93	52 - 131
Fensulfothion	ND		9.52	9.99		ug/L		105	38 - 150
Fenthion	ND		9.52	9.25		ug/L		97	10 - 150
Mevinphos	ND		9.52	8.84		ug/L		93	30 - 150
Phorate	ND		9.52	9.52		ug/L		100	41 - 135

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 139234

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139207

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ronnel	ND		9.52	8.97		ug/L		94	50 - 150
Stirophos	ND		9.52	8.54		ug/L		90	50 - 150
Sulfotepp	ND		9.52	9.37		ug/L		98	56 - 128
Thionazin	ND		9.52	9.25		ug/L		97	44 - 128
Tokuthion	ND		9.52	9.01		ug/L		95	50 - 150
Trichloronate	ND		9.52	9.41		ug/L		99	10 - 150
O,O,O-Triethyl phosphorothioate	ND		9.52	9.01		ug/L		95	31 - 131

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tributyl phosphate	*98*		*49 - 122*
Tributyl phosphate	*101*		*49 - 122*
Triphenylphosphate	*99*		*45 - 145*
Triphenylphosphate	*98*		*45 - 145*

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 139234

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139207

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	ND		9.52	8.53		ug/L		90	40 - 150	5	30
Malathion	ND		9.52	9.70		ug/L		102	50 - 150	3	30
Methyl parathion	ND		9.52	9.11		ug/L		96	41 - 148	4	30
Parathion	ND		9.52	9.46		ug/L		99	56 - 125	3	21
Bolstar	ND		9.52	9.68		ug/L		102	50 - 150	3	30
Chlorpyrifos	ND		9.52	9.59		ug/L		101	50 - 130	2	25
Coumaphos	ND		9.52	9.27		ug/L		97	50 - 150	4	30
Diazinon	ND		9.52	9.46		ug/L		99	50 - 150	5	30
Dichlorvos	ND		9.52	9.49		ug/L		100	30 - 150	5	30
Dimethoate	ND		9.52	10.2		ug/L		107	26 - 136	5	22
Disulfoton	ND		9.52	9.62		ug/L		101	45 - 124	4	30
EPN	ND		9.52	9.24		ug/L		97	50 - 150	4	30
Mocap	ND		9.52	9.67		ug/L		102	40 - 150	4	30
Famphur	ND		9.52	9.07		ug/L		95	52 - 131	2	24
Fensulfothion	ND		9.52	10.5		ug/L		110	38 - 150	5	30
Fenthion	ND		9.52	9.60		ug/L		101	10 - 150	4	30
Mevinphos	ND		9.52	9.17		ug/L		96	30 - 150	4	30
Phorate	ND		9.52	9.87		ug/L		104	41 - 135	4	24
Ronnel	ND		9.52	9.22		ug/L		97	50 - 150	3	30
Stirophos	ND		9.52	8.89		ug/L		93	50 - 150	4	30
Sulfotepp	ND		9.52	9.68		ug/L		102	56 - 128	3	23
Thionazin	ND		9.52	9.54		ug/L		100	44 - 128	3	21
Tokuthion	ND		9.52	9.52		ug/L		100	50 - 150	6	30
Trichloronate	ND		9.52	9.62		ug/L		101	10 - 150	2	30
O,O,O-Triethyl phosphorothioate	ND		9.52	9.23		ug/L		97	31 - 131	2	30

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 139234

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139207

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tributyl phosphate	*101*		*49 - 122*
Tributyl phosphate	*102*		*49 - 122*
Triphenylphosphate	*99*		*45 - 145*
Triphenylphosphate	*101*		*45 - 145*

Lab Sample ID: MB 180-139360/1-A
Matrix: Sediment
Analysis Batch: 139370

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139360

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		33	3.1	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Demeton, Total	ND		66	6.0	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Malathion	ND		33	3.1	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Methyl parathion	ND		33	2.9	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Parathion	ND		33	2.6	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Bolstar	ND		33	3.1	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Chlorpyrifos	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Coumaphos	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Diazinon	ND		33	3.3	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Dichlorvos	ND		33	2.9	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Dimethoate	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Disulfoton	ND		33	3.5	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
EPN	ND		33	2.9	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Mocap	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Famphur	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Fensulfothion	ND		33	2.6	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Fenthion	ND		33	3.1	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Mevinphos	ND		33	3.1	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Phorate	ND		33	3.3	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Ronnel	ND		33	3.1	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Stirophos	ND		33	3.3	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Sulfotepp	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Thionazin	ND		33	3.2	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Tokuthion	ND		33	3.3	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
Trichloronate	ND		33	3.9	ug/Kg		04/23/15 05:11	04/23/15 13:06	1
O,O,O-Triethyl phosphorothioate	ND		33	6.4	ug/Kg		04/23/15 05:11	04/23/15 13:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	*87*		*47 - 130*	*04/23/15 05:11*	*04/23/15 13:06*	*1*
Tributyl phosphate	*84*		*47 - 130*	*04/23/15 05:11*	*04/23/15 13:06*	*1*
Triphenylphosphate	*106*		*55 - 125*	*04/23/15 05:11*	*04/23/15 13:06*	*1*
Triphenylphosphate	*108*		*55 - 125*	*04/23/15 05:11*	*04/23/15 13:06*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCS 180-139360/2-A
Matrix: Sediment
Analysis Batch: 139370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139360

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	333	335		ug/Kg		100	40 - 150
Malathion	333	362		ug/Kg		109	50 - 135
Methyl parathion	333	341		ug/Kg		102	43 - 146
Parathion	333	353		ug/Kg		106	52 - 133
Bolstar	333	363		ug/Kg		109	10 - 150
Chlorpyrifos	333	359		ug/Kg		108	50 - 130
Coumaphos	333	352		ug/Kg		105	10 - 150
Diazinon	333	348		ug/Kg		104	50 - 150
Dichlorvos	333	401		ug/Kg		120	10 - 150
Dimethoate	333	316		ug/Kg		95	40 - 143
Disulfoton	333	358		ug/Kg		107	31 - 136
EPN	333	347		ug/Kg		104	10 - 150
Mocap	333	355		ug/Kg		107	10 - 150
Famphur	333	344		ug/Kg		103	54 - 137
Fensulfothion	333	320		ug/Kg		96	10 - 150
Fenthion	333	359		ug/Kg		108	10 - 150
Mevinphos	333	310		ug/Kg		93	10 - 150
Phorate	333	357		ug/Kg		107	41 - 143
Ronnel	333	341		ug/Kg		102	10 - 150
Stirophos	333	340		ug/Kg		102	10 - 150
Sulfotepp	333	358		ug/Kg		107	48 - 126
Thionazin	333	354		ug/Kg		106	48 - 126
Tokuthion	333	352		ug/Kg		106	10 - 150
Trichloronate	333	357		ug/Kg		107	10 - 150
O,O,O-Triethyl phosphorothioate	333	329		ug/Kg		99	45 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tributyl phosphate	*109*		*47 - 130*
Tributyl phosphate	*112*		*47 - 130*
Triphenylphosphate	*114*		*55 - 125*
Triphenylphosphate	*114*		*55 - 125*

Method: Organotins/GC - Organotins (GC/FPD)

Lab Sample ID: MB 200-87292/1-A
Matrix: Water
Analysis Batch: 87797

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87292

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.050	0.050	ug/L		04/24/15 09:33	05/04/15 21:57	1
Tributyltin	ND		0.045	0.045	ug/L		04/24/15 09:33	05/04/15 21:57	1
Dibutyltin	ND		0.039	0.039	ug/L		04/24/15 09:33	05/04/15 21:57	1
Monobutyltin	ND	cn	0.62	0.62	ug/L		04/24/15 09:33	05/04/15 21:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*54*		*15 - 150*	*04/24/15 09:33*	*05/04/15 21:57*	*1*

Method: Organotins/GC - Organotins (GC/FPD) (Continued)

Lab Sample ID: MB 200-87292/1-A
Matrix: Water
Analysis Batch: 87797

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87292

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tripentyltin	52		15 - 150	04/24/15 09:33	05/04/15 21:57	1

Lab Sample ID: LCS 200-87292/2-A
Matrix: Water
Analysis Batch: 87797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87292

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrabutyltin	0.500	0.223		ug/L		45	30 - 150
Tributyltin	0.445	0.216		ug/L		48	30 - 150
Dibutyltin	0.385	0.138		ug/L		36	30 - 150
Monobutyltin	1.55	ND	* cn	ug/L		9	10 - 48

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tripentyltin	45		15 - 150
Tripentyltin	54		15 - 150

Lab Sample ID: MB 200-87373/1-A
Matrix: Water
Analysis Batch: 87797

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87373

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.050	0.050	ug/L		04/27/15 15:02	05/05/15 01:06	1
Tributyltin	ND		0.045	0.045	ug/L		04/27/15 15:02	05/05/15 01:06	1
Dibutyltin	ND		0.039	0.039	ug/L		04/27/15 15:02	05/05/15 01:06	1
Monobutyltin	ND	cn	0.62	0.62	ug/L		04/27/15 15:02	05/05/15 01:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tripentyltin	86		15 - 150	04/27/15 15:02	05/05/15 01:06	1
Tripentyltin	87		15 - 150	04/27/15 15:02	05/05/15 01:06	1

Lab Sample ID: LCS 200-87373/2-A
Matrix: Water
Analysis Batch: 87797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87373

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrabutyltin	0.500	0.205		ug/L		41	30 - 150
Tributyltin	0.445	0.282		ug/L		63	30 - 150
Dibutyltin	0.385	0.146		ug/L		38	30 - 150
Monobutyltin	1.55	ND	* cn	ug/L		3	10 - 48

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tripentyltin	61		15 - 150
Tripentyltin	70		15 - 150

Method: Organotins/GC - Organotins (GC/FPD) (Continued)

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 87797

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 87373

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrabutyltin	ND		0.476	0.320		ug/L		67	30 - 150
Tributyltin	ND		0.424	0.438		ug/L		103	30 - 150
Dibutyltin	ND		0.367	0.212		ug/L		58	30 - 150
Monobutyltin	ND	F1 * cn	1.48	ND	F1 cn	ug/L		0	10 - 48

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tripentyltin	*86*		*15 - 150*
Tripentyltin	*82*		*15 - 150*

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 87797

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 87373

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrabutyltin	ND		0.481	0.292		ug/L		61	30 - 150	18	30
Tributyltin	ND		0.428	0.388		ug/L		91	30 - 150	12	30
Dibutyltin	ND		0.370	0.199		ug/L		54	30 - 150	21	30
Monobutyltin	ND	F1 * cn	1.49	ND	F1 cn	ug/L		0	10 - 48	NC	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tripentyltin	*81*		*15 - 150*
Tripentyltin	*84*		*15 - 150*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 180-139589/1-A
Matrix: Sediment
Analysis Batch: 139953

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 139589

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.13	0.0041	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Copper SEM	ND		0.63	0.056	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Lead SEM	ND		0.25	0.050	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Nickel SEM	ND		1.0	0.029	mg/Kg		04/24/15 13:10	04/28/15 13:04	1
Zinc SEM	1.15	J	2.5	0.18	mg/Kg		04/24/15 13:10	04/28/15 13:04	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium SEM	ND		0.0011	0.000036	umol/g		04/24/15 13:10	04/28/15 13:04	1
Copper SEM	ND		0.0098	0.00088	umol/g		04/24/15 13:10	04/28/15 13:04	1
Lead SEM	ND		0.0012	0.00024	umol/g		04/24/15 13:10	04/28/15 13:04	1
Nickel SEM	ND		0.017	0.00049	umol/g		04/24/15 13:10	04/28/15 13:04	1
Zinc SEM	0.0176	J	0.038	0.0028	umol/g		04/24/15 13:10	04/28/15 13:04	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 180-139589/2-A
Matrix: Sediment
Analysis Batch: 139953

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 139589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	1.25	1.25		mg/Kg		100	80 - 120
Copper SEM	6.25	6.20		mg/Kg		99	80 - 120
Lead SEM	12.5	12.0		mg/Kg		96	80 - 120
Nickel SEM	12.5	12.1		mg/Kg		97	80 - 120
Zinc SEM	12.5	13.6		mg/Kg		109	80 - 120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium SEM	0.011	0.0112		umol/g		100	80 - 120
Copper SEM	0.098	0.0975		umol/g		99	80 - 120
Lead SEM	0.060	0.0580		umol/g		96	80 - 120
Nickel SEM	0.21	0.206		umol/g		97	80 - 120
Zinc SEM	0.19	0.209		umol/g		109	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-140029/1-A
Matrix: Sediment
Analysis Batch: 140127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140029

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.5	0.14	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Arsenic	ND		0.050	0.0091	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Barium	ND		0.50	0.0054	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Beryllium	ND		0.050	0.0038	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Cadmium	ND		0.050	0.0035	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Chromium	ND		0.10	0.0031	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Calcium	ND		25	0.66	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Cobalt	ND		0.025	0.00075	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Copper	ND		0.10	0.017	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Iron	ND		2.5	0.18	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Potassium	ND		25	0.68	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Nickel	ND		0.050	0.0057	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Lead	ND		0.050	0.0019	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Magnesium	ND		25	0.094	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Antimony	ND		0.10	0.0013	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Silver	ND		0.050	0.0020	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Selenium	ND		0.25	0.025	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Sodium	ND		25	0.68	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Thallium	ND		0.050	0.0010	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Vanadium	ND		0.050	0.0040	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Zinc	ND		0.25	0.032	mg/Kg		04/29/15 11:56	04/29/15 22:05	1
Manganese	ND		0.25	0.0052	mg/Kg		04/29/15 11:56	04/29/15 22:05	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-140029/2-A
Matrix: Sediment
Analysis Batch: 140127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140029

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	99.0	91.3		mg/Kg		92	80 - 120
Arsenic	1.98	1.82		mg/Kg		92	80 - 120
Barium	99.0	89.7		mg/Kg		91	80 - 120
Beryllium	2.48	2.30		mg/Kg		93	80 - 120
Cadmium	2.48	2.40		mg/Kg		97	80 - 120
Chromium	9.90	8.94		mg/Kg		90	80 - 120
Calcium	2480	2280		mg/Kg		92	80 - 120
Cobalt	24.8	22.5		mg/Kg		91	80 - 120
Copper	12.4	11.6		mg/Kg		94	80 - 120
Iron	49.5	45.2		mg/Kg		91	80 - 120
Potassium	2480	2160		mg/Kg		87	80 - 120
Nickel	24.8	22.7		mg/Kg		92	80 - 120
Lead	0.990	1.01		mg/Kg		102	80 - 120
Magnesium	2480	2250		mg/Kg		91	80 - 120
Antimony	24.8	22.7		mg/Kg		92	80 - 120
Silver	2.48	2.38		mg/Kg		96	80 - 120
Selenium	0.495	0.418		mg/Kg		85	80 - 120
Sodium	2480	2340		mg/Kg		94	80 - 120
Thallium	2.48	2.45		mg/Kg		99	80 - 120
Vanadium	24.8	22.6		mg/Kg		91	80 - 120
Zinc	24.8	20.7		mg/Kg		84	80 - 120
Manganese	24.8	24.1		mg/Kg		97	80 - 120

Lab Sample ID: MB 180-139168/1-A
Matrix: Water
Analysis Batch: 139903

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 139168

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		30	2.6	ug/L		04/21/15 12:18	04/27/15 11:34	1
Arsenic	ND		1.0	0.29	ug/L		04/21/15 12:18	04/27/15 11:34	1
Barium	ND		10	0.098	ug/L		04/21/15 12:18	04/27/15 11:34	1
Beryllium	ND		1.0	0.037	ug/L		04/21/15 12:18	04/27/15 11:34	1
Cadmium	ND		1.0	0.11	ug/L		04/21/15 12:18	04/27/15 11:34	1
Chromium	ND		2.0	0.54	ug/L		04/21/15 12:18	04/27/15 11:34	1
Calcium	4.29	J	500	2.8	ug/L		04/21/15 12:18	04/27/15 11:34	1
Cobalt	ND		0.50	0.026	ug/L		04/21/15 12:18	04/27/15 11:34	1
Copper	ND		2.0	0.24	ug/L		04/21/15 12:18	04/27/15 11:34	1
Iron	ND		50	6.1	ug/L		04/21/15 12:18	04/27/15 11:34	1
Potassium	35.1	J	500	5.8	ug/L		04/21/15 12:18	04/27/15 11:34	1
Nickel	ND		1.0	0.17	ug/L		04/21/15 12:18	04/27/15 11:34	1
Lead	ND		1.0	0.019	ug/L		04/21/15 12:18	04/27/15 11:34	1
Magnesium	1.47	J	500	1.2	ug/L		04/21/15 12:18	04/27/15 11:34	1
Antimony	ND		2.0	0.019	ug/L		04/21/15 12:18	04/27/15 11:34	1
Silver	ND		1.0	0.036	ug/L		04/21/15 12:18	04/27/15 11:34	1
Selenium	ND		5.0	0.42	ug/L		04/21/15 12:18	04/27/15 11:34	1
Sodium	5.12	J	500	3.8	ug/L		04/21/15 12:18	04/27/15 11:34	1
Thallium	0.0160	J	1.0	0.015	ug/L		04/21/15 12:18	04/27/15 11:34	1
Vanadium	ND		1.0	0.082	ug/L		04/21/15 12:18	04/27/15 11:34	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-139168/1-A
Matrix: Water
Analysis Batch: 139903

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 139168

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		5.0	0.96	ug/L		04/21/15 12:18	04/27/15 11:34	1
Manganese	ND		5.0	0.039	ug/L		04/21/15 12:18	04/27/15 11:34	1

Lab Sample ID: LCS 180-139168/2-A
Matrix: Water
Analysis Batch: 139903

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 139168

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	1680		ug/L		84	80 - 120
Arsenic	40.0	37.5		ug/L		94	80 - 120
Barium	2000	1790		ug/L		89	80 - 120
Beryllium	50.0	45.1		ug/L		90	80 - 120
Cadmium	50.0	48.1		ug/L		96	80 - 120
Chromium	200	185		ug/L		93	80 - 120
Calcium	50000	45600		ug/L		91	80 - 120
Cobalt	500	457		ug/L		91	80 - 120
Copper	250	232		ug/L		93	80 - 120
Iron	1000	952		ug/L		95	80 - 120
Potassium	50000	45900		ug/L		92	80 - 120
Nickel	500	465		ug/L		93	80 - 120
Lead	20.0	19.6		ug/L		98	80 - 120
Magnesium	50000	41500		ug/L		83	80 - 120
Antimony	500	461		ug/L		92	80 - 120
Silver	50.0	46.3		ug/L		93	80 - 120
Selenium	10.0	8.99		ug/L		90	80 - 120
Sodium	50000	43200		ug/L		86	80 - 120
Thallium	50.0	47.0		ug/L		94	80 - 120
Vanadium	500	454		ug/L		91	80 - 120
Zinc	500	448		ug/L		90	80 - 120
Manganese	500	430		ug/L		86	80 - 120

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 139903

Client Sample ID: TS-WAT
Prep Type: Total Recoverable
Prep Batch: 139168

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	91	J	2000	1930		ug/L		92	75 - 125
Arsenic	ND		40.0	35.0		ug/L		87	75 - 125
Barium	16	J	2000	1780		ug/L		88	75 - 125
Beryllium	ND		50.0	48.2		ug/L		96	75 - 125
Cadmium	ND		50.0	41.4		ug/L		83	75 - 125
Calcium	260000	B	50000	278000	4	ug/L		37	75 - 125
Chromium	7.3	J	200	183		ug/L		88	75 - 125
Cobalt	0.87	J	500	437		ug/L		87	75 - 125
Copper	8.1	J	250	223		ug/L		86	75 - 125
Iron	91	J	1000	925		ug/L		83	75 - 125
Silver	ND		50.0	43.9		ug/L		88	75 - 125
Potassium	240000	B	50000	261000	4	ug/L		38	75 - 125
Magnesium	820000	B	50000	752000	4	ug/L		-141	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-43249-2 MS — **Client Sample ID: TS-WAT**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 139903 — **Prep Batch: 139168**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nickel	ND		500	450		ug/L		90	75 - 125
Lead	0.38	J	20.0	18.7		ug/L		92	75 - 125
Antimony	ND		500	448		ug/L		90	75 - 125
Selenium	ND	F1	10.0	14.7	J F1	ug/L		147	75 - 125
Thallium	0.53	J B	50.0	46.3		ug/L		91	75 - 125
Vanadium	ND		500	441		ug/L		88	75 - 125
Zinc	ND		500	440		ug/L		88	75 - 125
Manganese	7.9	J	500	414		ug/L		81	75 - 125

Lab Sample ID: 180-43249-2 MS — **Client Sample ID: TS-WAT**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 139903 — **Prep Batch: 139168**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	7400000	B	50000	6560000	4	ug/L		-1680	75 - 125

Lab Sample ID: 180-43249-2 MSD — **Client Sample ID: TS-WAT**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 139903 — **Prep Batch: 139168**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	91	J	2000	1890		ug/L		90	75 - 125	2	20
Arsenic	ND		40.0	37.0		ug/L		92	75 - 125	6	20
Barium	16	J	2000	1820		ug/L		90	75 - 125	2	20
Beryllium	ND		50.0	48.4		ug/L		97	75 - 125	0	20
Cadmium	ND		50.0	44.7		ug/L		89	75 - 125	8	20
Calcium	260000	B	50000	268000	4	ug/L		17	75 - 125	4	20
Chromium	7.3	J	200	185		ug/L		89	75 - 125	1	20
Cobalt	0.87	J	500	441		ug/L		88	75 - 125	1	20
Copper	8.1	J	250	227		ug/L		87	75 - 125	2	20
Iron	91	J	1000	930		ug/L		84	75 - 125	1	20
Silver	ND		50.0	44.5		ug/L		89	75 - 125	1	20
Potassium	240000	B	50000	254000	4	ug/L		24	75 - 125	3	20
Magnesium	820000	B	50000	736000	4	ug/L		-174	75 - 125	2	20
Nickel	ND		500	454		ug/L		91	75 - 125	1	20
Lead	0.38	J	20.0	19.5		ug/L		96	75 - 125	4	20
Antimony	ND		500	463		ug/L		93	75 - 125	3	20
Selenium	ND	F1	10.0	14.2	J F1	ug/L		142	75 - 125	4	20
Thallium	0.53	J B	50.0	47.3		ug/L		94	75 - 125	2	20
Vanadium	ND		500	443		ug/L		89	75 - 125	0	20
Zinc	ND		500	447		ug/L		89	75 - 125	2	20
Manganese	7.9	J	500	420		ug/L		83	75 - 125	2	20

Lab Sample ID: 180-43249-2 MSD — **Client Sample ID: TS-WAT**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 139903 — **Prep Batch: 139168**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	7400000	B	50000	6370000	4	ug/L		-2060	75 - 125	3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-140254/1-A
Matrix: Water
Analysis Batch: 140313

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140254

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/01/15 08:44	05/01/15 14:07	1

Lab Sample ID: LCS 180-140254/2-A
Matrix: Water
Analysis Batch: 140313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140254

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.45		ug/L		98	80 - 120

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 140313

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 140254

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		1.00	0.914		ug/L		91	75 - 125

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 140313

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 140254

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		1.00	0.864		ug/L		86	75 - 125	6	20

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Lab Sample ID: MB 180-140689/1-A
Matrix: Sediment
Analysis Batch: 140788

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140689

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.016	0.0056	mg/Kg		05/06/15 08:38	05/06/15 13:53	1

Lab Sample ID: LCS 180-140689/2-A
Matrix: Sediment
Analysis Batch: 140788

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140689

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.200	0.238		mg/Kg		119	80 - 120

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 180-141042/1-A
Matrix: Sediment
Analysis Batch: 141199

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141042

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		5.0	3.2	mg/Kg		05/08/15 17:30	05/11/15 13:13	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 180-141042/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 141199 — **Prep Batch: 141042**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	100	101		mg/Kg		101	90 - 110

Lab Sample ID: 180-43249-1 MS — **Client Sample ID: OCREF-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 141199 — **Prep Batch: 141042**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	5.1	J	140	153		mg/Kg	☼	106	90 - 110

Lab Sample ID: 180-43249-1 MSD — **Client Sample ID: OCREF-SED**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 141199 — **Prep Batch: 141042**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia, distilled	5.1	J	140	143		mg/Kg	☼	99	90 - 110	7	20

Lab Sample ID: MB 180-141426/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141485 — **Prep Batch: 141426**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		0.10	0.086	mg/L		05/13/15 10:00	05/13/15 14:37	1

Lab Sample ID: LCS 180-141426/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141485 — **Prep Batch: 141426**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	2.00	1.84		mg/L		92	90 - 110

Lab Sample ID: 180-43249-2 MS — **Client Sample ID: TS-WAT**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141485 — **Prep Batch: 141426**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	0.17		2.00	2.09		mg/L		96	90 - 110

Lab Sample ID: 180-43249-2 MSD — **Client Sample ID: TS-WAT**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141485 — **Prep Batch: 141426**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia, distilled	0.17		2.00	2.15		mg/L		99	90 - 110	3	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 180-141289/50
Matrix: Water
Analysis Batch: 141289

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 10:20	1

Lab Sample ID: LCS 180-141289/49
Matrix: Water
Analysis Batch: 141289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	4.00	3.86		mg/L		97	90 - 110

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 141289

Client Sample ID: TS-WAT
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	ND		2.00	1.99		mg/L		99	90 - 110

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 141289

Client Sample ID: TS-WAT
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND		2.00	2.00		mg/L		100	90 - 110	1	20

Lab Sample ID: LB 180-140142/2-A
Matrix: Sediment
Analysis Batch: 140363

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		1.0	0.21	mg/Kg			05/02/15 10:10	1

Lab Sample ID: LCS 180-140142/1-A
Matrix: Sediment
Analysis Batch: 140363

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	39.8	43.2		mg/Kg		108	90 - 110

Method: 9014 - Cyanide

Lab Sample ID: MB 180-139851/4-A
Matrix: Sediment
Analysis Batch: 139911

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139851

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.25	0.082	mg/Kg		04/28/15 08:30	04/28/15 12:22	1

Method: 9014 - Cyanide (Continued)

Lab Sample ID: HLCS 180-139851/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 139911 — **Prep Batch: 139851**

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.256		mg/Kg		103	90 - 110

Lab Sample ID: LCS 180-139851/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 139911 — **Prep Batch: 139851**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	70.3	77.0		mg/Kg		110	38 - 162

Lab Sample ID: LLCS 180-139851/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 139911 — **Prep Batch: 139851**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0500	0.0496		mg/Kg		99	90 - 110

Lab Sample ID: MB 180-140242/4-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141187 — **Prep Batch: 140242**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		10	2.5	ug/L		05/01/15 08:10	05/01/15 14:40	1

Lab Sample ID: HLCS 180-140242/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141187 — **Prep Batch: 140242**

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	250	248		ug/L		99	90 - 110

Lab Sample ID: LCS 180-140242/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141187 — **Prep Batch: 140242**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	200	196		ug/L		98	85 - 115

Lab Sample ID: LLCS 180-140242/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141187 — **Prep Batch: 140242**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	50.0	49.4		ug/L		99	90 - 110

Lab Sample ID: 180-43249-2 MS — **Client Sample ID: TS-WAT**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141187 — **Prep Batch: 140242**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND		100	103		ug/L		103	75 - 125

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 141187

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 140242

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		100	105		ug/L		105	75 - 125	2	20

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-139608/1-A
Matrix: Water
Analysis Batch: 139632

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139608

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		3.0	0.59	mg/L		04/24/15 16:00	04/24/15 20:02	1

Lab Sample ID: LCS 180-139608/2-A
Matrix: Water
Analysis Batch: 139632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139608

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	19.2	16.9		mg/L		88	85 - 115

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 139632

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139608

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	ND		19.2	16.9		mg/L		88	75 - 125

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 139632

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 139608

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	ND		19.2	16.4		mg/L		85	75 - 125	3	20

Lab Sample ID: MB 180-139611/1-A
Matrix: Sediment
Analysis Batch: 139633

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139611

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		30	6.0	mg/Kg		04/24/15 16:00	04/24/15 20:22	1

Lab Sample ID: LCS 180-139611/2-A
Matrix: Sediment
Analysis Batch: 139633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139611

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	192	173		mg/Kg		90	85 - 115

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric) (Continued)

Lab Sample ID: 180-43249-1 MS
Matrix: Sediment
Analysis Batch: 139633

Client Sample ID: OCREF-SED
Prep Type: Total/NA
Prep Batch: 139611

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	33	J	266	271		mg/Kg	☼	89	75 - 125

Lab Sample ID: 180-43249-1 MSD
Matrix: Sediment
Analysis Batch: 139633

Client Sample ID: OCREF-SED
Prep Type: Total/NA
Prep Batch: 139611

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	33	J	269	263		mg/Kg	☼	86	75 - 125	3	20

Lab Sample ID: MB 180-139590/1-A
Matrix: Sediment
Analysis Batch: 139629

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 139590

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		15	3.0	mg/Kg		04/24/15 13:10	04/24/15 19:37	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.47	0.094	umol/g		04/24/15 13:10	04/24/15 19:37	1

Lab Sample ID: LCS 180-139590/2-A
Matrix: Sediment
Analysis Batch: 139629

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 139590

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	96.1	87.5		mg/Kg		91	85 - 115

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	3.0	2.73		umol/g		91	85 - 115

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 180-139579/3
Matrix: Sediment
Analysis Batch: 139579

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	89	mg/Kg			04/24/15 04:15	1

Lab Sample ID: LCS 180-139579/4
Matrix: Sediment
Analysis Batch: 139579

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	35000	34300		mg/Kg		98	75 - 125

Method: SM 5310C - TOC

Lab Sample ID: MB 180-139959/6
Matrix: Water
Analysis Batch: 139959

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1.0	0.19	mg/L			04/28/15 16:00	1

Lab Sample ID: LCS 180-139959/4
Matrix: Water
Analysis Batch: 139959

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	20.0	19.4		mg/L		97	80 - 120

Lab Sample ID: LCSD 180-139959/5
Matrix: Water
Analysis Batch: 139959

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	20.0	19.7		mg/L		98	80 - 120	1	20

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 139959

Client Sample ID: TS-WAT
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	0.97	J F1	10.0	5.63	F1	mg/L		47	75 - 125

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 139959

Client Sample ID: TS-WAT
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	0.97	J F1	10.0	5.64	F1	mg/L		47	75 - 125	0	20

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-177993/10-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 177993

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		9.6	0.88	mg/Kg		04/26/15 03:45	04/26/15 09:09	1

Lab Sample ID: MB 240-177993/35-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 177993

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		9.6	0.88	mg/Kg		04/26/15 04:16	04/26/15 09:09	1

Method: SM4500 P E-1999 - Phosphorus (Continued)

Lab Sample ID: LCS 240-177993/11-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 177993

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	16.9	17.0		mg/Kg		101	75 - 125

Lab Sample ID: LCS 240-177993/36-A
Matrix: Sediment
Analysis Batch: 177999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 177993

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	16.9	16.0		mg/Kg		94	75 - 125

Lab Sample ID: MB 240-179660/10-A
Matrix: Water
Analysis Batch: 179800

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 179660

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/07/15 04:47	05/07/15 12:51	1

Lab Sample ID: LCS 240-179660/11-A
Matrix: Water
Analysis Batch: 179800

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 179660

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	1.69	1.67		mg/L		99	53 - 134

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 179800

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 179660

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	ND	F2	0.500	0.397		mg/L		79	10 - 199

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 179800

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 179660

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Phosphorus as P	ND	F2	0.500	0.554	F2	mg/L		111	10 - 199	33	20

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total

Lab Sample ID: MB 240-178164/1-A
Matrix: Water
Analysis Batch: 178320

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 178164

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		04/27/15 13:15	04/28/15 13:15	1

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total (Continued)

Lab Sample ID: LCS 240-178164/2-A
Matrix: Water
Analysis Batch: 178320

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 178164

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Kjeldahl			7.77	6.59		mg/L		85	65 - 144		

Lab Sample ID: 180-43249-2 MS
Matrix: Water
Analysis Batch: 178320

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 178164

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Kjeldahl	2.7	J	20.0	17.6		mg/L		74	10 - 200		

Lab Sample ID: 180-43249-2 MSD
Matrix: Water
Analysis Batch: 178320

Client Sample ID: TS-WAT
Prep Type: Total/NA
Prep Batch: 178164

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	2.7	J	20.0	18.7		mg/L		80	10 - 200	6	20

Lab Sample ID: MB 240-178705/1-A
Matrix: Sediment
Analysis Batch: 178910

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 178705

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		150	50	mg/Kg		04/30/15 11:00	05/01/15 11:47	1

Lab Sample ID: LCS 240-178705/2-A
Matrix: Sediment
Analysis Batch: 178910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 178705

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Kjeldahl			367	414		mg/Kg		113	70 - 133		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-43249-1

CBBT Thimble Shoal

Lot #: H5D220403

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TESTAMERICA LABORATORIES, INC.

Bruce Wagner

Bruce Wagner
Project Manager

April 29, 2015

ANALYTICAL METHODS SUMMARY

H5D220403

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B
Percent Moisture	MCAWW 160.3 MOD

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SAMPLE SUMMARY

H5D220403

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M6M3V	001	OCREF-SED	04/18/15	11:45
M6M3W	002	TS-WAT	04/17/15	13:30
M6M3X	003	NODS-WAT	04/18/15	08:30

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H5D220403

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

For solid and sediments samples, when percent moisture is included in the report header field, the sample results are reported on a dry weight basis. When percent moisture is not contained in the header field, sample results are reported on an as received or wet weight basis.

All 2378-TCDF results which met all qualitative requirements and were reported from the Rtx-5 column are qualified with an "X". This was done to indicate that the Rtx-5 column is not isomer specific for 2378-TCDF.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

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Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:
Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

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C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

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Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of $\geq$2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: OCREF-SED

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D220403 - 001	**Work Order #....:**	M6M3V1AA	**Matrix.....:**	SE
Date Sampled....:	04/18/15	**Date Received....:**	04/22/15	**Units....:**	pg/g
Prep Date....:	04/22/15			**Dilution Factor:**	1
Prep Batch # ....:	5112014			**Percent Moisture:**	24
Initial Wgt/Vol :	20.2 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/29/15	1	ND	0.65	0.10	1.0	0.10
1,2,3,7,8-PeCDD	**4/29/15**	**1**	**0.17 Q B J**	**3.3**	**0.035**	**0.5**	**0.085**
1,2,3,4,7,8-HxCDD	**4/29/15**	**1**	**0.12 J**	**3.3**	**0.037**	**0.1**	**0.012**
1,2,3,6,7,8-HxCDD	**4/29/15**	**1**	**0.32 B J**	**3.3**	**0.037**	**0.1**	**0.032**
1,2,3,7,8,9-HxCDD	**4/29/15**	**1**	**0.55 C B J**	**3.3**	**0.035**	**0.1**	**0.055**
1,2,3,4,6,7,8-HpCDD	**4/29/15**	**1**	**4.6 B**	**3.3**	**0.052**	**0.01**	**0.046**
OCDD	**4/29/15**	**1**	**57 B**	**6.5**	**0.072**	**0.001**	**0.057**
2,3,7,8-TCDF	**4/29/15**	**1**	**0.26 Q J**	**0.65**	**0.038**	**0.1**	**0.026**
1,2,3,7,8-PeCDF	4/29/15	1	ND	3.3	0.021	0.05	0.0010
2,3,4,7,8-PeCDF	**4/29/15**	**1**	**0.093 Q B J**	**3.3**	**0.019**	**0.5**	**0.046**
1,2,3,4,7,8-HxCDF	**4/29/15**	**1**	**0.17 Q B J**	**3.3**	**0.017**	**0.1**	**0.017**
1,2,3,6,7,8-HxCDF	**4/29/15**	**1**	**0.062 Q B J**	**3.3**	**0.016**	**0.1**	**0.0062**
2,3,4,6,7,8-HxCDF	**4/29/15**	**1**	**0.061 Q B J**	**3.3**	**0.018**	**0.1**	**0.0061**
1,2,3,7,8,9-HxCDF	4/29/15	1	ND	3.3	0.022	0.1	0.0022
1,2,3,4,6,7,8-HpCDF	**4/29/15**	**1**	**0.38 Q B J**	**3.3**	**0.015**	**0.01**	**0.0038**
1,2,3,4,7,8,9-HpCDF	4/29/15	1	ND	3.3	0.021	0.01	0.00021
OCDF	**4/29/15**	**1**	**0.72 B J**	**6.5**	**0.015**	**0.001**	**0.00072**
Total TEQ Concentration							**0.50**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	68	(25 - 164)
13C-1,2,3,7,8-PeCDD	71	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	73	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	71	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	77	(23 - 140)
13C-OCDD	73	(17 - 157)
13C-2,3,7,8-TCDF	59	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	69	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	71	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	72	(26 - 138)
13C-OCDF	61	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: OCREF-SED

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-WAT

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D220403 - 002	**Work Order #....:**	M6M3W1AA	**Matrix.....:**	WS
Date Sampled....:	04/17/15	**Date Received....:**	04/22/15	**Units....:**	pg/L
Prep Date....:	04/22/15			**Dilution Factor:**	1
Prep Batch # ....:	5112013				
Initial Wgt/Vol :	1050 mL	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/28/15	1	ND	9.5	0.018	1.0	0.018
1,2,3,7,8-PeCDD	4/28/15	1	ND	48	0.028	0.5	0.014
1,2,3,4,7,8-HxCDD	4/28/15	1	ND	48	0.066	0.1	0.0066
1,2,3,6,7,8-HxCDD	4/28/15	1	ND	48	0.066	0.1	0.0066
1,2,3,7,8,9-HxCDD	4/28/15	1	ND	48	0.062	0.1	0.0062
1,2,3,4,6,7,8-HpCDD	**4/28/15**	**1**	**0.73 Q B J**	**48**	**0.037**	**0.01**	**0.0073**
OCDD	**4/28/15**	**1**	**17 B J**	**95**	**0.072**	**0.001**	**0.017**
2,3,7,8-TCDF	4/28/15	1	ND	9.5	0.015	0.1	0.0015
1,2,3,7,8-PeCDF	**4/28/15**	**1**	**0.090 B J**	**48**	**0.018**	**0.05**	**0.0045**
2,3,4,7,8-PeCDF	4/28/15	1	ND	48	0.018	0.5	0.0090
1,2,3,4,7,8-HxCDF	4/28/15	1	ND	48	0.029	0.1	0.0029
1,2,3,6,7,8-HxCDF	4/28/15	1	ND	48	0.027	0.1	0.0027
2,3,4,6,7,8-HxCDF	**4/28/15**	**1**	**0.20 Q B J**	**48**	**0.031**	**0.1**	**0.020**
1,2,3,7,8,9-HxCDF	**4/28/15**	**1**	**0.089 Q B J**	**48**	**0.036**	**0.1**	**0.0089**
1,2,3,4,6,7,8-HpCDF	**4/28/15**	**1**	**0.13 Q B J**	**48**	**0.032**	**0.01**	**0.0013**
1,2,3,4,7,8,9-HpCDF	4/28/15	1	ND	48	0.046	0.01	0.00046
OCDF	**4/28/15**	**1**	**0.79 Q B J**	**95**	**0.029**	**0.001**	**0.00079**
Total TEQ Concentration							**0.13**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	87	(25 - 164)
13C-1,2,3,7,8-PeCDD	100	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	87	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	84	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	94	(23 - 140)
13C-OCDD	79	(17 - 157)
13C-2,3,7,8-TCDF	82	(24 - 169)
13C-1,2,3,7,8-PeCDF	93	(24 - 185)
13C-2,3,4,7,8-PeCDF	93	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	88	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	82	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	84	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	82	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	87	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	84	(26 - 138)
13C-OCDF	67	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-WAT

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	107	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: NODS-WAT

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D220403 - 003	**Work Order #....:**	M6M3X1AA	**Matrix.....:**	WS
Date Sampled....:	04/18/15	**Date Received....:**	04/22/15	**Units....:**	pg/L
Prep Date....:	04/22/15			**Dilution Factor:**	1
Prep Batch # ....:	5112013				
Initial Wgt/Vol :	1083 mL	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	4/28/15	1	ND	9.2	0.0098	1.0	0.0098
1,2,3,7,8-PeCDD	4/28/15	1	ND	46	0.024	0.5	0.012
1,2,3,4,7,8-HxCDD	4/28/15	1	ND	46	0.044	0.1	0.0044
1,2,3,6,7,8-HxCDD	4/28/15	1	ND	46	0.044	0.1	0.0044
1,2,3,7,8,9-HxCDD	4/28/15	1	ND	46	0.042	0.1	0.0042
1,2,3,4,6,7,8-HpCDD	**4/28/15**	**1**	**0.27 B J**	**46**	**0.032**	**0.01**	**0.0027**
OCDD	**4/28/15**	**1**	**3.8 B J**	**92**	**0.028**	**0.001**	**0.0038**
2,3,7,8-TCDF	4/28/15	1	ND	9.2	0.0057	0.1	0.00057
1,2,3,7,8-PeCDF	4/28/15	1	ND	46	0.017	0.05	0.00085
2,3,4,7,8-PeCDF	4/28/15	1	ND	46	0.017	0.5	0.0085
1,2,3,4,7,8-HxCDF	**4/28/15**	**1**	**0.15 B J**	**46**	**0.021**	**0.1**	**0.015**
1,2,3,6,7,8-HxCDF	**4/28/15**	**1**	**0.13 B J**	**46**	**0.019**	**0.1**	**0.013**
2,3,4,6,7,8-HxCDF	**4/28/15**	**1**	**0.12 Q B J**	**46**	**0.021**	**0.1**	**0.012**
1,2,3,7,8,9-HxCDF	4/28/15	1	ND	46	0.024	0.1	0.0024
1,2,3,4,6,7,8-HpCDF	**4/28/15**	**1**	**0.21 Q B J**	**46**	**0.016**	**0.01**	**0.0021**
1,2,3,4,7,8,9-HpCDF	4/28/15	1	ND	46	0.021	0.01	0.00021
OCDF	**4/28/15**	**1**	**0.96 Q B J**	**92**	**0.019**	**0.001**	**0.00096**
Total TEQ Concentration							**0.097**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	88	(25 - 164)
13C-1,2,3,7,8-PeCDD	97	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	87	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	85	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	96	(23 - 140)
13C-OCDD	81	(17 - 157)
13C-2,3,7,8-TCDF	88	(24 - 169)
13C-1,2,3,7,8-PeCDF	92	(24 - 185)
13C-2,3,4,7,8-PeCDF	90	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	84	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	80	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	83	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	84	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	83	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	86	(26 - 138)
13C-OCDF	71	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: NODS-WAT

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	107	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D220000 - 013B	**Work Order #....:**	M6M2K1AA	**Matrix.....:**	WATER
Dilution Factor:	1				
Prep Date....:	04/22/15	**Analysis Date....:**	04/28/15		
Prep Batch # ....:	5112013				
Initial Wgt/Vol :	1000 mL	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	0.43	pg/L
1,2,3,7,8-PeCDD	**1.5**	**Q J**	**50**	**0.11**	**pg/L**
1,2,3,4,7,8-HxCDD	**0.23**	**Q J**	**50**	**0.077**	**pg/L**
1,2,3,6,7,8-HxCDD	**0.36**	**Q J**	**50**	**0.079**	**pg/L**
1,2,3,7,8,9-HxCDD	**0.29**	**Q J**	**50**	**0.074**	**pg/L**
1,2,3,4,6,7,8-HpCDD	**1.0**	**J**	**50**	**0.032**	**pg/L**
OCDD	**5.1**	**Q J**	**100**	**0.021**	**pg/L**
2,3,7,8-TCDF	ND		10	0.055	pg/L
1,2,3,7,8-PeCDF	**0.60**	**J**	**50**	**0.032**	**pg/L**
2,3,4,7,8-PeCDF	**0.38**	**J**	**50**	**0.032**	**pg/L**
1,2,3,4,7,8-HxCDF	**0.69**	**J**	**50**	**0.041**	**pg/L**
1,2,3,6,7,8-HxCDF	**0.51**	**Q J**	**50**	**0.039**	**pg/L**
2,3,4,6,7,8-HxCDF	**0.51**	**J**	**50**	**0.044**	**pg/L**
1,2,3,7,8,9-HxCDF	**0.83**	**J**	**50**	**0.049**	**pg/L**
1,2,3,4,6,7,8-HpCDF	**0.79**	**J**	**50**	**0.036**	**pg/L**
1,2,3,4,7,8,9-HpCDF	**0.92**	**J**	**50**	**0.048**	**pg/L**
OCDF	**3.2**	**J**	**100**	**0.026**	**pg/L**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	83	25 - 164
13C-1,2,3,7,8-PeCDD	89	25 - 181
13C-1,2,3,4,7,8-HxCDD	86	32 - 141
13C-1,2,3,6,7,8-HxCDD	83	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	102	23 - 140
13C-OCDD	78	17 - 157
13C-2,3,7,8-TCDF	80	24 - 169
13C-1,2,3,7,8-PeCDF	83	24 - 185
13C-2,3,4,7,8-PeCDF	79	21 - 178
13C-1,2,3,4,7,8-HxCDF	82	26 - 152
13C-1,2,3,6,7,8-HxCDF	76	26 - 123
13C-2,3,4,6,7,8-HxCDF	80	28 - 136
13C-1,2,3,7,8,9-HxCDF	79	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	86	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	85	26 - 138
13C-OCDF	64	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D220000 - 013B	**Work Order #....:**	M6M2K1AA	**Matrix....:**	WATER
Dilution Factor:	1				
Prep Date....:	04/22/15	**Analysis Date....:**	04/28/15		
Prep Batch # ....:	5112013				
Initial Wgt/Vol :	1000 mL	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	102	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D220403	**Work Order # ...:**	M6M2K1AC-LCS	**Matrix .....:**	WATER
LCS Lot-Sample# :	H5D220000 - 013				
Prep Date .....:	04/22/15	**Analysis Date ..:**	04/28/15		
Prep Batch # ...:	5112013				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	1000 mL				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS
2,3,7,8-TCDD	**200**	**202**	**pg/L**	**101**	**(67 - 158)**
1,2,3,7,8-PeCDD	**1000**	**1040**	**pg/L**	**104 B**	**(70 - 142)**
1,2,3,4,7,8-HxCDD	**1000**	**1060**	**pg/L**	**106 B**	**(70 - 164)**
1,2,3,6,7,8-HxCDD	**1000**	**1000**	**pg/L**	**100 B**	**(76 - 134)**
1,2,3,7,8,9-HxCDD	**1000**	**1090**	**pg/L**	**109 B**	**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**1000**	**1000**	**pg/L**	**100 B**	**(70 - 140)**
OCDD	**2000**	**1910**	**pg/L**	**95 B**	**(78 - 144)**
2,3,7,8-TCDF	**200**	**207**	**pg/L**	**103**	**(75 - 158)**
1,2,3,7,8-PeCDF	**1000**	**933**	**pg/L**	**93 B**	**(80 - 134)**
2,3,4,7,8-PeCDF	**1000**	**1040**	**pg/L**	**104 B**	**(68 - 160)**
1,2,3,4,7,8-HxCDF	**1000**	**1010**	**pg/L**	**101 B**	**(72 - 134)**
1,2,3,6,7,8-HxCDF	**1000**	**994**	**pg/L**	**99 B**	**(84 - 130)**
2,3,4,6,7,8-HxCDF	**1000**	**1010**	**pg/L**	**101 B**	**(70 - 156)**
1,2,3,7,8,9-HxCDF	**1000**	**996**	**pg/L**	**100 B**	**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**1000**	**993**	**pg/L**	**99 B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**1000**	**1010**	**pg/L**	**101 B**	**(78 - 138)**
OCDF	**2000**	**2000**	**pg/L**	**100 B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	84	(20 - 175)
13C-1,2,3,7,8-PeCDD	89	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	83	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	82	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	95	(26 - 166)
13C-OCDD	78	(13 - 199)
13C-2,3,7,8-TCDF	82	(22 - 152)
13C-1,2,3,7,8-PeCDF	86	(21 - 192)
13C-2,3,4,7,8-PeCDF	86	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	83	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	77	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	81	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	77	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	83	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	82	(20 - 186)
13C-OCDF	68	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	103	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D220000 - 014B	**Work Order #....:**	M6M2L1AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	04/22/15	**Analysis Date....:**	04/28/15	**Percent Moisture:**	0.0
Prep Batch # ....:	5112014				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.065	pg/g
1,2,3,7,8-PeCDD	**0.086**	**Q J**	**5.0**	**0.017**	**pg/g**
1,2,3,4,7,8-HxCDD	ND		5.0	0.016	pg/g
1,2,3,6,7,8-HxCDD	**0.038**	**J**	**5.0**	**0.017**	**pg/g**
1,2,3,7,8,9-HxCDD	**0.13**	**Q J**	**5.0**	**0.015**	**pg/g**
1,2,3,4,6,7,8-HpCDD	**0.28**	**Q J**	**5.0**	**0.0068**	**pg/g**
OCDD	**1.4**	**J**	**10**	**0.0056**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.0040	pg/g
1,2,3,7,8-PeCDF	**0.020**	**Q J**	**5.0**	**0.0061**	**pg/g**
2,3,4,7,8-PeCDF	**0.024**	**Q J**	**5.0**	**0.0058**	**pg/g**
1,2,3,4,7,8-HxCDF	**0.13**	**Q J**	**5.0**	**0.0070**	**pg/g**
1,2,3,6,7,8-HxCDF	**0.076**	**Q J**	**5.0**	**0.0074**	**pg/g**
2,3,4,6,7,8-HxCDF	**0.12**	**J**	**5.0**	**0.0076**	**pg/g**
1,2,3,7,8,9-HxCDF	**0.050**	**Q J**	**5.0**	**0.0099**	**pg/g**
1,2,3,4,6,7,8-HpCDF	**0.16**	**J**	**5.0**	**0.0054**	**pg/g**
1,2,3,4,7,8,9-HpCDF	**0.057**	**Q J**	**5.0**	**0.0080**	**pg/g**
OCDF	**1.2**	**J**	**10**	**0.0053**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	55	25 - 164
13C-1,2,3,7,8-PeCDD	60	25 - 181
13C-1,2,3,4,7,8-HxCDD	69	32 - 141
13C-1,2,3,6,7,8-HxCDD	65	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	69	23 - 140
13C-OCDD	54	17 - 157
13C-2,3,7,8-TCDF	51	24 - 169
13C-1,2,3,7,8-PeCDF	53	24 - 185
13C-2,3,4,7,8-PeCDF	58	21 - 178
13C-1,2,3,4,7,8-HxCDF	69	26 - 152
13C-1,2,3,6,7,8-HxCDF	63	26 - 123
13C-2,3,4,6,7,8-HxCDF	65	28 - 136
13C-1,2,3,7,8,9-HxCDF	61	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	68	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	62	26 - 138
13C-OCDF	48	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5D220000 - 014B	**Work Order #....:**	M6M2L1AA	**Matrix.....:**	SOLID
Dilution Factor:	1				
Prep Date....:	04/22/15	**Analysis Date....:**	04/28/15	**Percent Moisture:**	0.0
Prep Batch # ....:	5112014				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	67	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D220403	**Work Order # ...:**	M6M2L1AC-LCS	**Matrix .....:**	SOLID
LCS Lot-Sample# :	H5D220000 - 014				
Prep Date .....:	04/22/15	**Analysis Date ..:**	04/28/15		
Prep Batch # ...:	5112014				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**20.9**	**pg/g**	**105**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**103**	**pg/g**	**103**	**B**	**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**101**	**pg/g**	**101**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**103**	**pg/g**	**103**	**B**	**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**110**	**pg/g**	**110**	**B**	**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**99.5**	**pg/g**	**99**	**B**	**(70 - 140)**
OCDD	**200**	**200**	**pg/g**	**100**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**20.6**	**pg/g**	**103**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**94.2**	**pg/g**	**94**	**B**	**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**96.6**	**pg/g**	**97**	**B**	**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**99.8**	**pg/g**	**100**	**B**	**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**99.7**	**pg/g**	**100**	**B**	**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**102**	**pg/g**	**102**	**B**	**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**98.9**	**pg/g**	**99**	**B**	**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**98.0**	**pg/g**	**98**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**102**	**pg/g**	**102**	**B**	**(78 - 138)**
OCDF	**200**	**192**	**pg/g**	**96**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(20 - 175)
13C-1,2,3,7,8-PeCDD	66	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	69	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	64	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	70	(26 - 166)
13C-OCDD	57	(13 - 199)
13C-2,3,7,8-TCDF	56	(22 - 152)
13C-1,2,3,7,8-PeCDF	63	(21 - 192)
13C-2,3,4,7,8-PeCDF	65	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	66	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	62	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	63	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	62	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	68	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	62	(20 - 186)
13C-OCDF	53	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	75	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D220403	**Work Order # ...:**	M6M3W1AC-MS M6M3W1AD-MSD	**Matrix .....:**	WATER
OS Lot-Sample# :	H5D220403 - 002				
Prep Date .....:	04/22/15	**Analysis Date ..:**	04/28/15		
Prep Batch # ...:	5112013				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	1050 mL				

PARAMETER	SAMPLE AMOUNT	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	ND	190	192	pg/L	101	(67 - 158)		
	ND	190	194	pg/L	102	(67 - 158)	0.66	(0 - 25)
1,2,3,7,8-PeCDD	ND	950	958	pg/L	101 B	(70 - 142)		
	ND	950	1000	pg/L	106 B	(70 - 142)	4.7	(0 - 25)
1,2,3,4,7,8-HxCDD	ND	950	979	pg/L	103 B	(70 - 164)		
	ND	950	959	pg/L	101 B	(70 - 164)	2.1	(0 - 25)
1,2,3,6,7,8-HxCDD	ND	950	915	pg/L	96 B	(76 - 134)		
	ND	950	949	pg/L	100 B	(76 - 134)	3.7	(0 - 25)
1,2,3,7,8,9-HxCDD	ND	950	1020	pg/L	107 B	(64 - 162)		
	ND	950	1060	pg/L	111 B	(64 - 162)	3.7	(0 - 25)
1,2,3,4,6,7,8-HpCDD	0.73	950	928	pg/L	98 B	(70 - 140)		
	0.73	950	948	pg/L	100 B	(70 - 140)	2.1	(0 - 25)
OCDD	17	1900	1730	pg/L	90 B	(78 - 144)		
	17	1900	1810	pg/L	94 B	(78 - 144)	4.6	(0 - 25)
2,3,7,8-TCDF	ND	190	201	pg/L	106 X	(75 - 158)		
	ND	190	198	pg/L	104 X	(75 - 158)	1.8	(0 - 25)
1,2,3,7,8-PeCDF	0.090	950	904	pg/L	95 B	(80 - 134)		
	0.090	950	888	pg/L	94 B	(80 - 134)	1.8	(0 - 25)
2,3,4,7,8-PeCDF	ND	950	963	pg/L	101 B	(68 - 160)		
	ND	950	970	pg/L	102 B	(68 - 160)	0.62	(0 - 25)
1,2,3,4,7,8-HxCDF	ND	950	952	pg/L	100 B	(72 - 134)		
	ND	950	953	pg/L	100 B	(72 - 134)	0.12	(0 - 25)
1,2,3,6,7,8-HxCDF	ND	950	940	pg/L	99 B	(84 - 130)		
	ND	950	937	pg/L	99 B	(84 - 130)	0.31	(0 - 25)
2,3,4,6,7,8-HxCDF	0.20	950	956	pg/L	101 B	(70 - 156)		
	0.20	950	942	pg/L	99 B	(70 - 156)	1.5	(0 - 25)
1,2,3,7,8,9-HxCDF	0.089	950	904	pg/L	95 B	(78 - 130)		
	0.089	950	943	pg/L	99 B	(78 - 130)	4.2	(0 - 25)
1,2,3,4,6,7,8-HpCDF	0.13	950	897	pg/L	94 B	(82 - 122)		
	0.13	950	936	pg/L	99 B	(82 - 122)	4.2	(0 - 25)
1,2,3,4,7,8,9-HpCDF	ND	950	952	pg/L	100 B	(78 - 138)		
	ND	950	1000	pg/L	105 B	(78 - 138)	4.9	(0 - 25)
OCDF	0.79	1900	1760	pg/L	93 B	(63 - 170)		
	0.79	1900	1890	pg/L	99 B	(63 - 170)	6.7	(0 - 25)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D220403	**Work Order # ...:**	M6M3W1AC-MS M6M3W1AD-MSD	**Matrix .....:**	WATER
OS Lot-Sample# :	H5D220403 - 002				
Prep Date .....:	04/22/15	**Analysis Date ..:**	04/28/15		
Prep Batch # ...:	5112013				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	1050 mL				

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	87	(25 - 164)
13C-1,2,3,7,8-PeCDD	86	(25 - 164)
13C-1,2,3,4,7,8-HxCDD	98	(25 - 181)
13C-1,2,3,6,7,8-HxCDD	92	(25 - 181)
13C-1,2,3,4,6,7,8-HpCDD	82	(32 - 141)
13C-OCDD	85	(32 - 141)
13C-2,3,7,8-TCDF	82	(28 - 130)
13C-1,2,3,7,8-PeCDF	80	(28 - 130)
13C-2,3,4,7,8-PeCDF	85	(23 - 140)
13C-1,2,3,4,7,8-HxCDF	89	(23 - 140)
13C-1,2,3,6,7,8-HxCDF	76	(17 - 157)
13C-2,3,4,6,7,8-HxCDF	78	(17 - 157)
13C-1,2,3,7,8,9-HxCDF	86	(24 - 169)
13C-1,2,3,4,6,7,8-HpCDF	85	(24 - 169)
13C-1,2,3,4,7,8,9-HpCDF	93	(24 - 185)
13C-OCDF	90	(24 - 185)
	89	(21 - 178)
	86	(21 - 178)
	82	(26 - 152)
	80	(26 - 152)
	76	(26 - 123)
	75	(26 - 123)
	79	(28 - 136)
	79	(28 - 136)
	80	(29 - 147)
	80	(29 - 147)
	81	(28 - 143)
	79	(28 - 143)
	77	(26 - 138)
	77	(26 - 138)
	65	(17 - 157)
	68	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	108	(35 - 197)
	104	(35 - 197)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D220403	**Work Order # ...:**	M6M3W1AC-MS M6M3W1AD-MSD	**Matrix .....:**	WATER
OS Lot-Sample# :	H5D220403 - 002				
Prep Date .....:	04/22/15	**Analysis Date ..:**	04/28/15		
Prep Batch # ...:	5112013				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	1050 mL				

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

X See project narrative.

Sample Receipt Documentation

HSD220402

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-196397.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-43249-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/12/2015			Preservation Codes:
City: Knoxville	TAT Requested (days):			A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2SO3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - ph 4-5; Z - other (specify)
State, Zip: TN, 37921				Other:
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
OCREF-SED (180-43249-1)	4/18/15	11:45 Eastern		Sediment			X		

RT CT
REC. @ 1.3°c 1.3°c
CUSTODY TAPE INTACT
1 COOLER RH 4-22-15
FED EX # 568237255840

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		4/21/15 1A		Ryan Henry	4/22/15 0955	
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSD220403

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-196398.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43249-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/12/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
TS-WAT (180-43249-2)	4/17/15	13:30 Eastern		Water			X	2	RC/ND pH=7
TS-WAT (180-43249-2MS)	4/17/15	13:30 Eastern	MS	Water			X	2	
TS-WAT (180-43249-2MSD)	4/17/15	13:30 Eastern	MSD	Water			X	2	
NODS-WAT (180-43249-3)	4/18/15	08:30 Eastern		Water			X	2	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4/21/15		Ryan Henry	4/22/15 0955	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSDa0403

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC57 Correction factor: 0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?			✓	☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: 4252 2017/07	✓			☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?	✓			If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		✓		☐ **19a** Other

Comments/Actions Taken

Labeling Verified by: _____ **Date:** _____

pH test strip lot number: HC432654

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: NA

Sample Receiving Associate: Ryan Henry Date: 4/22/15

QA026R29.doc, 041115

Trace Level Organics

Shipping and Receiving Documents

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**		Laboratory:
	Phone: **410-584-7000**		**TestAmerica - Pittsburgh**
225 Schilling Circle	Field Contact:		**301 Alpha Drive**
Hunt Valley, MD 21031	**Morgan Gelinas**		**Pittsburgh, PA 15238**
	Phone: 860-287-0745		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement			**fax: 412.963.2468**
Billing (Project #, phase): 15204.01, 0009			**ATTN: Carrie Gamber**

Page 1 of 1

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Semivolatiles and PAHs SW846 8270C	Metals SW846 6020	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon Lloyd Kahn	AVS/SEM EPA Draft 1991	Remarks
				Sediment Samples																	
4/18/15	1145		X	OCREF-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	**SEE PROJECT SPECIFIC ANALYTE LIST**
4/18/15	1400		X	OCBKGN-SED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/18/15	1400		X	OCREF-RESED	4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	4/18/15 1600			**OCEAN SEDIMENT Parallel Thimble Shoal Tunnel**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	4/20/15 1400		4/20/15 1400	

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): 15204.01, 0009

Page 1 of 1

~~Sediment Samples~~ Water

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Semivolatiles and PAHs SW846 8270C	Metals SW846 6020/7471A	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Butyl Tins Unger Method	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon	Remarks
4/17/15	1330	X		TS-WAT	26	V	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SEE PROJECT SPECIFIC ANALYTE LIST
4/17/15	1330	X		TS-WAT-MS	19	X	X	X	X	X	X	X	X	X	X	X	X	V	V	X	
4/17/15	1330	X		TS-WAT-MSD	20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/18/15	0830	X		TDS-WAT	20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	OCEAN WATER Parallel Thimble Shoal Tunnel
	4/18/15 1600			
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	4/20/15 1400		4/20/15 1400	

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

EA Non-Elu Coolers

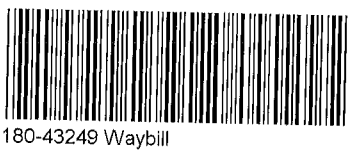
#1: 3.8 Cf=fl-o = 3.8°C

#2: 4.0 = 4.0°C

#3: 3.6 = 3.6°C

#4: 3.8 = 3.8°C

#5 4.1 = 4.1°C



Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43249-1

Login Number: 43249
List Number: 1
Creator: Neri, Tom

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43249-1

Login Number: 43249
List Number: 4
Creator: Callahan, Christopher G

List Source: TestAmerica Burlington
List Creation: 04/22/15 11:21 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Seals on cooler but date and time not filled out.
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

[redacted]

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-196399.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43249-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 5/12/2015			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_GC/3510C_14d Organotins (GC/FPD)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
TS-WAT (180-43249-2)	4/17/15	13:30 Eastern		Water			X	2	
TS-WAT (180-43249-2MS)	4/17/15	13:30 Eastern	MS	Water			X	2	
TS-WAT (180-43249-2MSD)	4/17/15	13:30 Eastern	MSD	Water			X	2	
NODS-WAT (180-43249-3)	4/18/15	08:30 Eastern		Water			X	2	

180-43249 Chain of Custody

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/21/15			4/22/15 1015	TAGV
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
ORIGIN ID:AGCA (412) 963-7058
SAMPLE RECEIVING
TEST AMERICA LABORATORIES INC
301 ALPHA DR
PITTSBURGH, PA 152381330
UNITED STATES US
SHIP DATE: 21APR15
ACTWGT: 54.0 LB MAN
CAD: 741733/CAFE2807
BILL RECIPIENT
TO SHIPPING/RECEIVING
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: S180-23698
FedEx
Express
WED - 22 APR 10:30A
PRIORITY OVERNIGHT
TRK# 0201 5682 3725 5851
XH BTVA
05403
VT-US BTV

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

2.0 / C25

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-196388.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43249-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 5/12/2015			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

C68 - waters
C52 - soil

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_P_E/365_Prep Total Phosphorus as P	SM4500Norg_C/SM4500Norg_C_P Nitrogen-Total Kjeldahl		Total Number of containers	Special Instructions/Note:
			Preservation Code:								
OCREF-SED (180-43249-1)	4/18/15	11:45 Eastern		Sediment			X	X	4oz	1	
TS-WAT (180-43249-2)	4/17/15	13:30 Eastern		Water			X	X	500/4X250	2	
TS-WAT (180-43249-2MS)	4/17/15	13:30 Eastern	MS	Water			X	X		1	
TS-WAT (180-43249-2MSD)	4/17/15	13:30 Eastern	MSD	Water			X	X		2	
NODS-WAT (180-43249-3)	4/18/15	08:30 Eastern		Water			X	X	2X250	2	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4/21/15 1530				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 180-43249

Client TA PSH Site Name

Cooler unpacked by: Jerry Burns

Cooler Received on 4/22/15 Opened on 4/22/15

FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # Foam Box (Client Cooler) Box Other

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

~~IR GUN# A (CF +4.0 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. 2.0 °C Corrected Cooler Temp. 2.5 °C ☐ See Multiple Cooler Form

~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity Yes (No)
   -Were custody seals on the outside of the cooler(s) signed & dated? Yes No (NA)
   -Were custody seals on the bottle(s)? Yes (No)
3. Shippers' packing slip attached to the cooler(s)? TB (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the sampler(s) clearly identified on the COC? Yes (No)
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels be reconciled with the COC? (Yes) No
9. Were correct bottle(s) used for the test(s) indicated? (Yes) No
10. Sufficient quantity received to perform indicated analyses? (Yes) No
11. Were sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# HC425511
12. Were VOAs on the COC? Yes (No)
13. Were air bubbles >6 mm in any VOA vials? Yes No (NA)
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # Yes (No)

Contacted PM Date by via Verbal Voice Mail Other

Concerning

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: TB

15. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-43250-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/10/2015 4:38 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/10/2015
Revision: 1

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Standards Data 2179

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Standards Data 2955

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits
*	LCS or LCSD is outside acceptance limits.
cn	Refer to Case Narrative for further detail
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
E	Result exceeded calibration range.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
V	Serial Dilution exceeds the control limits
W	PS: Post-digestion spike was outside control limits

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-43250-1 REVISED

NOTE: This report has been revised to include Manganese per EA Engineering's request.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/20/2015; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 12 coolers at receipt time were 5.0º C, 5.1º C, 5.2º C, 5.3º C, 5.3º C, 5.4º C, 5.6º C, 5.6º C, 5.7º C, 5.7º C, 5.8º C and 5.8º C.

Several samples (180-43250 samples 23 thru 27) were received outside cooler temperature at our Burlington lab. The samples were logged in and analyzed.

SEMIVOLATILES
Benzidine failed the recovery criteria low for the MS/MSD of sample TS-2NB-SET (180-43250-21) in batch 180-141122. Di-n-octyl phthalate failed the recovery criteria high.

PESTICIDES
Several samples had surrogates recover outside QC limits. At least one surrogate recovered within QC limits. All data was reported.

PCB CONGENERS
Several samples had surrogates recover outside QC limits. At least one surrogate recovered within QC limits. All data was reported.

PCB-28, PCB-66, PCB-77 and PCB-8 failed the recovery criteria high for the MS of sample TS-2NB-SET (180-43250-21) in batch 180-140217. PCB-66 failed the recovery criteria high for the MSD of sample TS-2NB-SET (180-43250-21) in batch 180-140217. PCB-8 exceeded the RPD limit.

The continuing calibration verification (CCV) associated with batch 140217 recovered above the upper control limit for BZ-8, 126, 28, 66, and 77. The samples associated with this CCV were non-detects or had estimated values for the affected analytes; therefore, the data have been reported.

ORGANOPHOSPHORUS PESTICIDES
Instrument stopped just before the closing CCV was analyzed. All QC and surrogate recovery were within limits and samples were non-detect for the target compounds. After starting the instrument back up, the closing CCV passed all compounds. All data was reported with this narrative. TS-3SB-SET (180-43250-23), TS-3NT-SET (180-43250-24), TS-3NB-SET (180-43250-25), TS-4ST-SET (180-43250-26), TS-4SB-SET (180-43250-27), TS-4MT-SET (180-43250-28), TS-4NT-SET (180-43250-29), TS-4NB-SET (180-43250-30), (LCS 180-140316/2-A), (LCSD 180-140316/3-A) and (MB 180-140316/1-A)

Azinphos-methyl failed slightly low on primary column so all results were reported from the confirmation column which were non-detect. TS-1-SET (180-43250-16), TS-2ST-SET (180-43250-17), TS-2SB-SET (180-43250-18), TS-2MT-SET (180-43250-19), TS-2NT-SET (180-43250-20), TS-2NB-SET (180-43250-21), TS-2NB-SET (180-43250-21[MS]), TS-2NB-SET (180-43250-21[MSD]), TS-3ST-SET (180-43250-22), (LCS 180-140074/2-A) and (MB 180-140074/1-A)

ORGANOTINS
The samples in this delivery group were analyzed for alkyltins. The samples were analyzed using an internal standard method of analysis with tetra-n-propyltin as the internal standard. Peak areas were used to measure the instrument response in performing calibration and quantification. The analytical report forms correctly list the alkyltin analytes as unsubstituted alkyltin compounds. The analysis of three of the compounds employed the use of alkyltin chlorides. The results from the alkyltin chlorides required conversion factors to reflect the concentrations of the unsubstituted forms. For instance, tributyltin chloride was converted to tributyltin using a conversion factor of 0.89. Dibutyltin dichloride was converted to dibutyltin using a factor of 0.77. Monobutyltin trichloride was converted to monobutyltin using a factor of 0.62 and the surrogate, tripentyltin chloride was converted to tripentyltin using a factor of 0.90.

Monobutyltin has poor extraction efficiency exhibiting a mean recovery of typically less than 5%. The low mean recovery is typical of routine implementation of this method. Although the laboratory has reported control limits of 10-48% for this analyte these control limits are not based on historical performance and do not indicate expected performance of this analyte by this method. The laboratory does not use the recovery or performance of this compound as a basis for acceptance of the analytical batch. All analytical results, both positive and non-detects are considered qualitative values and are flagged with a cn qualifier.

Monobutyltin failed the recovery criteria low for LCS 200-87725/2-A and for LCS 200-88087/2-A.

Monobutyltin failed the recovery criteria low for the MS/MSD of sample TS-2NB-SET (180-43250-21) in batch 200-87867.

METALS

Several samples were diluted due to the nature of the sample matrix. Elevated reporting limits (RLs) are provided.

The following samples were further diluted to bring the concentration of sodium within the linear range: TS-4MT-SET (180-43250-28), TS-4NT-SET (180-43250-29), TS-4NB-SET (180-43250-30), (180-43250-G-28-B MS), (180-43250-G-28-C MSD), (180-43250-G-28-A PDS) and (180-43250-G-28-A SD). Elevated reporting limits (RLs) are provided.

Aluminum, Calcium and Lead were detected in method blank MB 180-140278/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Sodium was detected in method blank MB 180-140485/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Selenium failed the recovery criteria low for the MS of sample TS-2NB-SET (180-43250-21) in batch 180-140681. Calcium and Sodium failed the recovery criteria high. Calcium, Magnesium, Selenium and Sodium failed the recovery criteria high for the MSD of sample TS-2NB-SET (180-43250-21) in batch 180-140681. Selenium exceeded the RPD limit. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Sodium failed the recovery criteria low for the MS/MSD of sample TS-4MT-SET (180-43250-28) in batch 180-141088. Calcium failed the recovery criteria high in the MSD. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

The serial dilution performed for the following samples associated with batch 140485 was outside of the control limits for calcium and potassium.: TS-4MT-SET (180-43250-28)

The post digestion spike percent recovery for zinc associated with batch 140485 was outside of control limits.

GENERAL CHEMISTRY

Ammonia, distilled failed the recovery criteria high for the MSD of sample TS-2NB-SET (180-43250-21) in batch 180-142003.

Ammonia, distilled failed the recovery criteria high for the MS of sample TS-4ST-SET (180-43250-26) in batch 180-142003.

Dissolved Organic Carbon - Duplicate failed the recovery criteria low for the MS/MSD of sample TS-2NB-SET (180-43250-21) in batch 180-140817.

ELUTRIATE GENERATION

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SUBCONTRACT WORK

Method 1613 B Dioxins/Furans + TEQs (EA criteria): This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43250-1

Client Sample ID: TS-1-SET — Lab Sample ID: 180-43250-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	20				%	1		SET	Dissolved

Client Sample ID: TS-2ST-SET — Lab Sample ID: 180-43250-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	20				%	1		SET	Dissolved

Client Sample ID: TS-2SB-SET — Lab Sample ID: 180-43250-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	20				%	1		SET	Dissolved

Client Sample ID: TS-2MT-SET — Lab Sample ID: 180-43250-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	%				ug/L	1		SET	Dissolved

Client Sample ID: TS-2NT-SET — Lab Sample ID: 180-43250-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	%				ug/L	1		SET	Dissolved

Client Sample ID: TS-2NB-SET — Lab Sample ID: 180-43250-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	20				%	1		SET	Dissolved

Client Sample ID: TS-3ST-SET — Lab Sample ID: 180-43250-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	20				%	1		SET	Dissolved

Client Sample ID: TS-3SB-SET — Lab Sample ID: 180-43250-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	20				%	1		SET	Dissolved

Client Sample ID: TS-3NT-SET — Lab Sample ID: 180-43250-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	20				%	1		SET	Dissolved

Client Sample ID: TS-3NB-SET — Lab Sample ID: 180-43250-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	20				%	1		SET	Dissolved

Client Sample ID: TS-4ST-SET — Lab Sample ID: 180-43250-11

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-4ST-SET (Continued) — Lab Sample ID: 180-43250-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	20				%	1		SET	Dissolved

Client Sample ID: TS-4SB-SET — Lab Sample ID: 180-43250-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	20				%	1		SET	Dissolved

Client Sample ID: TS-4MT-SET — Lab Sample ID: 180-43250-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	20				%	1		SET	Dissolved

Client Sample ID: TS-4NT-SET — Lab Sample ID: 180-43250-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	20				%	1		SET	Dissolved

Client Sample ID: TS-4NB-SET — Lab Sample ID: 180-43250-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Elutriate Generated	20				%	1		SET	Dissolved

Client Sample ID: TS-1-SET — Lab Sample ID: 180-43250-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	0.34	J	1.0	0.21	ug/L	1		8270D LL	Dissolved
alpha-BHC	0.0035		0.0012	0.00062	ug/L	1		8081B_LL	Dissolved
delta-BHC	0.0035	p	0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
2,4'-DDE	0.00022	J	0.0012	0.00014	ug/L	1		8081B_LL	Dissolved
PCB-66	1.9	p	0.94	0.12	ng/L	1		8082A	Dissolved
PCB-101	0.49	J p	0.94	0.14	ng/L	1		8082A	Dissolved
DCB Decachlorobiphenyl	0.14	J p	0.94	0.099	ng/L	1		8082A	Dissolved
Aluminum	52	J B	300	26	ug/L	10		6020A	Dissolved
Arsenic	24		10	2.9	ug/L	10		6020A	Dissolved
Barium	28	J	100	0.98	ug/L	10		6020A	Dissolved
Calcium	250000	B	5000	28	ug/L	10		6020A	Dissolved
Cobalt	0.54	J	5.0	0.26	ug/L	10		6020A	Dissolved
Copper	2.7	J	20	2.4	ug/L	10		6020A	Dissolved
Potassium	260000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	770000		5000	12	ug/L	10		6020A	Dissolved
Sodium	6500000		25000	190	ug/L	50		6020A	Dissolved
Nickel	1.8	J	10	1.7	ug/L	10		6020A	Dissolved
Lead	0.55	J B	10	0.19	ug/L	10		6020A	Dissolved
Antimony	3.9	J	20	0.19	ug/L	10		6020A	Dissolved
Selenium	59		50	4.2	ug/L	10		6020A	Dissolved
Thallium	1.8	J	10	0.15	ug/L	10		6020A	Dissolved
Vanadium	28		10	0.82	ug/L	10		6020A	Dissolved
Zinc	12	J	50	9.6	ug/L	10		6020A	Dissolved
Manganese	45	J B	50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	6.0		0.10	0.086	mg/L	1		350.1	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-1-SET (Continued) — Lab Sample ID: 180-43250-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon - Duplicate	1.6		1.0	0.14	mg/L	1		SM 5310C	Dissolved
Total Phosphorus as P	0.10		0.10	0.050	mg/L	1		SM4500 P E-1999	Dissolved
Nitrogen, Kjeldahl	5.5		5.0	1.7	mg/L	1		SM4500_NH3_E	Dissolved

Client Sample ID: TS-2ST-SET — Lab Sample ID: 180-43250-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	1.1		0.96	0.21	ug/L	1		8270D LL	Dissolved
alpha-BHC	0.0034		0.0012	0.00063	ug/L	1		8081B_LL	Dissolved
delta-BHC	0.0093		0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
PCB-66	4.8	p	0.94	0.12	ng/L	1		8082A	Dissolved
PCB-153	0.18	J p	0.94	0.11	ng/L	1		8082A	Dissolved
DCB Decachlorobiphenyl	0.12	J p	0.94	0.099	ng/L	1		8082A	Dissolved
Aluminum	35	J B	300	26	ug/L	10		6020A	Dissolved
Arsenic	17		10	2.9	ug/L	10		6020A	Dissolved
Barium	25	J	100	0.98	ug/L	10		6020A	Dissolved
Calcium	270000	B	5000	28	ug/L	10		6020A	Dissolved
Cobalt	0.69	J	5.0	0.26	ug/L	10		6020A	Dissolved
Copper	2.6	J	20	2.4	ug/L	10		6020A	Dissolved
Potassium	260000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	790000		5000	12	ug/L	10		6020A	Dissolved
Sodium	6900000		25000	190	ug/L	50		6020A	Dissolved
Nickel	2.2	J	10	1.7	ug/L	10		6020A	Dissolved
Lead	0.40	J B	10	0.19	ug/L	10		6020A	Dissolved
Antimony	0.77	J	20	0.19	ug/L	10		6020A	Dissolved
Selenium	63		50	4.2	ug/L	10		6020A	Dissolved
Thallium	0.47	J	10	0.15	ug/L	10		6020A	Dissolved
Vanadium	1.1	J	10	0.82	ug/L	10		6020A	Dissolved
Zinc	13	J	50	9.6	ug/L	10		6020A	Dissolved
Manganese	220	B	50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	0.46		0.10	0.086	mg/L	1		350.1	Dissolved
Sulfide	0.62	J	3.0	0.59	mg/L	1		9034	Dissolved
Dissolved Organic Carbon - Duplicate	1.0		1.0	0.14	mg/L	1		SM 5310C	Dissolved

Client Sample ID: TS-2SB-SET — Lab Sample ID: 180-43250-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
alpha-BHC	0.0037		0.0012	0.00062	ug/L	1		8081B_LL	Dissolved
delta-BHC	0.0046	p	0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
PCB-66	5.3	p	0.94	0.12	ng/L	1		8082A	Dissolved
PCB-101	0.97	p	0.94	0.14	ng/L	1		8082A	Dissolved
PCB-105	0.27	J p	0.94	0.075	ng/L	1		8082A	Dissolved
PCB-156	0.079	J p	0.94	0.074	ng/L	1		8082A	Dissolved
Aluminum	33	J B	300	26	ug/L	10		6020A	Dissolved
Arsenic	20		10	2.9	ug/L	10		6020A	Dissolved
Barium	42	J	100	0.98	ug/L	10		6020A	Dissolved
Calcium	400000	B	5000	28	ug/L	10		6020A	Dissolved
Cobalt	6.5		5.0	0.26	ug/L	10		6020A	Dissolved
Copper	2.6	J	20	2.4	ug/L	10		6020A	Dissolved
Iron	67	J	500	61	ug/L	10		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-2SB-SET (Continued) — Lab Sample ID: 180-43250-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	260000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	770000		5000	12	ug/L	10		6020A	Dissolved
Sodium	6600000		25000	190	ug/L	50		6020A	Dissolved
Nickel	11		10	1.7	ug/L	10		6020A	Dissolved
Lead	0.37	J B	10	0.19	ug/L	10		6020A	Dissolved
Antimony	0.27	J	20	0.19	ug/L	10		6020A	Dissolved
Selenium	77		50	4.2	ug/L	10		6020A	Dissolved
Thallium	0.22	J	10	0.15	ug/L	10		6020A	Dissolved
Zinc	25	J	50	9.6	ug/L	10		6020A	Dissolved
Manganese	260	B	50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	1.2		0.10	0.086	mg/L	1		350.1	Dissolved
Nitrate Nitrite as N	0.37		0.10	0.022	mg/L	1		353.2	Dissolved
Dissolved Organic Carbon - Duplicate	0.86	J	1.0	0.14	mg/L	1		SM 5310C	Dissolved
Nitrogen, Kjeldahl	2.2	J	5.0	1.7	mg/L	1		SM4500_NH3_E	Dissolved

Client Sample ID: TS-2MT-SET — Lab Sample ID: 180-43250-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	0.39	J	0.96	0.21	ug/L	1		8270D LL	Dissolved
alpha-BHC	0.0033		0.0012	0.00062	ug/L	1		8081B_LL	Dissolved
delta-BHC	0.0037	p	0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
Heptachlor epoxide	0.0017		0.0012	0.00092	ug/L	1		8081B_LL	Dissolved
PCB-66	6.6	p	0.94	0.12	ng/L	1		8082A	Dissolved
PCB-77	0.35	J p	0.94	0.15	ng/L	1		8082A	Dissolved
PCB-101	1.4	p	0.94	0.14	ng/L	1		8082A	Dissolved
PCB-195	0.47	J p	0.94	0.097	ng/L	1		8082A	Dissolved
DCB Decachlorobiphenyl	0.21	J p	0.94	0.099	ng/L	1		8082A	Dissolved
Aluminum	45	J B	300	26	ug/L	10		6020A	Dissolved
Arsenic	19		10	2.9	ug/L	10		6020A	Dissolved
Barium	22	J	100	0.98	ug/L	10		6020A	Dissolved
Calcium	270000	B	5000	28	ug/L	10		6020A	Dissolved
Cobalt	1.1	J	5.0	0.26	ug/L	10		6020A	Dissolved
Copper	3.1	J	20	2.4	ug/L	10		6020A	Dissolved
Potassium	250000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	790000		5000	12	ug/L	10		6020A	Dissolved
Sodium	7100000		25000	190	ug/L	50		6020A	Dissolved
Nickel	2.5	J	10	1.7	ug/L	10		6020A	Dissolved
Lead	0.78	J B	10	0.19	ug/L	10		6020A	Dissolved
Selenium	72		50	4.2	ug/L	10		6020A	Dissolved
Thallium	0.16	J	10	0.15	ug/L	10		6020A	Dissolved
Zinc	14	J	50	9.6	ug/L	10		6020A	Dissolved
Manganese	54	B	50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	0.10		0.10	0.086	mg/L	1		350.1	Dissolved
Dissolved Organic Carbon - Duplicate	0.91	J	1.0	0.14	mg/L	1		SM 5310C	Dissolved
Nitrogen, Kjeldahl	2.2	J	5.0	1.7	mg/L	1		SM4500_NH3_E	Dissolved

Client Sample ID: TS-2NT-SET — Lab Sample ID: 180-43250-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
alpha-BHC	0.0031		0.0012	0.00062	ug/L	1		8081B_LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-2NT-SET (Continued) — Lab Sample ID: 180-43250-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
delta-BHC	0.0080		0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
2,4'-DDD	0.00015	J p	0.0012	0.00015	ug/L	1		8081B_LL	Dissolved
2,4'-DDE	0.00041	J p	0.0012	0.00014	ug/L	1		8081B_LL	Dissolved
PCB-66	5.5	p	0.94	0.12	ng/L	1		8082A	Dissolved
PCB-156	0.13	J p	0.94	0.074	ng/L	1		8082A	Dissolved
PCB-170	0.22	J p	0.94	0.11	ng/L	1		8082A	Dissolved
PCB-180	0.086	J p	0.94	0.075	ng/L	1		8082A	Dissolved
PCB-184	0.54	J	0.94	0.13	ng/L	1		8082A	Dissolved
PCB-206	0.23	J	0.94	0.16	ng/L	1		8082A	Dissolved
Aluminum	35	J B	300	26	ug/L	10		6020A	Dissolved
Arsenic	8.8	J	10	2.9	ug/L	10		6020A	Dissolved
Barium	22	J	100	0.98	ug/L	10		6020A	Dissolved
Calcium	240000	B	5000	28	ug/L	10		6020A	Dissolved
Cobalt	0.79	J	5.0	0.26	ug/L	10		6020A	Dissolved
Copper	2.4	J	20	2.4	ug/L	10		6020A	Dissolved
Potassium	230000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	700000		5000	12	ug/L	10		6020A	Dissolved
Sodium	6200000		25000	190	ug/L	50		6020A	Dissolved
Nickel	2.5	J	10	1.7	ug/L	10		6020A	Dissolved
Lead	0.34	J B	10	0.19	ug/L	10		6020A	Dissolved
Selenium	31	J	50	4.2	ug/L	10		6020A	Dissolved
Zinc	17	J	50	9.6	ug/L	10		6020A	Dissolved
Manganese	200	B	50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	0.13		0.10	0.086	mg/L	1		350.1	Dissolved
Sulfide	1.3	J	3.0	0.59	mg/L	1		9034	Dissolved
Dissolved Organic Carbon - Duplicate	0.88	J	1.0	0.14	mg/L	1		SM 5310C	Dissolved

Client Sample ID: TS-2NB-SET — Lab Sample ID: 180-43250-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	0.42	J	1.0	0.22	ug/L	1		8270D LL	Dissolved
alpha-BHC	0.0023		0.0013	0.00063	ug/L	1		8081B_LL	Dissolved
delta-BHC	0.00065	J p	0.0013	0.00037	ug/L	1		8081B_LL	Dissolved
PCB-66	2.3	p F1	0.96	0.12	ng/L	1		8082A	Dissolved
PCB-156	0.080	J p	0.96	0.075	ng/L	1		8082A	Dissolved
Aluminum	100	J B	300	26	ug/L	10		6020A	Dissolved
Arsenic	15		10	2.9	ug/L	10		6020A	Dissolved
Barium	49	J	100	0.98	ug/L	10		6020A	Dissolved
Calcium	460000	B	5000	28	ug/L	10		6020A	Dissolved
Cobalt	8.4		5.0	0.26	ug/L	10		6020A	Dissolved
Copper	2.7	J	20	2.4	ug/L	10		6020A	Dissolved
Potassium	230000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	730000		5000	12	ug/L	10		6020A	Dissolved
Sodium	6300000		25000	190	ug/L	50		6020A	Dissolved
Nickel	19		10	1.7	ug/L	10		6020A	Dissolved
Lead	0.37	J B	10	0.19	ug/L	10		6020A	Dissolved
Selenium	60	F2	50	4.2	ug/L	10		6020A	Dissolved
Zinc	28	J	50	9.6	ug/L	10		6020A	Dissolved
Manganese	290	B	50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	2.4		0.10	0.086	mg/L	1		350.1	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-2NB-SET (Continued) — Lab Sample ID: 180-43250-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nitrate Nitrite as N	0.52		0.10	0.022	mg/L	1		353.2	Dissolved
Sulfide	0.78	J	3.0	0.59	mg/L	1		9034	Dissolved
Dissolved Organic Carbon - Duplicate	1.3	F1	1.0	0.14	mg/L	1		SM 5310C	Dissolved
Nitrogen, Kjeldahl	2.2	J	5.0	1.7	mg/L	1		SM4500_NH3_E	Dissolved

Client Sample ID: TS-3ST-SET — Lab Sample ID: 180-43250-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	0.34	J	1.0	0.22	ug/L	1		8270D LL	Dissolved
alpha-BHC	0.0038		0.0012	0.00062	ug/L	1		8081B_LL	Dissolved
delta-BHC	0.0029	p	0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
PCB-44	0.32	J p	0.94	0.073	ng/L	1		8082A	Dissolved
PCB-52	0.75	J p	0.94	0.14	ng/L	1		8082A	Dissolved
PCB-101	0.42	J p	0.94	0.14	ng/L	1		8082A	Dissolved
Aluminum	31	J B	300	26	ug/L	10		6020A	Dissolved
Arsenic	18		10	2.9	ug/L	10		6020A	Dissolved
Barium	18	J	100	0.98	ug/L	10		6020A	Dissolved
Calcium	300000	B	5000	28	ug/L	10		6020A	Dissolved
Cobalt	0.40	J	5.0	0.26	ug/L	10		6020A	Dissolved
Copper	2.8	J	20	2.4	ug/L	10		6020A	Dissolved
Potassium	270000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	780000		5000	12	ug/L	10		6020A	Dissolved
Sodium	7000000		25000	190	ug/L	50		6020A	Dissolved
Lead	0.59	J B	10	0.19	ug/L	10		6020A	Dissolved
Antimony	3.7	J	20	0.19	ug/L	10		6020A	Dissolved
Selenium	65		50	4.2	ug/L	10		6020A	Dissolved
Zinc	13	J	50	9.6	ug/L	10		6020A	Dissolved
Manganese	52	B	50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	0.46		0.10	0.086	mg/L	1		350.1	Dissolved
Sulfide	0.62	J	3.0	0.59	mg/L	1		9034	Dissolved
Dissolved Organic Carbon - Duplicate	0.63	J	1.0	0.14	mg/L	1		SM 5310C	Dissolved
Nitrogen, Kjeldahl	2.2	J	5.0	1.7	mg/L	1		SM4500_NH3_E	Dissolved

Client Sample ID: TS-3SB-SET — Lab Sample ID: 180-43250-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
alpha-BHC	0.0019		0.0012	0.00063	ug/L	1		8081B_LL	Dissolved
delta-BHC	0.00083	J p	0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
PCB-44	0.094	J p	0.95	0.073	ng/L	1		8082A	Dissolved
PCB-77	0.16	J p	0.95	0.15	ng/L	1		8082A	Dissolved
PCB-101	0.52	J p	0.95	0.14	ng/L	1		8082A	Dissolved
PCB-126	0.41	J p	0.95	0.30	ng/L	1		8082A	Dissolved
Aluminum	32	J B	300	26	ug/L	10		6020A	Dissolved
Arsenic	19		10	2.9	ug/L	10		6020A	Dissolved
Barium	67	J	100	0.98	ug/L	10		6020A	Dissolved
Calcium	460000	B	5000	28	ug/L	10		6020A	Dissolved
Cobalt	9.6		5.0	0.26	ug/L	10		6020A	Dissolved
Copper	3.2	J	20	2.4	ug/L	10		6020A	Dissolved
Potassium	240000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	740000		5000	12	ug/L	10		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-3SB-SET (Continued) — Lab Sample ID: 180-43250-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	6500000		25000	190	ug/L	50		6020A	Dissolved
Nickel	22		10	1.7	ug/L	10		6020A	Dissolved
Lead	0.28	J B	10	0.19	ug/L	10		6020A	Dissolved
Antimony	0.91	J	20	0.19	ug/L	10		6020A	Dissolved
Selenium	76		50	4.2	ug/L	10		6020A	Dissolved
Zinc	15	J	50	9.6	ug/L	10		6020A	Dissolved
Manganese	310	B	50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	3.8		0.10	0.086	mg/L	1		350.1	Dissolved
Sulfide	9.5		3.0	0.59	mg/L	1		9034	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		1.0	0.14	mg/L	1		SM 5310C	Dissolved
Nitrogen, Kjeldahl	6.6		5.0	1.7	mg/L	1		SM4500_NH3_E	Dissolved

Client Sample ID: TS-3NT-SET — Lab Sample ID: 180-43250-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	0.55	J	0.93	0.20	ug/L	1		8270D LL	Dissolved
alpha-BHC	0.0010	J p	0.0012	0.00063	ug/L	1		8081B_LL	Dissolved
delta-BHC	0.00049	J p	0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
PCB-49	0.48	J p	0.95	0.14	ng/L	1		8082A	Dissolved
PCB-66	0.30	J p	0.95	0.12	ng/L	1		8082A	Dissolved
PCB-77	0.16	J p	0.95	0.15	ng/L	1		8082A	Dissolved
PCB-101	0.55	J p	0.95	0.14	ng/L	1		8082A	Dissolved
Aluminum	30	J B	300	26	ug/L	10		6020A	Dissolved
Arsenic	16		10	2.9	ug/L	10		6020A	Dissolved
Barium	18	J	100	0.98	ug/L	10		6020A	Dissolved
Calcium	280000	B	5000	28	ug/L	10		6020A	Dissolved
Cobalt	0.53	J	5.0	0.26	ug/L	10		6020A	Dissolved
Copper	2.6	J	20	2.4	ug/L	10		6020A	Dissolved
Iron	68	J	500	61	ug/L	10		6020A	Dissolved
Potassium	250000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	700000		5000	12	ug/L	10		6020A	Dissolved
Sodium	6400000		25000	190	ug/L	50		6020A	Dissolved
Nickel	2.2	J	10	1.7	ug/L	10		6020A	Dissolved
Lead	0.32	J B	10	0.19	ug/L	10		6020A	Dissolved
Antimony	5.4	J	20	0.19	ug/L	10		6020A	Dissolved
Selenium	54		50	4.2	ug/L	10		6020A	Dissolved
Vanadium	2.2	J	10	0.82	ug/L	10		6020A	Dissolved
Zinc	14	J	50	9.6	ug/L	10		6020A	Dissolved
Manganese	100	B	50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	0.36		0.10	0.086	mg/L	1		350.1	Dissolved
Dissolved Organic Carbon - Duplicate	1.0		1.0	0.14	mg/L	1		SM 5310C	Dissolved
Nitrogen, Kjeldahl	2.2	J	5.0	1.7	mg/L	1		SM4500_NH3_E	Dissolved

Client Sample ID: TS-3NB-SET — Lab Sample ID: 180-43250-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
alpha-BHC	0.0025		0.0012	0.00063	ug/L	1		8081B_LL	Dissolved
delta-BHC	0.00038	J p	0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
PCB-44	0.15	J p	0.95	0.073	ng/L	1		8082A	Dissolved
PCB-77	0.15	J p	0.95	0.15	ng/L	1		8082A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-3NB-SET (Continued) — Lab Sample ID: 180-43250-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-101	0.32	J p	0.95	0.14	ng/L	1		8082A	Dissolved
Arsenic	10		10	2.9	ug/L	10		6020A	Dissolved
Barium	67	J	100	0.98	ug/L	10		6020A	Dissolved
Calcium	460000	B	5000	28	ug/L	10		6020A	Dissolved
Cobalt	8.1		5.0	0.26	ug/L	10		6020A	Dissolved
Iron	62	J	500	61	ug/L	10		6020A	Dissolved
Potassium	240000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	730000		5000	12	ug/L	10		6020A	Dissolved
Sodium	6200000		25000	190	ug/L	50		6020A	Dissolved
Nickel	20		10	1.7	ug/L	10		6020A	Dissolved
Antimony	0.57	J	20	0.19	ug/L	10		6020A	Dissolved
Selenium	37	J	50	4.2	ug/L	10		6020A	Dissolved
Manganese	260	B	50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	4.5		0.10	0.086	mg/L	1		350.1	Dissolved
Sulfide	9.8		3.0	0.59	mg/L	1		9034	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		1.0	0.14	mg/L	1		SM 5310C	Dissolved
Nitrogen, Kjeldahl	5.5		5.0	1.7	mg/L	1		SM4500_NH3_E	Dissolved

Client Sample ID: TS-4ST-SET — Lab Sample ID: 180-43250-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
alpha-BHC	0.00073	J p	0.0012	0.00063	ug/L	1		8081B_LL	Dissolved
delta-BHC	0.0013	p	0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
PCB-49	0.16	J p	0.95	0.14	ng/L	1		8082A	Dissolved
PCB-101	0.31	J p	0.95	0.14	ng/L	1		8082A	Dissolved
Arsenic	14		10	2.9	ug/L	10		6020A	Dissolved
Barium	21	J	100	0.98	ug/L	10		6020A	Dissolved
Calcium	310000	B	5000	28	ug/L	10		6020A	Dissolved
Cobalt	0.56	J	5.0	0.26	ug/L	10		6020A	Dissolved
Copper	2.6	J	20	2.4	ug/L	10		6020A	Dissolved
Potassium	250000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	750000		5000	12	ug/L	10		6020A	Dissolved
Sodium	6800000		25000	190	ug/L	50		6020A	Dissolved
Nickel	2.5	J	10	1.7	ug/L	10		6020A	Dissolved
Lead	0.25	J B	10	0.19	ug/L	10		6020A	Dissolved
Antimony	3.7	J	20	0.19	ug/L	10		6020A	Dissolved
Selenium	50		50	4.2	ug/L	10		6020A	Dissolved
Zinc	19	J	50	9.6	ug/L	10		6020A	Dissolved
Manganese	100	B	50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	0.71		0.10	0.086	mg/L	1		350.1	Dissolved
Sulfide	1.0	J	3.0	0.59	mg/L	1		9034	Dissolved
Dissolved Organic Carbon - Duplicate	0.90	J	1.0	0.14	mg/L	1		SM 5310C	Dissolved
Nitrogen, Kjeldahl	2.2	J	5.0	1.7	mg/L	1		SM4500_NH3_E	Dissolved

Client Sample ID: TS-4SB-SET — Lab Sample ID: 180-43250-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoranthene	0.059	J	0.19	0.020	ug/L	1		8270D LL	Dissolved
Pyrene	0.044	J	0.19	0.021	ug/L	1		8270D LL	Dissolved
Benzo[a]anthracene	0.058	J	0.19	0.034	ug/L	1		8270D LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-4SB-SET (Continued) — Lab Sample ID: 180-43250-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chrysene	0.080	J	0.19	0.029	ug/L	1		8270D LL	Dissolved
Benzo[b]fluoranthene	0.072	J	0.19	0.045	ug/L	1		8270D LL	Dissolved
Benzo[k]fluoranthene	0.038	J	0.19	0.028	ug/L	1		8270D LL	Dissolved
alpha-BHC	0.0022		0.0012	0.00063	ug/L	1		8081B_LL	Dissolved
delta-BHC	0.00043	J p	0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
PCB-8	3.9		0.95	0.31	ng/L	1		8082A	Dissolved
PCB-49	0.21	J p	0.95	0.14	ng/L	1		8082A	Dissolved
PCB-101	0.40	J	0.95	0.14	ng/L	1		8082A	Dissolved
Arsenic	19		10	2.9	ug/L	10		6020A	Dissolved
Barium	57	J	100	0.98	ug/L	10		6020A	Dissolved
Calcium	450000	B	5000	28	ug/L	10		6020A	Dissolved
Cobalt	6.7		5.0	0.26	ug/L	10		6020A	Dissolved
Iron	110	J	500	61	ug/L	10		6020A	Dissolved
Potassium	220000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	670000		5000	12	ug/L	10		6020A	Dissolved
Sodium	6100000		25000	190	ug/L	50		6020A	Dissolved
Nickel	16		10	1.7	ug/L	10		6020A	Dissolved
Antimony	0.41	J	20	0.19	ug/L	10		6020A	Dissolved
Selenium	69		50	4.2	ug/L	10		6020A	Dissolved
Manganese	230	B	50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	3.7		0.10	0.086	mg/L	1		350.1	Dissolved
Sulfide	1.0	J	3.0	0.59	mg/L	1		9034	Dissolved
Dissolved Organic Carbon - Duplicate	0.99	J	1.0	0.14	mg/L	1		SM 5310C	Dissolved
Nitrogen, Kjeldahl	4.9	J	5.0	1.7	mg/L	1		SM4500_NH3_E	Dissolved

Client Sample ID: TS-4MT-SET — Lab Sample ID: 180-43250-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
alpha-BHC	0.0032		0.0012	0.00062	ug/L	1		8081B_LL	Dissolved
delta-BHC	0.0018	p	0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
PCB-66	0.46	J p	0.95	0.12	ng/L	1		8082A	Dissolved
PCB-77	0.15	J p	0.95	0.15	ng/L	1		8082A	Dissolved
PCB-101	0.36	J p	0.95	0.14	ng/L	1		8082A	Dissolved
Aluminum	63	J	300	26	ug/L	10		6020A	Dissolved
Arsenic	12		10	2.9	ug/L	10		6020A	Dissolved
Barium	24	J	100	0.98	ug/L	10		6020A	Dissolved
Beryllium	0.51	J	10	0.37	ug/L	10		6020A	Dissolved
Calcium	360000		5000	28	ug/L	10		6020A	Dissolved
Cobalt	0.79	J	5.0	0.26	ug/L	10		6020A	Dissolved
Copper	3.1	J	20	2.4	ug/L	10		6020A	Dissolved
Iron	170	J	500	61	ug/L	10		6020A	Dissolved
Potassium	280000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	820000		5000	12	ug/L	10		6020A	Dissolved
Sodium	7500000	B	25000	190	ug/L	50		6020A	Dissolved
Nickel	4.0	J	10	1.7	ug/L	10		6020A	Dissolved
Lead	1.4	J	10	0.19	ug/L	10		6020A	Dissolved
Antimony	2.3	J	20	0.19	ug/L	10		6020A	Dissolved
Selenium	9.2	J	50	4.2	ug/L	10		6020A	Dissolved
Thallium	0.48	J	10	0.15	ug/L	10		6020A	Dissolved
Zinc	32	J	50	9.6	ug/L	10		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-4MT-SET (Continued) — Lab Sample ID: 180-43250-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	130		50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	0.51		0.10	0.086	mg/L	1		350.1	Dissolved
Sulfide	1.3	J	3.0	0.59	mg/L	1		9034	Dissolved
Dissolved Organic Carbon - Duplicate	1.5		1.0	0.14	mg/L	1		SM 5310C	Dissolved

Client Sample ID: TS-4NT-SET — Lab Sample ID: 180-43250-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
delta-BHC	0.0028	p	0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
PCB-49	1.1	p	0.94	0.14	ng/L	1		8082A	Dissolved
PCB-77	0.42	J p	0.94	0.15	ng/L	1		8082A	Dissolved
PCB-101	2.0	p	0.94	0.14	ng/L	1		8082A	Dissolved
PCB-126	1.1	p	0.94	0.30	ng/L	1		8082A	Dissolved
PCB-170	0.24	J	0.94	0.11	ng/L	1		8082A	Dissolved
PCB-180	0.14	J p	0.94	0.075	ng/L	1		8082A	Dissolved
Aluminum	34	J	300	26	ug/L	10		6020A	Dissolved
Arsenic	12		10	2.9	ug/L	10		6020A	Dissolved
Barium	62	J	100	0.98	ug/L	10		6020A	Dissolved
Calcium	290000		5000	28	ug/L	10		6020A	Dissolved
Cobalt	0.56	J	5.0	0.26	ug/L	10		6020A	Dissolved
Copper	2.6	J	20	2.4	ug/L	10		6020A	Dissolved
Iron	230	J	500	61	ug/L	10		6020A	Dissolved
Potassium	270000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	790000		5000	12	ug/L	10		6020A	Dissolved
Sodium	6500000	B	25000	190	ug/L	50		6020A	Dissolved
Nickel	4.0	J	10	1.7	ug/L	10		6020A	Dissolved
Antimony	0.82	J	20	0.19	ug/L	10		6020A	Dissolved
Selenium	9.5	J	50	4.2	ug/L	10		6020A	Dissolved
Thallium	0.34	J	10	0.15	ug/L	10		6020A	Dissolved
Vanadium	4.7	J	10	0.82	ug/L	10		6020A	Dissolved
Manganese	71		50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	3.5		0.10	0.086	mg/L	1		350.1	Dissolved
Sulfide	1.1	J	3.0	0.59	mg/L	1		9034	Dissolved
Dissolved Organic Carbon - Duplicate	1.7		1.0	0.14	mg/L	1		SM 5310C	Dissolved
Total Phosphorus as P	0.070	J	0.10	0.050	mg/L	1		SM4500 P E-1999	Dissolved
Nitrogen, Kjeldahl	3.8	J	5.0	1.7	mg/L	1		SM4500_NH3_E	Dissolved

Client Sample ID: TS-4NB-SET — Lab Sample ID: 180-43250-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	0.49	J	1.9	0.41	ug/L	1		8270D LL	Dissolved
alpha-BHC	0.0037		0.0012	0.00063	ug/L	1		8081B_LL	Dissolved
delta-BHC	0.0013	p	0.0012	0.00036	ug/L	1		8081B_LL	Dissolved
Chlordane (technical)	0.0070	J p	0.012	0.0016	ug/L	1		8081B_LL	Dissolved
PCB-49	0.83	J p	0.94	0.14	ng/L	1		8082A	Dissolved
PCB-126	0.85	J p	0.94	0.30	ng/L	1		8082A	Dissolved
PCB-170	0.15	J p	0.94	0.11	ng/L	1		8082A	Dissolved
Arsenic	11		10	2.9	ug/L	10		6020A	Dissolved
Barium	44	J	100	0.98	ug/L	10		6020A	Dissolved
Beryllium	0.40	J	10	0.37	ug/L	10		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: TS-4NB-SET (Continued) — Lab Sample ID: 180-43250-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	440000		5000	28	ug/L	10		6020A	Dissolved
Cobalt	3.1	J	5.0	0.26	ug/L	10		6020A	Dissolved
Copper	3.1	J	20	2.4	ug/L	10		6020A	Dissolved
Iron	220	J	500	61	ug/L	10		6020A	Dissolved
Potassium	240000		5000	58	ug/L	10		6020A	Dissolved
Magnesium	760000		5000	12	ug/L	10		6020A	Dissolved
Sodium	6100000	B	25000	190	ug/L	50		6020A	Dissolved
Nickel	10		10	1.7	ug/L	10		6020A	Dissolved
Antimony	0.61	J	20	0.19	ug/L	10		6020A	Dissolved
Selenium	11	J	50	4.2	ug/L	10		6020A	Dissolved
Thallium	0.21	J	10	0.15	ug/L	10		6020A	Dissolved
Manganese	190		50	0.39	ug/L	10		6020A	Dissolved
Ammonia, distilled	2.4		0.10	0.086	mg/L	1		350.1	Dissolved
Nitrate Nitrite as N	0.15		0.10	0.022	mg/L	1		353.2	Dissolved
Sulfide	1.3	J	3.0	0.59	mg/L	1		9034	Dissolved
Dissolved Organic Carbon - Duplicate	0.69	J	1.0	0.14	mg/L	1		SM 5310C	Dissolved
Nitrogen, Kjeldahl	2.7	J	5.0	1.7	mg/L	1		SM4500_NH3_E	Dissolved

Client Sample ID: SRM — Lab Sample ID: 180-43250-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	0.25	J	1.0	0.21	ug/L	1		8270D LL	Dissolved
Diethyl phthalate	0.39	J	1.0	0.30	ug/L	1		8270D LL	Dissolved
Naphthalene	2.3		0.20	0.023	ug/L	1		8270D LL	Dissolved
Acenaphthylene	1.2		0.20	0.022	ug/L	1		8270D LL	Dissolved
Acenaphthene	1.1		0.20	0.029	ug/L	1		8270D LL	Dissolved
Fluorene	1.0		0.20	0.024	ug/L	1		8270D LL	Dissolved
Phenanthrene	2.4		0.20	0.042	ug/L	1		8270D LL	Dissolved
Anthracene	0.70		0.20	0.019	ug/L	1		8270D LL	Dissolved
Fluoranthene	1.6		0.20	0.021	ug/L	1		8270D LL	Dissolved
Pyrene	1.9		0.20	0.023	ug/L	1		8270D LL	Dissolved
Benzo[a]anthracene	0.90		0.20	0.037	ug/L	1		8270D LL	Dissolved
Chrysene	1.8		0.20	0.031	ug/L	1		8270D LL	Dissolved
Benzo[b]fluoranthene	2.0		0.20	0.049	ug/L	1		8270D LL	Dissolved
Benzo[k]fluoranthene	0.89		0.20	0.030	ug/L	1		8270D LL	Dissolved
Benzo[a]pyrene	0.88		0.20	0.028	ug/L	1		8270D LL	Dissolved
Indeno[1,2,3-cd]pyrene	0.98		0.20	0.043	ug/L	1		8270D LL	Dissolved
Dibenz(a,h)anthracene	1.4		0.20	0.027	ug/L	1		8270D LL	Dissolved
Benzo[g,h,i]perylene	1.1		0.20	0.029	ug/L	1		8270D LL	Dissolved
Benzyl alcohol	2.2		1.0	0.20	ug/L	1		8270D LL	Dissolved
Aldrin	0.019		0.0026	0.0017	ug/L	1		8081B_LL	Dissolved
gamma-BHC (Lindane)	0.024		0.0026	0.0016	ug/L	1		8081B_LL	Dissolved
4,4'-DDD	0.023		0.0026	0.0013	ug/L	1		8081B_LL	Dissolved
4,4'-DDE	0.029		0.0026	0.0016	ug/L	1		8081B_LL	Dissolved
Dieldrin	0.048		0.0026	0.0016	ug/L	1		8081B_LL	Dissolved
2,4'-DDD	0.022	p	0.0026	0.00032	ug/L	1		8081B_LL	Dissolved
2,4'-DDE	0.021		0.0026	0.00030	ug/L	1		8081B_LL	Dissolved
2,4'-DDT	0.019		0.0026	0.00044	ug/L	1		8081B_LL	Dissolved
Heptachlor	0.025		0.0026	0.0020	ug/L	1		8081B_LL	Dissolved
Heptachlor epoxide	0.029		0.0026	0.0019	ug/L	1		8081B_LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: SRM (Continued)

Lab Sample ID: 180-43250-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mirex	0.032		0.0026	0.00096	ug/L	1		8081B_LL	Dissolved
4,4'-DDT - RA	0.036		0.0026	0.0015	ug/L	1		8081B_LL	Dissolved
PCB-8	21		1.0	0.32	ng/L	1		8082A	Dissolved
PCB-18	19		1.0	0.19	ng/L	1		8082A	Dissolved
PCB-28	20		1.0	0.23	ng/L	1		8082A	Dissolved
PCB-44	17		1.0	0.077	ng/L	1		8082A	Dissolved
PCB-52	18		1.0	0.15	ng/L	1		8082A	Dissolved
PCB-66	23		1.0	0.13	ng/L	1		8082A	Dissolved
PCB-77	24		1.0	0.16	ng/L	1		8082A	Dissolved
PCB-101	20		1.0	0.15	ng/L	1		8082A	Dissolved
PCB-105	22		1.0	0.079	ng/L	1		8082A	Dissolved
PCB-118	10	p	1.0	0.12	ng/L	1		8082A	Dissolved
PCB-126	19		1.0	0.32	ng/L	1		8082A	Dissolved
PCB-128	20		1.0	0.085	ng/L	1		8082A	Dissolved
PCB-138	19		1.0	0.15	ng/L	1		8082A	Dissolved
PCB-153	18		1.0	0.12	ng/L	1		8082A	Dissolved
PCB-170	20		1.0	0.11	ng/L	1		8082A	Dissolved
PCB-180	20		1.0	0.080	ng/L	1		8082A	Dissolved
PCB-187	18		1.0	0.40	ng/L	1		8082A	Dissolved
PCB-195	19		1.0	0.10	ng/L	1		8082A	Dissolved
PCB-206	16		1.0	0.17	ng/L	1		8082A	Dissolved
DCB Decachlorobiphenyl	18		1.0	0.11	ng/L	1		8082A	Dissolved

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-1-SET
Date Collected: 04/28/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-16
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		20	4.7	ug/L		05/04/15 11:59	05/08/15 18:13	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		05/04/15 11:59	05/08/15 18:13	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		05/04/15 11:59	05/08/15 18:13	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		05/04/15 11:59	05/08/15 18:13	1
Benzoic acid	ND		5.0	1.6	ug/L		05/04/15 11:59	05/08/15 18:13	1
Bis(2-chloroethyl)ether	ND		1.0	0.032	ug/L		05/04/15 11:59	05/08/15 18:13	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		05/04/15 11:59	05/08/15 18:13	1
Bis(2-ethylhexyl) phthalate	ND		2.0	0.44	ug/L		05/04/15 11:59	05/08/15 18:13	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		05/04/15 11:59	05/08/15 18:13	1
Butyl benzyl phthalate	**0.34**	**J**	1.0	0.21	ug/L		05/04/15 11:59	05/08/15 18:13	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		05/04/15 11:59	05/08/15 18:13	1
2-Chloronaphthalene	ND		0.20	0.031	ug/L		05/04/15 11:59	05/08/15 18:13	1
2-Chlorophenol	ND		1.0	0.23	ug/L		05/04/15 11:59	05/08/15 18:13	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		05/04/15 11:59	05/08/15 18:13	1
Di-n-butyl phthalate	ND		1.0	0.24	ug/L		05/04/15 11:59	05/08/15 18:13	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		05/04/15 11:59	05/08/15 18:13	1
2,4-Dichlorophenol	ND		1.0	0.067	ug/L		05/04/15 11:59	05/08/15 18:13	1
Diethyl phthalate	ND		1.0	0.30	ug/L		05/04/15 11:59	05/08/15 18:13	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		05/04/15 11:59	05/08/15 18:13	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		05/04/15 11:59	05/08/15 18:13	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		05/04/15 11:59	05/08/15 18:13	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		05/04/15 11:59	05/08/15 18:13	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		05/04/15 11:59	05/08/15 18:13	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		05/04/15 11:59	05/08/15 18:13	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.12	ug/L		05/04/15 11:59	05/08/15 18:13	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		05/04/15 11:59	05/08/15 18:13	1
Hexachlorobenzene	ND		1.0	0.061	ug/L		05/04/15 11:59	05/08/15 18:13	1
Hexachlorobutadiene	ND		1.0	0.094	ug/L		05/04/15 11:59	05/08/15 18:13	1
Hexachloroethane	ND		1.0	0.14	ug/L		05/04/15 11:59	05/08/15 18:13	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		05/04/15 11:59	05/08/15 18:13	1
Isophorone	ND		1.0	0.074	ug/L		05/04/15 11:59	05/08/15 18:13	1
2-Methylphenol	ND		1.0	0.19	ug/L		05/04/15 11:59	05/08/15 18:13	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		05/04/15 11:59	05/08/15 18:13	1
Nitrobenzene	ND		2.0	0.15	ug/L		05/04/15 11:59	05/08/15 18:13	1
2-Nitrophenol	ND		1.0	0.11	ug/L		05/04/15 11:59	05/08/15 18:13	1
4-Nitrophenol	ND		5.0	0.80	ug/L		05/04/15 11:59	05/08/15 18:13	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		05/04/15 11:59	05/08/15 18:13	1
N-Nitrosodimethylamine	ND		1.0	0.12	ug/L		05/04/15 11:59	05/08/15 18:13	1
N-Nitrosodi-n-propylamine	ND		1.0	0.050	ug/L		05/04/15 11:59	05/08/15 18:13	1
2,2'-oxybis[1-chloropropane]	ND		1.0	0.024	ug/L		05/04/15 11:59	05/08/15 18:13	1
Pentachlorophenol	ND		1.0	0.50	ug/L		05/04/15 11:59	05/08/15 18:13	1
Phenol	ND		1.0	0.055	ug/L		05/04/15 11:59	05/08/15 18:13	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		05/04/15 11:59	05/08/15 18:13	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		05/04/15 11:59	05/08/15 18:13	1
2-Methylnaphthalene	ND		0.20	0.019	ug/L		05/04/15 11:59	05/08/15 18:13	1
1-Methylnaphthalene	ND		0.20	0.031	ug/L		05/04/15 11:59	05/08/15 18:13	1
Naphthalene	ND		0.20	0.023	ug/L		05/04/15 11:59	05/08/15 18:13	1
Acenaphthylene	ND		0.20	0.022	ug/L		05/04/15 11:59	05/08/15 18:13	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-1-SET
Date Collected: 04/28/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-16
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.029	ug/L		05/04/15 11:59	05/08/15 18:13	1
Fluorene	ND		0.20	0.024	ug/L		05/04/15 11:59	05/08/15 18:13	1
Phenanthrene	ND		0.20	0.042	ug/L		05/04/15 11:59	05/08/15 18:13	1
Anthracene	ND		0.20	0.019	ug/L		05/04/15 11:59	05/08/15 18:13	1
Fluoranthene	ND		0.20	0.021	ug/L		05/04/15 11:59	05/08/15 18:13	1
Pyrene	ND		0.20	0.023	ug/L		05/04/15 11:59	05/08/15 18:13	1
Benzo[a]anthracene	ND		0.20	0.037	ug/L		05/04/15 11:59	05/08/15 18:13	1
Chrysene	ND		0.20	0.031	ug/L		05/04/15 11:59	05/08/15 18:13	1
Benzo[b]fluoranthene	ND		0.20	0.049	ug/L		05/04/15 11:59	05/08/15 18:13	1
Benzo[k]fluoranthene	ND		0.20	0.030	ug/L		05/04/15 11:59	05/08/15 18:13	1
Benzo[a]pyrene	ND		0.20	0.028	ug/L		05/04/15 11:59	05/08/15 18:13	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.043	ug/L		05/04/15 11:59	05/08/15 18:13	1
Dibenz(a,h)anthracene	ND		0.20	0.027	ug/L		05/04/15 11:59	05/08/15 18:13	1
Benzo[g,h,i]perylene	ND		0.20	0.029	ug/L		05/04/15 11:59	05/08/15 18:13	1
Benzyl alcohol	ND		1.0	0.20	ug/L		05/04/15 11:59	05/08/15 18:13	1
Dibenzofuran	ND		1.0	0.097	ug/L		05/04/15 11:59	05/08/15 18:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*55*		*28 - 109*	*05/04/15 11:59*	*05/08/15 18:13*	*1*
2-Fluorophenol (Surr)	*53*		*20 - 105*	*05/04/15 11:59*	*05/08/15 18:13*	*1*
2,4,6-Tribromophenol (Surr)	*63*		*30 - 118*	*05/04/15 11:59*	*05/08/15 18:13*	*1*
Nitrobenzene-d5 (Surr)	*55*		*27 - 114*	*05/04/15 11:59*	*05/08/15 18:13*	*1*
Phenol-d5 (Surr)	*60*		*25 - 105*	*05/04/15 11:59*	*05/08/15 18:13*	*1*
Terphenyl-d14 (Surr)	*65*		*20 - 118*	*05/04/15 11:59*	*05/08/15 18:13*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-2ST-SET
Date Collected: 04/28/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-17
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.6	ug/L		05/04/15 11:59	05/08/15 18:40	1
1,2-Dichlorobenzene	ND		0.96	0.10	ug/L		05/04/15 11:59	05/08/15 18:40	1
1,3-Dichlorobenzene	ND		0.96	0.072	ug/L		05/04/15 11:59	05/08/15 18:40	1
1,4-Dichlorobenzene	ND		0.96	0.16	ug/L		05/04/15 11:59	05/08/15 18:40	1
Benzoic acid	ND		4.8	1.6	ug/L		05/04/15 11:59	05/08/15 18:40	1
Bis(2-chloroethyl)ether	ND		0.96	0.030	ug/L		05/04/15 11:59	05/08/15 18:40	1
Bis(2-chloroethoxy)methane	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 18:40	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.42	ug/L		05/04/15 11:59	05/08/15 18:40	1
4-Bromophenyl phenyl ether	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 18:40	1
Butyl benzyl phthalate	**1.1**		0.96	0.21	ug/L		05/04/15 11:59	05/08/15 18:40	1
4-Chloro-3-methylphenol	ND		0.96	0.16	ug/L		05/04/15 11:59	05/08/15 18:40	1
2-Chloronaphthalene	ND		0.19	0.030	ug/L		05/04/15 11:59	05/08/15 18:40	1
2-Chlorophenol	ND		0.96	0.22	ug/L		05/04/15 11:59	05/08/15 18:40	1
4-Chlorophenyl phenyl ether	ND		0.96	0.077	ug/L		05/04/15 11:59	05/08/15 18:40	1
Di-n-butyl phthalate	ND		0.96	0.23	ug/L		05/04/15 11:59	05/08/15 18:40	1
3,3'-Dichlorobenzidine	ND		0.96	0.14	ug/L		05/04/15 11:59	05/08/15 18:40	1
2,4-Dichlorophenol	ND		0.96	0.065	ug/L		05/04/15 11:59	05/08/15 18:40	1
Diethyl phthalate	ND		0.96	0.29	ug/L		05/04/15 11:59	05/08/15 18:40	1
4,6-Dinitro-2-methylphenol	ND		4.8	1.5	ug/L		05/04/15 11:59	05/08/15 18:40	1
2,4-Dimethylphenol	ND		0.96	0.16	ug/L		05/04/15 11:59	05/08/15 18:40	1
Dimethyl phthalate	ND		0.96	0.18	ug/L		05/04/15 11:59	05/08/15 18:40	1
2,4-Dinitrophenol	ND		4.8	2.4	ug/L		05/04/15 11:59	05/08/15 18:40	1
2,4-Dinitrotoluene	ND		0.96	0.21	ug/L		05/04/15 11:59	05/08/15 18:40	1
2,6-Dinitrotoluene	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 18:40	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 18:40	1
Di-n-octyl phthalate	ND		0.96	0.20	ug/L		05/04/15 11:59	05/08/15 18:40	1
Hexachlorobenzene	ND		0.96	0.059	ug/L		05/04/15 11:59	05/08/15 18:40	1
Hexachlorobutadiene	ND		0.96	0.090	ug/L		05/04/15 11:59	05/08/15 18:40	1
Hexachloroethane	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 18:40	1
Hexachlorocyclopentadiene	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 18:40	1
Isophorone	ND		0.96	0.071	ug/L		05/04/15 11:59	05/08/15 18:40	1
2-Methylphenol	ND		0.96	0.18	ug/L		05/04/15 11:59	05/08/15 18:40	1
Methylphenol, 3 & 4	ND		0.96	0.20	ug/L		05/04/15 11:59	05/08/15 18:40	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/04/15 11:59	05/08/15 18:40	1
2-Nitrophenol	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 18:40	1
4-Nitrophenol	ND		4.8	0.77	ug/L		05/04/15 11:59	05/08/15 18:40	1
N-Nitrosodiphenylamine	ND		0.96	0.12	ug/L		05/04/15 11:59	05/08/15 18:40	1
N-Nitrosodimethylamine	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 18:40	1
N-Nitrosodi-n-propylamine	ND		0.96	0.048	ug/L		05/04/15 11:59	05/08/15 18:40	1
2,2'-oxybis[1-chloropropane]	ND		0.96	0.023	ug/L		05/04/15 11:59	05/08/15 18:40	1
Pentachlorophenol	ND		0.96	0.48	ug/L		05/04/15 11:59	05/08/15 18:40	1
Phenol	ND		0.96	0.053	ug/L		05/04/15 11:59	05/08/15 18:40	1
1,2,4-Trichlorobenzene	ND		0.96	0.082	ug/L		05/04/15 11:59	05/08/15 18:40	1
2,4,6-Trichlorophenol	ND		0.96	0.29	ug/L		05/04/15 11:59	05/08/15 18:40	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		05/04/15 11:59	05/08/15 18:40	1
1-Methylnaphthalene	ND		0.19	0.030	ug/L		05/04/15 11:59	05/08/15 18:40	1
Naphthalene	ND		0.19	0.022	ug/L		05/04/15 11:59	05/08/15 18:40	1
Acenaphthylene	ND		0.19	0.021	ug/L		05/04/15 11:59	05/08/15 18:40	1
Acenaphthene	ND		0.19	0.028	ug/L		05/04/15 11:59	05/08/15 18:40	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-2ST-SET
Date Collected: 04/28/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-17
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.023	ug/L		05/04/15 11:59	05/08/15 18:40	1
Phenanthrene	ND		0.19	0.040	ug/L		05/04/15 11:59	05/08/15 18:40	1
Anthracene	ND		0.19	0.018	ug/L		05/04/15 11:59	05/08/15 18:40	1
Fluoranthene	ND		0.19	0.020	ug/L		05/04/15 11:59	05/08/15 18:40	1
Pyrene	ND		0.19	0.022	ug/L		05/04/15 11:59	05/08/15 18:40	1
Benzo[a]anthracene	ND		0.19	0.035	ug/L		05/04/15 11:59	05/08/15 18:40	1
Chrysene	ND		0.19	0.030	ug/L		05/04/15 11:59	05/08/15 18:40	1
Benzo[b]fluoranthene	ND		0.19	0.047	ug/L		05/04/15 11:59	05/08/15 18:40	1
Benzo[k]fluoranthene	ND		0.19	0.029	ug/L		05/04/15 11:59	05/08/15 18:40	1
Benzo[a]pyrene	ND		0.19	0.027	ug/L		05/04/15 11:59	05/08/15 18:40	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.042	ug/L		05/04/15 11:59	05/08/15 18:40	1
Dibenz(a,h)anthracene	ND		0.19	0.026	ug/L		05/04/15 11:59	05/08/15 18:40	1
Benzo[g,h,i]perylene	ND		0.19	0.028	ug/L		05/04/15 11:59	05/08/15 18:40	1
Benzyl alcohol	ND		0.96	0.19	ug/L		05/04/15 11:59	05/08/15 18:40	1
Dibenzofuran	ND		0.96	0.093	ug/L		05/04/15 11:59	05/08/15 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*56*		*28 - 109*	*05/04/15 11:59*	*05/08/15 18:40*	*1*
2-Fluorophenol (Surr)	*51*		*20 - 105*	*05/04/15 11:59*	*05/08/15 18:40*	*1*
2,4,6-Tribromophenol (Surr)	*62*		*30 - 118*	*05/04/15 11:59*	*05/08/15 18:40*	*1*
Nitrobenzene-d5 (Surr)	*53*		*27 - 114*	*05/04/15 11:59*	*05/08/15 18:40*	*1*
Phenol-d5 (Surr)	*60*		*25 - 105*	*05/04/15 11:59*	*05/08/15 18:40*	*1*
Terphenyl-d14 (Surr)	*71*		*20 - 118*	*05/04/15 11:59*	*05/08/15 18:40*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-2SB-SET
Date Collected: 04/28/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-18
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.6	ug/L		05/04/15 11:59	05/08/15 19:07	1
1,2-Dichlorobenzene	ND		0.96	0.10	ug/L		05/04/15 11:59	05/08/15 19:07	1
1,3-Dichlorobenzene	ND		0.96	0.072	ug/L		05/04/15 11:59	05/08/15 19:07	1
1,4-Dichlorobenzene	ND		0.96	0.16	ug/L		05/04/15 11:59	05/08/15 19:07	1
Benzoic acid	ND		4.8	1.6	ug/L		05/04/15 11:59	05/08/15 19:07	1
Bis(2-chloroethyl)ether	ND		0.96	0.030	ug/L		05/04/15 11:59	05/08/15 19:07	1
Bis(2-chloroethoxy)methane	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 19:07	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.42	ug/L		05/04/15 11:59	05/08/15 19:07	1
4-Bromophenyl phenyl ether	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 19:07	1
Butyl benzyl phthalate	ND		0.96	0.21	ug/L		05/04/15 11:59	05/08/15 19:07	1
4-Chloro-3-methylphenol	ND		0.96	0.16	ug/L		05/04/15 11:59	05/08/15 19:07	1
2-Chloronaphthalene	ND		0.19	0.030	ug/L		05/04/15 11:59	05/08/15 19:07	1
2-Chlorophenol	ND		0.96	0.22	ug/L		05/04/15 11:59	05/08/15 19:07	1
4-Chlorophenyl phenyl ether	ND		0.96	0.077	ug/L		05/04/15 11:59	05/08/15 19:07	1
Di-n-butyl phthalate	ND		0.96	0.23	ug/L		05/04/15 11:59	05/08/15 19:07	1
3,3'-Dichlorobenzidine	ND		0.96	0.14	ug/L		05/04/15 11:59	05/08/15 19:07	1
2,4-Dichlorophenol	ND		0.96	0.065	ug/L		05/04/15 11:59	05/08/15 19:07	1
Diethyl phthalate	ND		0.96	0.29	ug/L		05/04/15 11:59	05/08/15 19:07	1
4,6-Dinitro-2-methylphenol	ND		4.8	1.5	ug/L		05/04/15 11:59	05/08/15 19:07	1
2,4-Dimethylphenol	ND		0.96	0.16	ug/L		05/04/15 11:59	05/08/15 19:07	1
Dimethyl phthalate	ND		0.96	0.18	ug/L		05/04/15 11:59	05/08/15 19:07	1
2,4-Dinitrophenol	ND		4.8	2.4	ug/L		05/04/15 11:59	05/08/15 19:07	1
2,4-Dinitrotoluene	ND		0.96	0.21	ug/L		05/04/15 11:59	05/08/15 19:07	1
2,6-Dinitrotoluene	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 19:07	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 19:07	1
Di-n-octyl phthalate	ND		0.96	0.20	ug/L		05/04/15 11:59	05/08/15 19:07	1
Hexachlorobenzene	ND		0.96	0.059	ug/L		05/04/15 11:59	05/08/15 19:07	1
Hexachlorobutadiene	ND		0.96	0.090	ug/L		05/04/15 11:59	05/08/15 19:07	1
Hexachloroethane	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 19:07	1
Hexachlorocyclopentadiene	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 19:07	1
Isophorone	ND		0.96	0.071	ug/L		05/04/15 11:59	05/08/15 19:07	1
2-Methylphenol	ND		0.96	0.18	ug/L		05/04/15 11:59	05/08/15 19:07	1
Methylphenol, 3 & 4	ND		0.96	0.20	ug/L		05/04/15 11:59	05/08/15 19:07	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/04/15 11:59	05/08/15 19:07	1
2-Nitrophenol	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 19:07	1
4-Nitrophenol	ND		4.8	0.77	ug/L		05/04/15 11:59	05/08/15 19:07	1
N-Nitrosodiphenylamine	ND		0.96	0.12	ug/L		05/04/15 11:59	05/08/15 19:07	1
N-Nitrosodimethylamine	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 19:07	1
N-Nitrosodi-n-propylamine	ND		0.96	0.048	ug/L		05/04/15 11:59	05/08/15 19:07	1
2,2'-oxybis[1-chloropropane]	ND		0.96	0.023	ug/L		05/04/15 11:59	05/08/15 19:07	1
Pentachlorophenol	ND		0.96	0.48	ug/L		05/04/15 11:59	05/08/15 19:07	1
Phenol	ND		0.96	0.053	ug/L		05/04/15 11:59	05/08/15 19:07	1
1,2,4-Trichlorobenzene	ND		0.96	0.082	ug/L		05/04/15 11:59	05/08/15 19:07	1
2,4,6-Trichlorophenol	ND		0.96	0.29	ug/L		05/04/15 11:59	05/08/15 19:07	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		05/04/15 11:59	05/08/15 19:07	1
1-Methylnaphthalene	ND		0.19	0.030	ug/L		05/04/15 11:59	05/08/15 19:07	1
Naphthalene	ND		0.19	0.022	ug/L		05/04/15 11:59	05/08/15 19:07	1
Acenaphthylene	ND		0.19	0.021	ug/L		05/04/15 11:59	05/08/15 19:07	1
Acenaphthene	ND		0.19	0.028	ug/L		05/04/15 11:59	05/08/15 19:07	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-2SB-SET
Date Collected: 04/28/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-18
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.023	ug/L		05/04/15 11:59	05/08/15 19:07	1
Phenanthrene	ND		0.19	0.040	ug/L		05/04/15 11:59	05/08/15 19:07	1
Anthracene	ND		0.19	0.018	ug/L		05/04/15 11:59	05/08/15 19:07	1
Fluoranthene	ND		0.19	0.020	ug/L		05/04/15 11:59	05/08/15 19:07	1
Pyrene	ND		0.19	0.022	ug/L		05/04/15 11:59	05/08/15 19:07	1
Benzo[a]anthracene	ND		0.19	0.035	ug/L		05/04/15 11:59	05/08/15 19:07	1
Chrysene	ND		0.19	0.030	ug/L		05/04/15 11:59	05/08/15 19:07	1
Benzo[b]fluoranthene	ND		0.19	0.047	ug/L		05/04/15 11:59	05/08/15 19:07	1
Benzo[k]fluoranthene	ND		0.19	0.029	ug/L		05/04/15 11:59	05/08/15 19:07	1
Benzo[a]pyrene	ND		0.19	0.027	ug/L		05/04/15 11:59	05/08/15 19:07	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.042	ug/L		05/04/15 11:59	05/08/15 19:07	1
Dibenz(a,h)anthracene	ND		0.19	0.026	ug/L		05/04/15 11:59	05/08/15 19:07	1
Benzo[g,h,i]perylene	ND		0.19	0.028	ug/L		05/04/15 11:59	05/08/15 19:07	1
Benzyl alcohol	ND		0.96	0.19	ug/L		05/04/15 11:59	05/08/15 19:07	1
Dibenzofuran	ND		0.96	0.093	ug/L		05/04/15 11:59	05/08/15 19:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*56*		*28 - 109*	*05/04/15 11:59*	*05/08/15 19:07*	*1*
2-Fluorophenol (Surr)	*53*		*20 - 105*	*05/04/15 11:59*	*05/08/15 19:07*	*1*
2,4,6-Tribromophenol (Surr)	*61*		*30 - 118*	*05/04/15 11:59*	*05/08/15 19:07*	*1*
Nitrobenzene-d5 (Surr)	*55*		*27 - 114*	*05/04/15 11:59*	*05/08/15 19:07*	*1*
Phenol-d5 (Surr)	*62*		*25 - 105*	*05/04/15 11:59*	*05/08/15 19:07*	*1*
Terphenyl-d14 (Surr)	*72*		*20 - 118*	*05/04/15 11:59*	*05/08/15 19:07*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-2MT-SET
Date Collected: 04/28/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-19
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.6	ug/L		05/04/15 11:59	05/08/15 19:33	1
1,2-Dichlorobenzene	ND		0.96	0.10	ug/L		05/04/15 11:59	05/08/15 19:33	1
1,3-Dichlorobenzene	ND		0.96	0.072	ug/L		05/04/15 11:59	05/08/15 19:33	1
1,4-Dichlorobenzene	ND		0.96	0.16	ug/L		05/04/15 11:59	05/08/15 19:33	1
Benzoic acid	ND		4.8	1.6	ug/L		05/04/15 11:59	05/08/15 19:33	1
Bis(2-chloroethyl)ether	ND		0.96	0.030	ug/L		05/04/15 11:59	05/08/15 19:33	1
Bis(2-chloroethoxy)methane	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 19:33	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.42	ug/L		05/04/15 11:59	05/08/15 19:33	1
4-Bromophenyl phenyl ether	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 19:33	1
Butyl benzyl phthalate	**0.39**	**J**	0.96	0.21	ug/L		05/04/15 11:59	05/08/15 19:33	1
4-Chloro-3-methylphenol	ND		0.96	0.16	ug/L		05/04/15 11:59	05/08/15 19:33	1
2-Chloronaphthalene	ND		0.19	0.030	ug/L		05/04/15 11:59	05/08/15 19:33	1
2-Chlorophenol	ND		0.96	0.22	ug/L		05/04/15 11:59	05/08/15 19:33	1
4-Chlorophenyl phenyl ether	ND		0.96	0.077	ug/L		05/04/15 11:59	05/08/15 19:33	1
Di-n-butyl phthalate	ND		0.96	0.23	ug/L		05/04/15 11:59	05/08/15 19:33	1
3,3'-Dichlorobenzidine	ND		0.96	0.14	ug/L		05/04/15 11:59	05/08/15 19:33	1
2,4-Dichlorophenol	ND		0.96	0.065	ug/L		05/04/15 11:59	05/08/15 19:33	1
Diethyl phthalate	ND		0.96	0.29	ug/L		05/04/15 11:59	05/08/15 19:33	1
4,6-Dinitro-2-methylphenol	ND		4.8	1.5	ug/L		05/04/15 11:59	05/08/15 19:33	1
2,4-Dimethylphenol	ND		0.96	0.16	ug/L		05/04/15 11:59	05/08/15 19:33	1
Dimethyl phthalate	ND		0.96	0.18	ug/L		05/04/15 11:59	05/08/15 19:33	1
2,4-Dinitrophenol	ND		4.8	2.4	ug/L		05/04/15 11:59	05/08/15 19:33	1
2,4-Dinitrotoluene	ND		0.96	0.21	ug/L		05/04/15 11:59	05/08/15 19:33	1
2,6-Dinitrotoluene	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 19:33	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 19:33	1
Di-n-octyl phthalate	ND		0.96	0.20	ug/L		05/04/15 11:59	05/08/15 19:33	1
Hexachlorobenzene	ND		0.96	0.059	ug/L		05/04/15 11:59	05/08/15 19:33	1
Hexachlorobutadiene	ND		0.96	0.090	ug/L		05/04/15 11:59	05/08/15 19:33	1
Hexachloroethane	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 19:33	1
Hexachlorocyclopentadiene	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 19:33	1
Isophorone	ND		0.96	0.071	ug/L		05/04/15 11:59	05/08/15 19:33	1
2-Methylphenol	ND		0.96	0.18	ug/L		05/04/15 11:59	05/08/15 19:33	1
Methylphenol, 3 & 4	ND		0.96	0.20	ug/L		05/04/15 11:59	05/08/15 19:33	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/04/15 11:59	05/08/15 19:33	1
2-Nitrophenol	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 19:33	1
4-Nitrophenol	ND		4.8	0.77	ug/L		05/04/15 11:59	05/08/15 19:33	1
N-Nitrosodiphenylamine	ND		0.96	0.12	ug/L		05/04/15 11:59	05/08/15 19:33	1
N-Nitrosodimethylamine	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 19:33	1
N-Nitrosodi-n-propylamine	ND		0.96	0.048	ug/L		05/04/15 11:59	05/08/15 19:33	1
2,2'-oxybis[1-chloropropane]	ND		0.96	0.023	ug/L		05/04/15 11:59	05/08/15 19:33	1
Pentachlorophenol	ND		0.96	0.48	ug/L		05/04/15 11:59	05/08/15 19:33	1
Phenol	ND		0.96	0.053	ug/L		05/04/15 11:59	05/08/15 19:33	1
1,2,4-Trichlorobenzene	ND		0.96	0.082	ug/L		05/04/15 11:59	05/08/15 19:33	1
2,4,6-Trichlorophenol	ND		0.96	0.29	ug/L		05/04/15 11:59	05/08/15 19:33	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		05/04/15 11:59	05/08/15 19:33	1
1-Methylnaphthalene	ND		0.19	0.030	ug/L		05/04/15 11:59	05/08/15 19:33	1
Naphthalene	ND		0.19	0.022	ug/L		05/04/15 11:59	05/08/15 19:33	1
Acenaphthylene	ND		0.19	0.021	ug/L		05/04/15 11:59	05/08/15 19:33	1
Acenaphthene	ND		0.19	0.028	ug/L		05/04/15 11:59	05/08/15 19:33	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-2MT-SET
Date Collected: 04/28/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-19
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.023	ug/L		05/04/15 11:59	05/08/15 19:33	1
Phenanthrene	ND		0.19	0.040	ug/L		05/04/15 11:59	05/08/15 19:33	1
Anthracene	ND		0.19	0.018	ug/L		05/04/15 11:59	05/08/15 19:33	1
Fluoranthene	ND		0.19	0.020	ug/L		05/04/15 11:59	05/08/15 19:33	1
Pyrene	ND		0.19	0.022	ug/L		05/04/15 11:59	05/08/15 19:33	1
Benzo[a]anthracene	ND		0.19	0.035	ug/L		05/04/15 11:59	05/08/15 19:33	1
Chrysene	ND		0.19	0.030	ug/L		05/04/15 11:59	05/08/15 19:33	1
Benzo[b]fluoranthene	ND		0.19	0.047	ug/L		05/04/15 11:59	05/08/15 19:33	1
Benzo[k]fluoranthene	ND		0.19	0.029	ug/L		05/04/15 11:59	05/08/15 19:33	1
Benzo[a]pyrene	ND		0.19	0.027	ug/L		05/04/15 11:59	05/08/15 19:33	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.042	ug/L		05/04/15 11:59	05/08/15 19:33	1
Dibenz(a,h)anthracene	ND		0.19	0.026	ug/L		05/04/15 11:59	05/08/15 19:33	1
Benzo[g,h,i]perylene	ND		0.19	0.028	ug/L		05/04/15 11:59	05/08/15 19:33	1
Benzyl alcohol	ND		0.96	0.19	ug/L		05/04/15 11:59	05/08/15 19:33	1
Dibenzofuran	ND		0.96	0.093	ug/L		05/04/15 11:59	05/08/15 19:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*61*		*28 - 109*	*05/04/15 11:59*	*05/08/15 19:33*	*1*
2-Fluorophenol (Surr)	*57*		*20 - 105*	*05/04/15 11:59*	*05/08/15 19:33*	*1*
2,4,6-Tribromophenol (Surr)	*67*		*30 - 118*	*05/04/15 11:59*	*05/08/15 19:33*	*1*
Nitrobenzene-d5 (Surr)	*60*		*27 - 114*	*05/04/15 11:59*	*05/08/15 19:33*	*1*
Phenol-d5 (Surr)	*64*		*25 - 105*	*05/04/15 11:59*	*05/08/15 19:33*	*1*
Terphenyl-d14 (Surr)	*74*		*20 - 118*	*05/04/15 11:59*	*05/08/15 19:33*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-2NT-SET
Date Collected: 04/28/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-20
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.6	ug/L		05/04/15 11:59	05/08/15 20:00	1
1,2-Dichlorobenzene	ND		0.96	0.10	ug/L		05/04/15 11:59	05/08/15 20:00	1
1,3-Dichlorobenzene	ND		0.96	0.072	ug/L		05/04/15 11:59	05/08/15 20:00	1
1,4-Dichlorobenzene	ND		0.96	0.16	ug/L		05/04/15 11:59	05/08/15 20:00	1
Benzoic acid	ND		4.8	1.6	ug/L		05/04/15 11:59	05/08/15 20:00	1
Bis(2-chloroethyl)ether	ND		0.96	0.030	ug/L		05/04/15 11:59	05/08/15 20:00	1
Bis(2-chloroethoxy)methane	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 20:00	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.42	ug/L		05/04/15 11:59	05/08/15 20:00	1
4-Bromophenyl phenyl ether	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 20:00	1
Butyl benzyl phthalate	ND		0.96	0.21	ug/L		05/04/15 11:59	05/08/15 20:00	1
4-Chloro-3-methylphenol	ND		0.96	0.16	ug/L		05/04/15 11:59	05/08/15 20:00	1
2-Chloronaphthalene	ND		0.19	0.030	ug/L		05/04/15 11:59	05/08/15 20:00	1
2-Chlorophenol	ND		0.96	0.22	ug/L		05/04/15 11:59	05/08/15 20:00	1
4-Chlorophenyl phenyl ether	ND		0.96	0.077	ug/L		05/04/15 11:59	05/08/15 20:00	1
Di-n-butyl phthalate	ND		0.96	0.23	ug/L		05/04/15 11:59	05/08/15 20:00	1
3,3'-Dichlorobenzidine	ND		0.96	0.14	ug/L		05/04/15 11:59	05/08/15 20:00	1
2,4-Dichlorophenol	ND		0.96	0.065	ug/L		05/04/15 11:59	05/08/15 20:00	1
Diethyl phthalate	ND		0.96	0.29	ug/L		05/04/15 11:59	05/08/15 20:00	1
4,6-Dinitro-2-methylphenol	ND		4.8	1.5	ug/L		05/04/15 11:59	05/08/15 20:00	1
2,4-Dimethylphenol	ND		0.96	0.16	ug/L		05/04/15 11:59	05/08/15 20:00	1
Dimethyl phthalate	ND		0.96	0.18	ug/L		05/04/15 11:59	05/08/15 20:00	1
2,4-Dinitrophenol	ND		4.8	2.4	ug/L		05/04/15 11:59	05/08/15 20:00	1
2,4-Dinitrotoluene	ND		0.96	0.21	ug/L		05/04/15 11:59	05/08/15 20:00	1
2,6-Dinitrotoluene	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 20:00	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 20:00	1
Di-n-octyl phthalate	ND		0.96	0.20	ug/L		05/04/15 11:59	05/08/15 20:00	1
Hexachlorobenzene	ND		0.96	0.059	ug/L		05/04/15 11:59	05/08/15 20:00	1
Hexachlorobutadiene	ND		0.96	0.090	ug/L		05/04/15 11:59	05/08/15 20:00	1
Hexachloroethane	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 20:00	1
Hexachlorocyclopentadiene	ND		0.96	0.13	ug/L		05/04/15 11:59	05/08/15 20:00	1
Isophorone	ND		0.96	0.071	ug/L		05/04/15 11:59	05/08/15 20:00	1
2-Methylphenol	ND		0.96	0.18	ug/L		05/04/15 11:59	05/08/15 20:00	1
Methylphenol, 3 & 4	ND		0.96	0.20	ug/L		05/04/15 11:59	05/08/15 20:00	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/04/15 11:59	05/08/15 20:00	1
2-Nitrophenol	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 20:00	1
4-Nitrophenol	ND		4.8	0.77	ug/L		05/04/15 11:59	05/08/15 20:00	1
N-Nitrosodiphenylamine	ND		0.96	0.12	ug/L		05/04/15 11:59	05/08/15 20:00	1
N-Nitrosodimethylamine	ND		0.96	0.11	ug/L		05/04/15 11:59	05/08/15 20:00	1
N-Nitrosodi-n-propylamine	ND		0.96	0.048	ug/L		05/04/15 11:59	05/08/15 20:00	1
2,2'-oxybis[1-chloropropane]	ND		0.96	0.023	ug/L		05/04/15 11:59	05/08/15 20:00	1
Pentachlorophenol	ND		0.96	0.48	ug/L		05/04/15 11:59	05/08/15 20:00	1
Phenol	ND		0.96	0.053	ug/L		05/04/15 11:59	05/08/15 20:00	1
1,2,4-Trichlorobenzene	ND		0.96	0.082	ug/L		05/04/15 11:59	05/08/15 20:00	1
2,4,6-Trichlorophenol	ND		0.96	0.29	ug/L		05/04/15 11:59	05/08/15 20:00	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		05/04/15 11:59	05/08/15 20:00	1
1-Methylnaphthalene	ND		0.19	0.030	ug/L		05/04/15 11:59	05/08/15 20:00	1
Naphthalene	ND		0.19	0.022	ug/L		05/04/15 11:59	05/08/15 20:00	1
Acenaphthylene	ND		0.19	0.021	ug/L		05/04/15 11:59	05/08/15 20:00	1
Acenaphthene	ND		0.19	0.028	ug/L		05/04/15 11:59	05/08/15 20:00	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-2NT-SET
Date Collected: 04/28/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-20
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.023	ug/L		05/04/15 11:59	05/08/15 20:00	1
Phenanthrene	ND		0.19	0.040	ug/L		05/04/15 11:59	05/08/15 20:00	1
Anthracene	ND		0.19	0.018	ug/L		05/04/15 11:59	05/08/15 20:00	1
Fluoranthene	ND		0.19	0.020	ug/L		05/04/15 11:59	05/08/15 20:00	1
Pyrene	ND		0.19	0.022	ug/L		05/04/15 11:59	05/08/15 20:00	1
Benzo[a]anthracene	ND		0.19	0.035	ug/L		05/04/15 11:59	05/08/15 20:00	1
Chrysene	ND		0.19	0.030	ug/L		05/04/15 11:59	05/08/15 20:00	1
Benzo[b]fluoranthene	ND		0.19	0.047	ug/L		05/04/15 11:59	05/08/15 20:00	1
Benzo[k]fluoranthene	ND		0.19	0.029	ug/L		05/04/15 11:59	05/08/15 20:00	1
Benzo[a]pyrene	ND		0.19	0.027	ug/L		05/04/15 11:59	05/08/15 20:00	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.042	ug/L		05/04/15 11:59	05/08/15 20:00	1
Dibenz(a,h)anthracene	ND		0.19	0.026	ug/L		05/04/15 11:59	05/08/15 20:00	1
Benzo[g,h,i]perylene	ND		0.19	0.028	ug/L		05/04/15 11:59	05/08/15 20:00	1
Benzyl alcohol	ND		0.96	0.19	ug/L		05/04/15 11:59	05/08/15 20:00	1
Dibenzofuran	ND		0.96	0.093	ug/L		05/04/15 11:59	05/08/15 20:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*28 - 109*	*05/04/15 11:59*	*05/08/15 20:00*	*1*
2-Fluorophenol (Surr)	*52*		*20 - 105*	*05/04/15 11:59*	*05/08/15 20:00*	*1*
2,4,6-Tribromophenol (Surr)	*57*		*30 - 118*	*05/04/15 11:59*	*05/08/15 20:00*	*1*
Nitrobenzene-d5 (Surr)	*54*		*27 - 114*	*05/04/15 11:59*	*05/08/15 20:00*	*1*
Phenol-d5 (Surr)	*59*		*25 - 105*	*05/04/15 11:59*	*05/08/15 20:00*	*1*
Terphenyl-d14 (Surr)	*63*		*20 - 118*	*05/04/15 11:59*	*05/08/15 20:00*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-2NB-SET
Date Collected: 04/28/15 12:15
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-21
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND	F1	21	4.9	ug/L		05/04/15 11:59	05/11/15 14:22	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		05/04/15 11:59	05/11/15 14:22	1
1,3-Dichlorobenzene	ND		1.0	0.078	ug/L		05/04/15 11:59	05/11/15 14:22	1
1,4-Dichlorobenzene	ND		1.0	0.17	ug/L		05/04/15 11:59	05/11/15 14:22	1
Benzoic acid	ND		5.2	1.7	ug/L		05/04/15 11:59	05/11/15 14:22	1
Bis(2-chloroethyl)ether	ND		1.0	0.033	ug/L		05/04/15 11:59	05/11/15 14:22	1
Bis(2-chloroethoxy)methane	ND		1.0	0.14	ug/L		05/04/15 11:59	05/11/15 14:22	1
Bis(2-ethylhexyl) phthalate	ND		2.1	0.46	ug/L		05/04/15 11:59	05/11/15 14:22	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		05/04/15 11:59	05/11/15 14:22	1
Butyl benzyl phthalate	**0.42**	**J**	1.0	0.22	ug/L		05/04/15 11:59	05/11/15 14:22	1
4-Chloro-3-methylphenol	ND		1.0	0.18	ug/L		05/04/15 11:59	05/11/15 14:22	1
2-Chloronaphthalene	ND		0.21	0.032	ug/L		05/04/15 11:59	05/11/15 14:22	1
2-Chlorophenol	ND		1.0	0.23	ug/L		05/04/15 11:59	05/11/15 14:22	1
4-Chlorophenyl phenyl ether	ND		1.0	0.083	ug/L		05/04/15 11:59	05/11/15 14:22	1
Di-n-butyl phthalate	ND		1.0	0.25	ug/L		05/04/15 11:59	05/11/15 14:22	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		05/04/15 11:59	05/11/15 14:22	1
2,4-Dichlorophenol	ND		1.0	0.070	ug/L		05/04/15 11:59	05/11/15 14:22	1
Diethyl phthalate	ND		1.0	0.31	ug/L		05/04/15 11:59	05/11/15 14:22	1
4,6-Dinitro-2-methylphenol	ND		5.2	1.6	ug/L		05/04/15 11:59	05/11/15 14:22	1
2,4-Dimethylphenol	ND		1.0	0.18	ug/L		05/04/15 11:59	05/11/15 14:22	1
Dimethyl phthalate	ND		1.0	0.19	ug/L		05/04/15 11:59	05/11/15 14:22	1
2,4-Dinitrophenol	ND		5.2	2.6	ug/L		05/04/15 11:59	05/11/15 14:22	1
2,4-Dinitrotoluene	ND		1.0	0.22	ug/L		05/04/15 11:59	05/11/15 14:22	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		05/04/15 11:59	05/11/15 14:22	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.12	ug/L		05/04/15 11:59	05/11/15 14:22	1
Di-n-octyl phthalate	ND	F1	1.0	0.21	ug/L		05/04/15 11:59	05/11/15 14:22	1
Hexachlorobenzene	ND		1.0	0.064	ug/L		05/04/15 11:59	05/11/15 14:22	1
Hexachlorobutadiene	ND		1.0	0.098	ug/L		05/04/15 11:59	05/11/15 14:22	1
Hexachloroethane	ND		1.0	0.14	ug/L		05/04/15 11:59	05/11/15 14:22	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		05/04/15 11:59	05/11/15 14:22	1
Isophorone	ND		1.0	0.077	ug/L		05/04/15 11:59	05/11/15 14:22	1
2-Methylphenol	ND		1.0	0.19	ug/L		05/04/15 11:59	05/11/15 14:22	1
Methylphenol, 3 & 4	ND		1.0	0.22	ug/L		05/04/15 11:59	05/11/15 14:22	1
Nitrobenzene	ND		2.1	0.16	ug/L		05/04/15 11:59	05/11/15 14:22	1
2-Nitrophenol	ND		1.0	0.12	ug/L		05/04/15 11:59	05/11/15 14:22	1
4-Nitrophenol	ND		5.2	0.84	ug/L		05/04/15 11:59	05/11/15 14:22	1
N-Nitrosodiphenylamine	ND		1.0	0.13	ug/L		05/04/15 11:59	05/11/15 14:22	1
N-Nitrosodimethylamine	ND		1.0	0.12	ug/L		05/04/15 11:59	05/11/15 14:22	1
N-Nitrosodi-n-propylamine	ND		1.0	0.052	ug/L		05/04/15 11:59	05/11/15 14:22	1
2,2'-oxybis[1-chloropropane]	ND		1.0	0.025	ug/L		05/04/15 11:59	05/11/15 14:22	1
Pentachlorophenol	ND		1.0	0.52	ug/L		05/04/15 11:59	05/11/15 14:22	1
Phenol	ND		1.0	0.058	ug/L		05/04/15 11:59	05/11/15 14:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.089	ug/L		05/04/15 11:59	05/11/15 14:22	1
2,4,6-Trichlorophenol	ND		1.0	0.31	ug/L		05/04/15 11:59	05/11/15 14:22	1
2-Methylnaphthalene	ND		0.21	0.020	ug/L		05/04/15 11:59	05/11/15 14:22	1
1-Methylnaphthalene	ND		0.21	0.032	ug/L		05/04/15 11:59	05/11/15 14:22	1
Naphthalene	ND		0.21	0.024	ug/L		05/04/15 11:59	05/11/15 14:22	1
Acenaphthylene	ND		0.21	0.022	ug/L		05/04/15 11:59	05/11/15 14:22	1
Acenaphthene	ND		0.21	0.030	ug/L		05/04/15 11:59	05/11/15 14:22	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-2NB-SET
Date Collected: 04/28/15 12:15
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-21
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.21	0.025	ug/L		05/04/15 11:59	05/11/15 14:22	1
Phenanthrene	ND		0.21	0.043	ug/L		05/04/15 11:59	05/11/15 14:22	1
Anthracene	ND		0.21	0.020	ug/L		05/04/15 11:59	05/11/15 14:22	1
Fluoranthene	ND		0.21	0.022	ug/L		05/04/15 11:59	05/11/15 14:22	1
Pyrene	ND		0.21	0.024	ug/L		05/04/15 11:59	05/11/15 14:22	1
Benzo[a]anthracene	ND		0.21	0.038	ug/L		05/04/15 11:59	05/11/15 14:22	1
Chrysene	ND		0.21	0.032	ug/L		05/04/15 11:59	05/11/15 14:22	1
Benzo[b]fluoranthene	ND		0.21	0.051	ug/L		05/04/15 11:59	05/11/15 14:22	1
Benzo[k]fluoranthene	ND		0.21	0.031	ug/L		05/04/15 11:59	05/11/15 14:22	1
Benzo[a]pyrene	ND		0.21	0.029	ug/L		05/04/15 11:59	05/11/15 14:22	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.045	ug/L		05/04/15 11:59	05/11/15 14:22	1
Dibenz(a,h)anthracene	ND		0.21	0.028	ug/L		05/04/15 11:59	05/11/15 14:22	1
Benzo[g,h,i]perylene	ND		0.21	0.030	ug/L		05/04/15 11:59	05/11/15 14:22	1
Benzyl alcohol	ND		1.0	0.21	ug/L		05/04/15 11:59	05/11/15 14:22	1
Dibenzofuran	ND		1.0	0.10	ug/L		05/04/15 11:59	05/11/15 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*53*		*28 - 109*	*05/04/15 11:59*	*05/11/15 14:22*	*1*
2-Fluorophenol (Surr)	*55*		*20 - 105*	*05/04/15 11:59*	*05/11/15 14:22*	*1*
2,4,6-Tribromophenol (Surr)	*57*		*30 - 118*	*05/04/15 11:59*	*05/11/15 14:22*	*1*
Nitrobenzene-d5 (Surr)	*56*		*27 - 114*	*05/04/15 11:59*	*05/11/15 14:22*	*1*
Phenol-d5 (Surr)	*65*		*25 - 105*	*05/04/15 11:59*	*05/11/15 14:22*	*1*
Terphenyl-d14 (Surr)	*63*		*20 - 118*	*05/04/15 11:59*	*05/11/15 14:22*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-3ST-SET
Date Collected: 04/28/15 12:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-22
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		21	4.9	ug/L		05/04/15 11:59	05/11/15 15:42	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		05/04/15 11:59	05/11/15 15:42	1
1,3-Dichlorobenzene	ND		1.0	0.078	ug/L		05/04/15 11:59	05/11/15 15:42	1
1,4-Dichlorobenzene	ND		1.0	0.17	ug/L		05/04/15 11:59	05/11/15 15:42	1
Benzoic acid	ND		5.2	1.7	ug/L		05/04/15 11:59	05/11/15 15:42	1
Bis(2-chloroethyl)ether	ND		1.0	0.033	ug/L		05/04/15 11:59	05/11/15 15:42	1
Bis(2-chloroethoxy)methane	ND		1.0	0.14	ug/L		05/04/15 11:59	05/11/15 15:42	1
Bis(2-ethylhexyl) phthalate	ND		2.1	0.46	ug/L		05/04/15 11:59	05/11/15 15:42	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		05/04/15 11:59	05/11/15 15:42	1
Butyl benzyl phthalate	**0.34**	**J**	1.0	0.22	ug/L		05/04/15 11:59	05/11/15 15:42	1
4-Chloro-3-methylphenol	ND		1.0	0.18	ug/L		05/04/15 11:59	05/11/15 15:42	1
2-Chloronaphthalene	ND		0.21	0.032	ug/L		05/04/15 11:59	05/11/15 15:42	1
2-Chlorophenol	ND		1.0	0.23	ug/L		05/04/15 11:59	05/11/15 15:42	1
4-Chlorophenyl phenyl ether	ND		1.0	0.083	ug/L		05/04/15 11:59	05/11/15 15:42	1
Di-n-butyl phthalate	ND		1.0	0.25	ug/L		05/04/15 11:59	05/11/15 15:42	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		05/04/15 11:59	05/11/15 15:42	1
2,4-Dichlorophenol	ND		1.0	0.070	ug/L		05/04/15 11:59	05/11/15 15:42	1
Diethyl phthalate	ND		1.0	0.31	ug/L		05/04/15 11:59	05/11/15 15:42	1
4,6-Dinitro-2-methylphenol	ND		5.2	1.6	ug/L		05/04/15 11:59	05/11/15 15:42	1
2,4-Dimethylphenol	ND		1.0	0.18	ug/L		05/04/15 11:59	05/11/15 15:42	1
Dimethyl phthalate	ND		1.0	0.19	ug/L		05/04/15 11:59	05/11/15 15:42	1
2,4-Dinitrophenol	ND		5.2	2.6	ug/L		05/04/15 11:59	05/11/15 15:42	1
2,4-Dinitrotoluene	ND		1.0	0.22	ug/L		05/04/15 11:59	05/11/15 15:42	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		05/04/15 11:59	05/11/15 15:42	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.12	ug/L		05/04/15 11:59	05/11/15 15:42	1
Di-n-octyl phthalate	ND		1.0	0.21	ug/L		05/04/15 11:59	05/11/15 15:42	1
Hexachlorobenzene	ND		1.0	0.064	ug/L		05/04/15 11:59	05/11/15 15:42	1
Hexachlorobutadiene	ND		1.0	0.098	ug/L		05/04/15 11:59	05/11/15 15:42	1
Hexachloroethane	ND		1.0	0.14	ug/L		05/04/15 11:59	05/11/15 15:42	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		05/04/15 11:59	05/11/15 15:42	1
Isophorone	ND		1.0	0.077	ug/L		05/04/15 11:59	05/11/15 15:42	1
2-Methylphenol	ND		1.0	0.19	ug/L		05/04/15 11:59	05/11/15 15:42	1
Methylphenol, 3 & 4	ND		1.0	0.22	ug/L		05/04/15 11:59	05/11/15 15:42	1
Nitrobenzene	ND		2.1	0.16	ug/L		05/04/15 11:59	05/11/15 15:42	1
2-Nitrophenol	ND		1.0	0.12	ug/L		05/04/15 11:59	05/11/15 15:42	1
4-Nitrophenol	ND		5.2	0.84	ug/L		05/04/15 11:59	05/11/15 15:42	1
N-Nitrosodiphenylamine	ND		1.0	0.13	ug/L		05/04/15 11:59	05/11/15 15:42	1
N-Nitrosodimethylamine	ND		1.0	0.12	ug/L		05/04/15 11:59	05/11/15 15:42	1
N-Nitrosodi-n-propylamine	ND		1.0	0.052	ug/L		05/04/15 11:59	05/11/15 15:42	1
2,2'-oxybis[1-chloropropane]	ND		1.0	0.025	ug/L		05/04/15 11:59	05/11/15 15:42	1
Pentachlorophenol	ND		1.0	0.52	ug/L		05/04/15 11:59	05/11/15 15:42	1
Phenol	ND		1.0	0.058	ug/L		05/04/15 11:59	05/11/15 15:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.089	ug/L		05/04/15 11:59	05/11/15 15:42	1
2,4,6-Trichlorophenol	ND		1.0	0.31	ug/L		05/04/15 11:59	05/11/15 15:42	1
2-Methylnaphthalene	ND		0.21	0.020	ug/L		05/04/15 11:59	05/11/15 15:42	1
1-Methylnaphthalene	ND		0.21	0.032	ug/L		05/04/15 11:59	05/11/15 15:42	1
Naphthalene	ND		0.21	0.024	ug/L		05/04/15 11:59	05/11/15 15:42	1
Acenaphthylene	ND		0.21	0.022	ug/L		05/04/15 11:59	05/11/15 15:42	1
Acenaphthene	ND		0.21	0.030	ug/L		05/04/15 11:59	05/11/15 15:42	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-3ST-SET
Date Collected: 04/28/15 12:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-22
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.21	0.025	ug/L		05/04/15 11:59	05/11/15 15:42	1
Phenanthrene	ND		0.21	0.043	ug/L		05/04/15 11:59	05/11/15 15:42	1
Anthracene	ND		0.21	0.020	ug/L		05/04/15 11:59	05/11/15 15:42	1
Fluoranthene	ND		0.21	0.022	ug/L		05/04/15 11:59	05/11/15 15:42	1
Pyrene	ND		0.21	0.024	ug/L		05/04/15 11:59	05/11/15 15:42	1
Benzo[a]anthracene	ND		0.21	0.038	ug/L		05/04/15 11:59	05/11/15 15:42	1
Chrysene	ND		0.21	0.032	ug/L		05/04/15 11:59	05/11/15 15:42	1
Benzo[b]fluoranthene	ND		0.21	0.051	ug/L		05/04/15 11:59	05/11/15 15:42	1
Benzo[k]fluoranthene	ND		0.21	0.031	ug/L		05/04/15 11:59	05/11/15 15:42	1
Benzo[a]pyrene	ND		0.21	0.029	ug/L		05/04/15 11:59	05/11/15 15:42	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.045	ug/L		05/04/15 11:59	05/11/15 15:42	1
Dibenz(a,h)anthracene	ND		0.21	0.028	ug/L		05/04/15 11:59	05/11/15 15:42	1
Benzo[g,h,i]perylene	ND		0.21	0.030	ug/L		05/04/15 11:59	05/11/15 15:42	1
Benzyl alcohol	ND		1.0	0.21	ug/L		05/04/15 11:59	05/11/15 15:42	1
Dibenzofuran	ND		1.0	0.10	ug/L		05/04/15 11:59	05/11/15 15:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*28 - 109*	*05/04/15 11:59*	*05/11/15 15:42*	*1*
2-Fluorophenol (Surr)	*58*		*20 - 105*	*05/04/15 11:59*	*05/11/15 15:42*	*1*
2,4,6-Tribromophenol (Surr)	*61*		*30 - 118*	*05/04/15 11:59*	*05/11/15 15:42*	*1*
Nitrobenzene-d5 (Surr)	*61*		*27 - 114*	*05/04/15 11:59*	*05/11/15 15:42*	*1*
Phenol-d5 (Surr)	*67*		*25 - 105*	*05/04/15 11:59*	*05/11/15 15:42*	*1*
Terphenyl-d14 (Surr)	*69*		*20 - 118*	*05/04/15 11:59*	*05/11/15 15:42*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-3SB-SET
Date Collected: 04/30/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-23
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.4	ug/L		05/06/15 12:13	05/12/15 13:10	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 13:10	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		05/06/15 12:13	05/12/15 13:10	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		05/06/15 12:13	05/12/15 13:10	1
Benzoic acid	ND		4.6	1.5	ug/L		05/06/15 12:13	05/12/15 13:10	1
Bis(2-chloroethyl)ether	ND		0.93	0.029	ug/L		05/06/15 12:13	05/12/15 13:10	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		05/06/15 12:13	05/12/15 13:10	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.41	ug/L		05/06/15 12:13	05/12/15 13:10	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 13:10	1
Butyl benzyl phthalate	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 13:10	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 13:10	1
2-Chloronaphthalene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 13:10	1
2-Chlorophenol	ND		0.93	0.21	ug/L		05/06/15 12:13	05/12/15 13:10	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		05/06/15 12:13	05/12/15 13:10	1
Di-n-butyl phthalate	ND		0.93	0.22	ug/L		05/06/15 12:13	05/12/15 13:10	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		05/06/15 12:13	05/12/15 13:10	1
2,4-Dichlorophenol	ND		0.93	0.062	ug/L		05/06/15 12:13	05/12/15 13:10	1
Diethyl phthalate	ND		0.93	0.27	ug/L		05/06/15 12:13	05/12/15 13:10	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		05/06/15 12:13	05/12/15 13:10	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 13:10	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 13:10	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		05/06/15 12:13	05/12/15 13:10	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 13:10	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 13:10	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 13:10	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 13:10	1
Hexachlorobenzene	ND		0.93	0.056	ug/L		05/06/15 12:13	05/12/15 13:10	1
Hexachlorobutadiene	ND		0.93	0.087	ug/L		05/06/15 12:13	05/12/15 13:10	1
Hexachloroethane	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 13:10	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 13:10	1
Isophorone	ND		0.93	0.068	ug/L		05/06/15 12:13	05/12/15 13:10	1
2-Methylphenol	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 13:10	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 13:10	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/06/15 12:13	05/12/15 13:10	1
2-Nitrophenol	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 13:10	1
4-Nitrophenol	ND		4.6	0.74	ug/L		05/06/15 12:13	05/12/15 13:10	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 13:10	1
N-Nitrosodimethylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 13:10	1
N-Nitrosodi-n-propylamine	ND		0.93	0.046	ug/L		05/06/15 12:13	05/12/15 13:10	1
2,2'-oxybis[1-chloropropane]	ND		0.93	0.022	ug/L		05/06/15 12:13	05/12/15 13:10	1
Pentachlorophenol	ND		0.93	0.46	ug/L		05/06/15 12:13	05/12/15 13:10	1
Phenol	ND		0.93	0.051	ug/L		05/06/15 12:13	05/12/15 13:10	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		05/06/15 12:13	05/12/15 13:10	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		05/06/15 12:13	05/12/15 13:10	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 13:10	1
1-Methylnaphthalene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 13:10	1
Naphthalene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 13:10	1
Acenaphthylene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 13:10	1
Acenaphthene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 13:10	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-3SB-SET
Date Collected: 04/30/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-23
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.022	ug/L		05/06/15 12:13	05/12/15 13:10	1
Phenanthrene	ND		0.19	0.038	ug/L		05/06/15 12:13	05/12/15 13:10	1
Anthracene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 13:10	1
Fluoranthene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 13:10	1
Pyrene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 13:10	1
Benzo[a]anthracene	ND		0.19	0.034	ug/L		05/06/15 12:13	05/12/15 13:10	1
Chrysene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 13:10	1
Benzo[b]fluoranthene	ND		0.19	0.045	ug/L		05/06/15 12:13	05/12/15 13:10	1
Benzo[k]fluoranthene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 13:10	1
Benzo[a]pyrene	ND		0.19	0.026	ug/L		05/06/15 12:13	05/12/15 13:10	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.040	ug/L		05/06/15 12:13	05/12/15 13:10	1
Dibenz(a,h)anthracene	ND		0.19	0.025	ug/L		05/06/15 12:13	05/12/15 13:10	1
Benzo[g,h,i]perylene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 13:10	1
Benzyl alcohol	ND		0.93	0.18	ug/L		05/06/15 12:13	05/12/15 13:10	1
Dibenzofuran	ND		0.93	0.089	ug/L		05/06/15 12:13	05/12/15 13:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*49*		*28 - 109*	*05/06/15 12:13*	*05/12/15 13:10*	*1*
2-Fluorophenol (Surr)	*49*		*20 - 105*	*05/06/15 12:13*	*05/12/15 13:10*	*1*
2,4,6-Tribromophenol (Surr)	*55*		*30 - 118*	*05/06/15 12:13*	*05/12/15 13:10*	*1*
Nitrobenzene-d5 (Surr)	*51*		*27 - 114*	*05/06/15 12:13*	*05/12/15 13:10*	*1*
Phenol-d5 (Surr)	*55*		*25 - 105*	*05/06/15 12:13*	*05/12/15 13:10*	*1*
Terphenyl-d14 (Surr)	*62*		*20 - 118*	*05/06/15 12:13*	*05/12/15 13:10*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-3NT-SET
Date Collected: 04/30/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-24
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.4	ug/L		05/06/15 12:13	05/12/15 13:36	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 13:36	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		05/06/15 12:13	05/12/15 13:36	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		05/06/15 12:13	05/12/15 13:36	1
Benzoic acid	ND		4.6	1.5	ug/L		05/06/15 12:13	05/12/15 13:36	1
Bis(2-chloroethyl)ether	ND		0.93	0.029	ug/L		05/06/15 12:13	05/12/15 13:36	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		05/06/15 12:13	05/12/15 13:36	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.41	ug/L		05/06/15 12:13	05/12/15 13:36	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 13:36	1
Butyl benzyl phthalate	**0.55**	**J**	0.93	0.20	ug/L		05/06/15 12:13	05/12/15 13:36	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 13:36	1
2-Chloronaphthalene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 13:36	1
2-Chlorophenol	ND		0.93	0.21	ug/L		05/06/15 12:13	05/12/15 13:36	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		05/06/15 12:13	05/12/15 13:36	1
Di-n-butyl phthalate	ND		0.93	0.22	ug/L		05/06/15 12:13	05/12/15 13:36	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		05/06/15 12:13	05/12/15 13:36	1
2,4-Dichlorophenol	ND		0.93	0.062	ug/L		05/06/15 12:13	05/12/15 13:36	1
Diethyl phthalate	ND		0.93	0.27	ug/L		05/06/15 12:13	05/12/15 13:36	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		05/06/15 12:13	05/12/15 13:36	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 13:36	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 13:36	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		05/06/15 12:13	05/12/15 13:36	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 13:36	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 13:36	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 13:36	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 13:36	1
Hexachlorobenzene	ND		0.93	0.056	ug/L		05/06/15 12:13	05/12/15 13:36	1
Hexachlorobutadiene	ND		0.93	0.087	ug/L		05/06/15 12:13	05/12/15 13:36	1
Hexachloroethane	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 13:36	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 13:36	1
Isophorone	ND		0.93	0.068	ug/L		05/06/15 12:13	05/12/15 13:36	1
2-Methylphenol	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 13:36	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 13:36	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/06/15 12:13	05/12/15 13:36	1
2-Nitrophenol	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 13:36	1
4-Nitrophenol	ND		4.6	0.74	ug/L		05/06/15 12:13	05/12/15 13:36	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 13:36	1
N-Nitrosodimethylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 13:36	1
N-Nitrosodi-n-propylamine	ND		0.93	0.046	ug/L		05/06/15 12:13	05/12/15 13:36	1
2,2'-oxybis[1-chloropropane]	ND		0.93	0.022	ug/L		05/06/15 12:13	05/12/15 13:36	1
Pentachlorophenol	ND		0.93	0.46	ug/L		05/06/15 12:13	05/12/15 13:36	1
Phenol	ND		0.93	0.051	ug/L		05/06/15 12:13	05/12/15 13:36	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		05/06/15 12:13	05/12/15 13:36	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		05/06/15 12:13	05/12/15 13:36	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 13:36	1
1-Methylnaphthalene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 13:36	1
Naphthalene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 13:36	1
Acenaphthylene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 13:36	1
Acenaphthene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 13:36	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-3NT-SET
Date Collected: 04/30/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-24
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.022	ug/L		05/06/15 12:13	05/12/15 13:36	1
Phenanthrene	ND		0.19	0.038	ug/L		05/06/15 12:13	05/12/15 13:36	1
Anthracene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 13:36	1
Fluoranthene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 13:36	1
Pyrene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 13:36	1
Benzo[a]anthracene	ND		0.19	0.034	ug/L		05/06/15 12:13	05/12/15 13:36	1
Chrysene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 13:36	1
Benzo[b]fluoranthene	ND		0.19	0.045	ug/L		05/06/15 12:13	05/12/15 13:36	1
Benzo[k]fluoranthene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 13:36	1
Benzo[a]pyrene	ND		0.19	0.026	ug/L		05/06/15 12:13	05/12/15 13:36	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.040	ug/L		05/06/15 12:13	05/12/15 13:36	1
Dibenz(a,h)anthracene	ND		0.19	0.025	ug/L		05/06/15 12:13	05/12/15 13:36	1
Benzo[g,h,i]perylene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 13:36	1
Benzyl alcohol	ND		0.93	0.18	ug/L		05/06/15 12:13	05/12/15 13:36	1
Dibenzofuran	ND		0.93	0.089	ug/L		05/06/15 12:13	05/12/15 13:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*56*		*28 - 109*	*05/06/15 12:13*	*05/12/15 13:36*	*1*
2-Fluorophenol (Surr)	*54*		*20 - 105*	*05/06/15 12:13*	*05/12/15 13:36*	*1*
2,4,6-Tribromophenol (Surr)	*58*		*30 - 118*	*05/06/15 12:13*	*05/12/15 13:36*	*1*
Nitrobenzene-d5 (Surr)	*60*		*27 - 114*	*05/06/15 12:13*	*05/12/15 13:36*	*1*
Phenol-d5 (Surr)	*62*		*25 - 105*	*05/06/15 12:13*	*05/12/15 13:36*	*1*
Terphenyl-d14 (Surr)	*62*		*20 - 118*	*05/06/15 12:13*	*05/12/15 13:36*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-3NB-SET
Date Collected: 04/30/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-25
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.4	ug/L		05/06/15 12:13	05/12/15 14:03	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 14:03	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		05/06/15 12:13	05/12/15 14:03	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		05/06/15 12:13	05/12/15 14:03	1
Benzoic acid	ND		4.6	1.5	ug/L		05/06/15 12:13	05/12/15 14:03	1
Bis(2-chloroethyl)ether	ND		0.93	0.029	ug/L		05/06/15 12:13	05/12/15 14:03	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		05/06/15 12:13	05/12/15 14:03	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.41	ug/L		05/06/15 12:13	05/12/15 14:03	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 14:03	1
Butyl benzyl phthalate	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 14:03	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 14:03	1
2-Chloronaphthalene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 14:03	1
2-Chlorophenol	ND		0.93	0.21	ug/L		05/06/15 12:13	05/12/15 14:03	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		05/06/15 12:13	05/12/15 14:03	1
Di-n-butyl phthalate	ND		0.93	0.22	ug/L		05/06/15 12:13	05/12/15 14:03	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		05/06/15 12:13	05/12/15 14:03	1
2,4-Dichlorophenol	ND		0.93	0.062	ug/L		05/06/15 12:13	05/12/15 14:03	1
Diethyl phthalate	ND		0.93	0.27	ug/L		05/06/15 12:13	05/12/15 14:03	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		05/06/15 12:13	05/12/15 14:03	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 14:03	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 14:03	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		05/06/15 12:13	05/12/15 14:03	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 14:03	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 14:03	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 14:03	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 14:03	1
Hexachlorobenzene	ND		0.93	0.056	ug/L		05/06/15 12:13	05/12/15 14:03	1
Hexachlorobutadiene	ND		0.93	0.087	ug/L		05/06/15 12:13	05/12/15 14:03	1
Hexachloroethane	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 14:03	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 14:03	1
Isophorone	ND		0.93	0.068	ug/L		05/06/15 12:13	05/12/15 14:03	1
2-Methylphenol	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 14:03	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 14:03	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/06/15 12:13	05/12/15 14:03	1
2-Nitrophenol	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 14:03	1
4-Nitrophenol	ND		4.6	0.74	ug/L		05/06/15 12:13	05/12/15 14:03	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 14:03	1
N-Nitrosodimethylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 14:03	1
N-Nitrosodi-n-propylamine	ND		0.93	0.046	ug/L		05/06/15 12:13	05/12/15 14:03	1
2,2'-oxybis[1-chloropropane]	ND		0.93	0.022	ug/L		05/06/15 12:13	05/12/15 14:03	1
Pentachlorophenol	ND		0.93	0.46	ug/L		05/06/15 12:13	05/12/15 14:03	1
Phenol	ND		0.93	0.051	ug/L		05/06/15 12:13	05/12/15 14:03	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		05/06/15 12:13	05/12/15 14:03	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		05/06/15 12:13	05/12/15 14:03	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 14:03	1
1-Methylnaphthalene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 14:03	1
Naphthalene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 14:03	1
Acenaphthylene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 14:03	1
Acenaphthene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 14:03	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-3NB-SET
Date Collected: 04/30/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-25
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.022	ug/L		05/06/15 12:13	05/12/15 14:03	1
Phenanthrene	ND		0.19	0.038	ug/L		05/06/15 12:13	05/12/15 14:03	1
Anthracene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 14:03	1
Fluoranthene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 14:03	1
Pyrene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 14:03	1
Benzo[a]anthracene	ND		0.19	0.034	ug/L		05/06/15 12:13	05/12/15 14:03	1
Chrysene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 14:03	1
Benzo[b]fluoranthene	ND		0.19	0.045	ug/L		05/06/15 12:13	05/12/15 14:03	1
Benzo[k]fluoranthene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 14:03	1
Benzo[a]pyrene	ND		0.19	0.026	ug/L		05/06/15 12:13	05/12/15 14:03	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.040	ug/L		05/06/15 12:13	05/12/15 14:03	1
Dibenz(a,h)anthracene	ND		0.19	0.025	ug/L		05/06/15 12:13	05/12/15 14:03	1
Benzo[g,h,i]perylene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 14:03	1
Benzyl alcohol	ND		0.93	0.18	ug/L		05/06/15 12:13	05/12/15 14:03	1
Dibenzofuran	ND		0.93	0.089	ug/L		05/06/15 12:13	05/12/15 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*28 - 109*	*05/06/15 12:13*	*05/12/15 14:03*	*1*
2-Fluorophenol (Surr)	*52*		*20 - 105*	*05/06/15 12:13*	*05/12/15 14:03*	*1*
2,4,6-Tribromophenol (Surr)	*53*		*30 - 118*	*05/06/15 12:13*	*05/12/15 14:03*	*1*
Nitrobenzene-d5 (Surr)	*53*		*27 - 114*	*05/06/15 12:13*	*05/12/15 14:03*	*1*
Phenol-d5 (Surr)	*57*		*25 - 105*	*05/06/15 12:13*	*05/12/15 14:03*	*1*
Terphenyl-d14 (Surr)	*58*		*20 - 118*	*05/06/15 12:13*	*05/12/15 14:03*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-4ST-SET
Date Collected: 04/30/15 12:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-26
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.4	ug/L		05/06/15 12:13	05/12/15 14:30	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 14:30	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		05/06/15 12:13	05/12/15 14:30	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		05/06/15 12:13	05/12/15 14:30	1
Benzoic acid	ND		4.6	1.5	ug/L		05/06/15 12:13	05/12/15 14:30	1
Bis(2-chloroethyl)ether	ND		0.93	0.029	ug/L		05/06/15 12:13	05/12/15 14:30	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		05/06/15 12:13	05/12/15 14:30	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.41	ug/L		05/06/15 12:13	05/12/15 14:30	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 14:30	1
Butyl benzyl phthalate	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 14:30	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 14:30	1
2-Chloronaphthalene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 14:30	1
2-Chlorophenol	ND		0.93	0.21	ug/L		05/06/15 12:13	05/12/15 14:30	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		05/06/15 12:13	05/12/15 14:30	1
Di-n-butyl phthalate	ND		0.93	0.22	ug/L		05/06/15 12:13	05/12/15 14:30	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		05/06/15 12:13	05/12/15 14:30	1
2,4-Dichlorophenol	ND		0.93	0.062	ug/L		05/06/15 12:13	05/12/15 14:30	1
Diethyl phthalate	ND		0.93	0.27	ug/L		05/06/15 12:13	05/12/15 14:30	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		05/06/15 12:13	05/12/15 14:30	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 14:30	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 14:30	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		05/06/15 12:13	05/12/15 14:30	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 14:30	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 14:30	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 14:30	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 14:30	1
Hexachlorobenzene	ND		0.93	0.056	ug/L		05/06/15 12:13	05/12/15 14:30	1
Hexachlorobutadiene	ND		0.93	0.087	ug/L		05/06/15 12:13	05/12/15 14:30	1
Hexachloroethane	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 14:30	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 14:30	1
Isophorone	ND		0.93	0.068	ug/L		05/06/15 12:13	05/12/15 14:30	1
2-Methylphenol	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 14:30	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 14:30	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/06/15 12:13	05/12/15 14:30	1
2-Nitrophenol	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 14:30	1
4-Nitrophenol	ND		4.6	0.74	ug/L		05/06/15 12:13	05/12/15 14:30	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 14:30	1
N-Nitrosodimethylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 14:30	1
N-Nitrosodi-n-propylamine	ND		0.93	0.046	ug/L		05/06/15 12:13	05/12/15 14:30	1
2,2'-oxybis[1-chloropropane]	ND		0.93	0.022	ug/L		05/06/15 12:13	05/12/15 14:30	1
Pentachlorophenol	ND		0.93	0.46	ug/L		05/06/15 12:13	05/12/15 14:30	1
Phenol	ND		0.93	0.051	ug/L		05/06/15 12:13	05/12/15 14:30	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		05/06/15 12:13	05/12/15 14:30	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		05/06/15 12:13	05/12/15 14:30	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 14:30	1
1-Methylnaphthalene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 14:30	1
Naphthalene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 14:30	1
Acenaphthylene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 14:30	1
Acenaphthene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 14:30	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-4ST-SET
Date Collected: 04/30/15 12:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-26
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.022	ug/L		05/06/15 12:13	05/12/15 14:30	1
Phenanthrene	ND		0.19	0.038	ug/L		05/06/15 12:13	05/12/15 14:30	1
Anthracene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 14:30	1
Fluoranthene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 14:30	1
Pyrene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 14:30	1
Benzo[a]anthracene	ND		0.19	0.034	ug/L		05/06/15 12:13	05/12/15 14:30	1
Chrysene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 14:30	1
Benzo[b]fluoranthene	ND		0.19	0.045	ug/L		05/06/15 12:13	05/12/15 14:30	1
Benzo[k]fluoranthene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 14:30	1
Benzo[a]pyrene	ND		0.19	0.026	ug/L		05/06/15 12:13	05/12/15 14:30	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.040	ug/L		05/06/15 12:13	05/12/15 14:30	1
Dibenz(a,h)anthracene	ND		0.19	0.025	ug/L		05/06/15 12:13	05/12/15 14:30	1
Benzo[g,h,i]perylene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 14:30	1
Benzyl alcohol	ND		0.93	0.18	ug/L		05/06/15 12:13	05/12/15 14:30	1
Dibenzofuran	ND		0.93	0.089	ug/L		05/06/15 12:13	05/12/15 14:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*28 - 109*	*05/06/15 12:13*	*05/12/15 14:30*	*1*
2-Fluorophenol (Surr)	*60*		*20 - 105*	*05/06/15 12:13*	*05/12/15 14:30*	*1*
2,4,6-Tribromophenol (Surr)	*60*		*30 - 118*	*05/06/15 12:13*	*05/12/15 14:30*	*1*
Nitrobenzene-d5 (Surr)	*62*		*27 - 114*	*05/06/15 12:13*	*05/12/15 14:30*	*1*
Phenol-d5 (Surr)	*65*		*25 - 105*	*05/06/15 12:13*	*05/12/15 14:30*	*1*
Terphenyl-d14 (Surr)	*66*		*20 - 118*	*05/06/15 12:13*	*05/12/15 14:30*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-4SB-SET
Date Collected: 04/30/15 12:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-27
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.4	ug/L		05/06/15 12:13	05/12/15 14:57	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 14:57	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		05/06/15 12:13	05/12/15 14:57	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		05/06/15 12:13	05/12/15 14:57	1
Benzoic acid	ND		4.6	1.5	ug/L		05/06/15 12:13	05/12/15 14:57	1
Bis(2-chloroethyl)ether	ND		0.93	0.029	ug/L		05/06/15 12:13	05/12/15 14:57	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		05/06/15 12:13	05/12/15 14:57	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.41	ug/L		05/06/15 12:13	05/12/15 14:57	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 14:57	1
Butyl benzyl phthalate	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 14:57	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 14:57	1
2-Chloronaphthalene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 14:57	1
2-Chlorophenol	ND		0.93	0.21	ug/L		05/06/15 12:13	05/12/15 14:57	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		05/06/15 12:13	05/12/15 14:57	1
Di-n-butyl phthalate	ND		0.93	0.22	ug/L		05/06/15 12:13	05/12/15 14:57	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		05/06/15 12:13	05/12/15 14:57	1
2,4-Dichlorophenol	ND		0.93	0.062	ug/L		05/06/15 12:13	05/12/15 14:57	1
Diethyl phthalate	ND		0.93	0.27	ug/L		05/06/15 12:13	05/12/15 14:57	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		05/06/15 12:13	05/12/15 14:57	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 14:57	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 14:57	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		05/06/15 12:13	05/12/15 14:57	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 14:57	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 14:57	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 14:57	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 14:57	1
Hexachlorobenzene	ND		0.93	0.056	ug/L		05/06/15 12:13	05/12/15 14:57	1
Hexachlorobutadiene	ND		0.93	0.087	ug/L		05/06/15 12:13	05/12/15 14:57	1
Hexachloroethane	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 14:57	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 14:57	1
Isophorone	ND		0.93	0.068	ug/L		05/06/15 12:13	05/12/15 14:57	1
2-Methylphenol	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 14:57	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 14:57	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/06/15 12:13	05/12/15 14:57	1
2-Nitrophenol	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 14:57	1
4-Nitrophenol	ND		4.6	0.74	ug/L		05/06/15 12:13	05/12/15 14:57	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 14:57	1
N-Nitrosodimethylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 14:57	1
N-Nitrosodi-n-propylamine	ND		0.93	0.046	ug/L		05/06/15 12:13	05/12/15 14:57	1
2,2'-oxybis[1-chloropropane]	ND		0.93	0.022	ug/L		05/06/15 12:13	05/12/15 14:57	1
Pentachlorophenol	ND		0.93	0.46	ug/L		05/06/15 12:13	05/12/15 14:57	1
Phenol	ND		0.93	0.051	ug/L		05/06/15 12:13	05/12/15 14:57	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		05/06/15 12:13	05/12/15 14:57	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		05/06/15 12:13	05/12/15 14:57	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 14:57	1
1-Methylnaphthalene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 14:57	1
Naphthalene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 14:57	1
Acenaphthylene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 14:57	1
Acenaphthene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 14:57	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-4SB-SET
Date Collected: 04/30/15 12:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-27
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.022	ug/L		05/06/15 12:13	05/12/15 14:57	1
Phenanthrene	ND		0.19	0.038	ug/L		05/06/15 12:13	05/12/15 14:57	1
Anthracene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 14:57	1
Fluoranthene	**0.059**	**J**	0.19	0.020	ug/L		05/06/15 12:13	05/12/15 14:57	1
Pyrene	**0.044**	**J**	0.19	0.021	ug/L		05/06/15 12:13	05/12/15 14:57	1
Benzo[a]anthracene	**0.058**	**J**	0.19	0.034	ug/L		05/06/15 12:13	05/12/15 14:57	1
Chrysene	**0.080**	**J**	0.19	0.029	ug/L		05/06/15 12:13	05/12/15 14:57	1
Benzo[b]fluoranthene	**0.072**	**J**	0.19	0.045	ug/L		05/06/15 12:13	05/12/15 14:57	1
Benzo[k]fluoranthene	**0.038**	**J**	0.19	0.028	ug/L		05/06/15 12:13	05/12/15 14:57	1
Benzo[a]pyrene	ND		0.19	0.026	ug/L		05/06/15 12:13	05/12/15 14:57	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.040	ug/L		05/06/15 12:13	05/12/15 14:57	1
Dibenz(a,h)anthracene	ND		0.19	0.025	ug/L		05/06/15 12:13	05/12/15 14:57	1
Benzo[g,h,i]perylene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 14:57	1
Benzyl alcohol	ND		0.93	0.18	ug/L		05/06/15 12:13	05/12/15 14:57	1
Dibenzofuran	ND		0.93	0.089	ug/L		05/06/15 12:13	05/12/15 14:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*28 - 109*	*05/06/15 12:13*	*05/12/15 14:57*	*1*
2-Fluorophenol (Surr)	*61*		*20 - 105*	*05/06/15 12:13*	*05/12/15 14:57*	*1*
2,4,6-Tribromophenol (Surr)	*63*		*30 - 118*	*05/06/15 12:13*	*05/12/15 14:57*	*1*
Nitrobenzene-d5 (Surr)	*64*		*27 - 114*	*05/06/15 12:13*	*05/12/15 14:57*	*1*
Phenol-d5 (Surr)	*68*		*25 - 105*	*05/06/15 12:13*	*05/12/15 14:57*	*1*
Terphenyl-d14 (Surr)	*69*		*20 - 118*	*05/06/15 12:13*	*05/12/15 14:57*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-4MT-SET
Date Collected: 05/01/15 09:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-28
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.4	ug/L		05/06/15 12:13	05/12/15 15:23	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 15:23	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		05/06/15 12:13	05/12/15 15:23	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		05/06/15 12:13	05/12/15 15:23	1
Benzoic acid	ND		4.6	1.5	ug/L		05/06/15 12:13	05/12/15 15:23	1
Bis(2-chloroethyl)ether	ND		0.93	0.029	ug/L		05/06/15 12:13	05/12/15 15:23	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		05/06/15 12:13	05/12/15 15:23	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.41	ug/L		05/06/15 12:13	05/12/15 15:23	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 15:23	1
Butyl benzyl phthalate	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 15:23	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 15:23	1
2-Chloronaphthalene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 15:23	1
2-Chlorophenol	ND		0.93	0.21	ug/L		05/06/15 12:13	05/12/15 15:23	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		05/06/15 12:13	05/12/15 15:23	1
Di-n-butyl phthalate	ND		0.93	0.22	ug/L		05/06/15 12:13	05/12/15 15:23	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		05/06/15 12:13	05/12/15 15:23	1
2,4-Dichlorophenol	ND		0.93	0.062	ug/L		05/06/15 12:13	05/12/15 15:23	1
Diethyl phthalate	ND		0.93	0.27	ug/L		05/06/15 12:13	05/12/15 15:23	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		05/06/15 12:13	05/12/15 15:23	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 15:23	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 15:23	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		05/06/15 12:13	05/12/15 15:23	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 15:23	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 15:23	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 15:23	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 15:23	1
Hexachlorobenzene	ND		0.93	0.056	ug/L		05/06/15 12:13	05/12/15 15:23	1
Hexachlorobutadiene	ND		0.93	0.087	ug/L		05/06/15 12:13	05/12/15 15:23	1
Hexachloroethane	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 15:23	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 15:23	1
Isophorone	ND		0.93	0.068	ug/L		05/06/15 12:13	05/12/15 15:23	1
2-Methylphenol	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 15:23	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 15:23	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/06/15 12:13	05/12/15 15:23	1
2-Nitrophenol	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 15:23	1
4-Nitrophenol	ND		4.6	0.74	ug/L		05/06/15 12:13	05/12/15 15:23	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 15:23	1
N-Nitrosodimethylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 15:23	1
N-Nitrosodi-n-propylamine	ND		0.93	0.046	ug/L		05/06/15 12:13	05/12/15 15:23	1
2,2'-oxybis[1-chloropropane]	ND		0.93	0.022	ug/L		05/06/15 12:13	05/12/15 15:23	1
Pentachlorophenol	ND		0.93	0.46	ug/L		05/06/15 12:13	05/12/15 15:23	1
Phenol	ND		0.93	0.051	ug/L		05/06/15 12:13	05/12/15 15:23	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		05/06/15 12:13	05/12/15 15:23	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		05/06/15 12:13	05/12/15 15:23	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 15:23	1
1-Methylnaphthalene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 15:23	1
Naphthalene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 15:23	1
Acenaphthylene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 15:23	1
Acenaphthene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 15:23	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-4MT-SET
Date Collected: 05/01/15 09:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-28
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.022	ug/L		05/06/15 12:13	05/12/15 15:23	1
Phenanthrene	ND		0.19	0.038	ug/L		05/06/15 12:13	05/12/15 15:23	1
Anthracene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 15:23	1
Fluoranthene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 15:23	1
Pyrene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 15:23	1
Benzo[a]anthracene	ND		0.19	0.034	ug/L		05/06/15 12:13	05/12/15 15:23	1
Chrysene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 15:23	1
Benzo[b]fluoranthene	ND		0.19	0.045	ug/L		05/06/15 12:13	05/12/15 15:23	1
Benzo[k]fluoranthene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 15:23	1
Benzo[a]pyrene	ND		0.19	0.026	ug/L		05/06/15 12:13	05/12/15 15:23	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.040	ug/L		05/06/15 12:13	05/12/15 15:23	1
Dibenz(a,h)anthracene	ND		0.19	0.025	ug/L		05/06/15 12:13	05/12/15 15:23	1
Benzo[g,h,i]perylene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 15:23	1
Benzyl alcohol	ND		0.93	0.18	ug/L		05/06/15 12:13	05/12/15 15:23	1
Dibenzofuran	ND		0.93	0.089	ug/L		05/06/15 12:13	05/12/15 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*28 - 109*	*05/06/15 12:13*	*05/12/15 15:23*	*1*
2-Fluorophenol (Surr)	*53*		*20 - 105*	*05/06/15 12:13*	*05/12/15 15:23*	*1*
2,4,6-Tribromophenol (Surr)	*55*		*30 - 118*	*05/06/15 12:13*	*05/12/15 15:23*	*1*
Nitrobenzene-d5 (Surr)	*53*		*27 - 114*	*05/06/15 12:13*	*05/12/15 15:23*	*1*
Phenol-d5 (Surr)	*57*		*25 - 105*	*05/06/15 12:13*	*05/12/15 15:23*	*1*
Terphenyl-d14 (Surr)	*54*		*20 - 118*	*05/06/15 12:13*	*05/12/15 15:23*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-4NT-SET
Date Collected: 05/01/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-29
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.4	ug/L		05/06/15 12:13	05/12/15 15:50	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 15:50	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		05/06/15 12:13	05/12/15 15:50	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		05/06/15 12:13	05/12/15 15:50	1
Benzoic acid	ND		4.6	1.5	ug/L		05/06/15 12:13	05/12/15 15:50	1
Bis(2-chloroethyl)ether	ND		0.93	0.029	ug/L		05/06/15 12:13	05/12/15 15:50	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		05/06/15 12:13	05/12/15 15:50	1
Bis(2-ethylhexyl) phthalate	ND		1.9	0.41	ug/L		05/06/15 12:13	05/12/15 15:50	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 15:50	1
Butyl benzyl phthalate	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 15:50	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 15:50	1
2-Chloronaphthalene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 15:50	1
2-Chlorophenol	ND		0.93	0.21	ug/L		05/06/15 12:13	05/12/15 15:50	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		05/06/15 12:13	05/12/15 15:50	1
Di-n-butyl phthalate	ND		0.93	0.22	ug/L		05/06/15 12:13	05/12/15 15:50	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		05/06/15 12:13	05/12/15 15:50	1
2,4-Dichlorophenol	ND		0.93	0.062	ug/L		05/06/15 12:13	05/12/15 15:50	1
Diethyl phthalate	ND		0.93	0.27	ug/L		05/06/15 12:13	05/12/15 15:50	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		05/06/15 12:13	05/12/15 15:50	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 15:50	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 15:50	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		05/06/15 12:13	05/12/15 15:50	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 15:50	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 15:50	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 15:50	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 15:50	1
Hexachlorobenzene	ND		0.93	0.056	ug/L		05/06/15 12:13	05/12/15 15:50	1
Hexachlorobutadiene	ND		0.93	0.087	ug/L		05/06/15 12:13	05/12/15 15:50	1
Hexachloroethane	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 15:50	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 15:50	1
Isophorone	ND		0.93	0.068	ug/L		05/06/15 12:13	05/12/15 15:50	1
2-Methylphenol	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 15:50	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 15:50	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/06/15 12:13	05/12/15 15:50	1
2-Nitrophenol	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 15:50	1
4-Nitrophenol	ND		4.6	0.74	ug/L		05/06/15 12:13	05/12/15 15:50	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 15:50	1
N-Nitrosodimethylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 15:50	1
N-Nitrosodi-n-propylamine	ND		0.93	0.046	ug/L		05/06/15 12:13	05/12/15 15:50	1
2,2'-oxybis[1-chloropropane]	ND		0.93	0.022	ug/L		05/06/15 12:13	05/12/15 15:50	1
Pentachlorophenol	ND		0.93	0.46	ug/L		05/06/15 12:13	05/12/15 15:50	1
Phenol	ND		0.93	0.051	ug/L		05/06/15 12:13	05/12/15 15:50	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		05/06/15 12:13	05/12/15 15:50	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		05/06/15 12:13	05/12/15 15:50	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 15:50	1
1-Methylnaphthalene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 15:50	1
Naphthalene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 15:50	1
Acenaphthylene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 15:50	1
Acenaphthene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 15:50	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-4NT-SET
Date Collected: 05/01/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-29
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.022	ug/L		05/06/15 12:13	05/12/15 15:50	1
Phenanthrene	ND		0.19	0.038	ug/L		05/06/15 12:13	05/12/15 15:50	1
Anthracene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 15:50	1
Fluoranthene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 15:50	1
Pyrene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 15:50	1
Benzo[a]anthracene	ND		0.19	0.034	ug/L		05/06/15 12:13	05/12/15 15:50	1
Chrysene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 15:50	1
Benzo[b]fluoranthene	ND		0.19	0.045	ug/L		05/06/15 12:13	05/12/15 15:50	1
Benzo[k]fluoranthene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 15:50	1
Benzo[a]pyrene	ND		0.19	0.026	ug/L		05/06/15 12:13	05/12/15 15:50	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.040	ug/L		05/06/15 12:13	05/12/15 15:50	1
Dibenz(a,h)anthracene	ND		0.19	0.025	ug/L		05/06/15 12:13	05/12/15 15:50	1
Benzo[g,h,i]perylene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 15:50	1
Benzyl alcohol	ND		0.93	0.18	ug/L		05/06/15 12:13	05/12/15 15:50	1
Dibenzofuran	ND		0.93	0.089	ug/L		05/06/15 12:13	05/12/15 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*28 - 109*	*05/06/15 12:13*	*05/12/15 15:50*	*1*
2-Fluorophenol (Surr)	*57*		*20 - 105*	*05/06/15 12:13*	*05/12/15 15:50*	*1*
2,4,6-Tribromophenol (Surr)	*57*		*30 - 118*	*05/06/15 12:13*	*05/12/15 15:50*	*1*
Nitrobenzene-d5 (Surr)	*57*		*27 - 114*	*05/06/15 12:13*	*05/12/15 15:50*	*1*
Phenol-d5 (Surr)	*62*		*25 - 105*	*05/06/15 12:13*	*05/12/15 15:50*	*1*
Terphenyl-d14 (Surr)	*61*		*20 - 118*	*05/06/15 12:13*	*05/12/15 15:50*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: TS-4NB-SET
Date Collected: 05/01/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-30
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.4	ug/L		05/06/15 12:13	05/12/15 16:17	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 16:17	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		05/06/15 12:13	05/12/15 16:17	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		05/06/15 12:13	05/12/15 16:17	1
Benzoic acid	ND		4.6	1.5	ug/L		05/06/15 12:13	05/12/15 16:17	1
Bis(2-chloroethyl)ether	ND		0.93	0.029	ug/L		05/06/15 12:13	05/12/15 16:17	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		05/06/15 12:13	05/12/15 16:17	1
Bis(2-ethylhexyl) phthalate	**0.49**	**J**	1.9	0.41	ug/L		05/06/15 12:13	05/12/15 16:17	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 16:17	1
Butyl benzyl phthalate	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 16:17	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 16:17	1
2-Chloronaphthalene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 16:17	1
2-Chlorophenol	ND		0.93	0.21	ug/L		05/06/15 12:13	05/12/15 16:17	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		05/06/15 12:13	05/12/15 16:17	1
Di-n-butyl phthalate	ND		0.93	0.22	ug/L		05/06/15 12:13	05/12/15 16:17	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		05/06/15 12:13	05/12/15 16:17	1
2,4-Dichlorophenol	ND		0.93	0.062	ug/L		05/06/15 12:13	05/12/15 16:17	1
Diethyl phthalate	ND		0.93	0.27	ug/L		05/06/15 12:13	05/12/15 16:17	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		05/06/15 12:13	05/12/15 16:17	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		05/06/15 12:13	05/12/15 16:17	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 16:17	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		05/06/15 12:13	05/12/15 16:17	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		05/06/15 12:13	05/12/15 16:17	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 16:17	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 16:17	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 16:17	1
Hexachlorobenzene	ND		0.93	0.056	ug/L		05/06/15 12:13	05/12/15 16:17	1
Hexachlorobutadiene	ND		0.93	0.087	ug/L		05/06/15 12:13	05/12/15 16:17	1
Hexachloroethane	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 16:17	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		05/06/15 12:13	05/12/15 16:17	1
Isophorone	ND		0.93	0.068	ug/L		05/06/15 12:13	05/12/15 16:17	1
2-Methylphenol	ND		0.93	0.17	ug/L		05/06/15 12:13	05/12/15 16:17	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		05/06/15 12:13	05/12/15 16:17	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/06/15 12:13	05/12/15 16:17	1
2-Nitrophenol	ND		0.93	0.10	ug/L		05/06/15 12:13	05/12/15 16:17	1
4-Nitrophenol	ND		4.6	0.74	ug/L		05/06/15 12:13	05/12/15 16:17	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 16:17	1
N-Nitrosodimethylamine	ND		0.93	0.11	ug/L		05/06/15 12:13	05/12/15 16:17	1
N-Nitrosodi-n-propylamine	ND		0.93	0.046	ug/L		05/06/15 12:13	05/12/15 16:17	1
2,2'-oxybis[1-chloropropane]	ND		0.93	0.022	ug/L		05/06/15 12:13	05/12/15 16:17	1
Pentachlorophenol	ND		0.93	0.46	ug/L		05/06/15 12:13	05/12/15 16:17	1
Phenol	ND		0.93	0.051	ug/L		05/06/15 12:13	05/12/15 16:17	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		05/06/15 12:13	05/12/15 16:17	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		05/06/15 12:13	05/12/15 16:17	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 16:17	1
1-Methylnaphthalene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 16:17	1
Naphthalene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 16:17	1
Acenaphthylene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 16:17	1
Acenaphthene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 16:17	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: TS-4NB-SET
Date Collected: 05/01/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-30
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.19	0.022	ug/L		05/06/15 12:13	05/12/15 16:17	1
Phenanthrene	ND		0.19	0.038	ug/L		05/06/15 12:13	05/12/15 16:17	1
Anthracene	ND		0.19	0.018	ug/L		05/06/15 12:13	05/12/15 16:17	1
Fluoranthene	ND		0.19	0.020	ug/L		05/06/15 12:13	05/12/15 16:17	1
Pyrene	ND		0.19	0.021	ug/L		05/06/15 12:13	05/12/15 16:17	1
Benzo[a]anthracene	ND		0.19	0.034	ug/L		05/06/15 12:13	05/12/15 16:17	1
Chrysene	ND		0.19	0.029	ug/L		05/06/15 12:13	05/12/15 16:17	1
Benzo[b]fluoranthene	ND		0.19	0.045	ug/L		05/06/15 12:13	05/12/15 16:17	1
Benzo[k]fluoranthene	ND		0.19	0.028	ug/L		05/06/15 12:13	05/12/15 16:17	1
Benzo[a]pyrene	ND		0.19	0.026	ug/L		05/06/15 12:13	05/12/15 16:17	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.040	ug/L		05/06/15 12:13	05/12/15 16:17	1
Dibenz(a,h)anthracene	ND		0.19	0.025	ug/L		05/06/15 12:13	05/12/15 16:17	1
Benzo[g,h,i]perylene	ND		0.19	0.027	ug/L		05/06/15 12:13	05/12/15 16:17	1
Benzyl alcohol	ND		0.93	0.18	ug/L		05/06/15 12:13	05/12/15 16:17	1
Dibenzofuran	ND		0.93	0.089	ug/L		05/06/15 12:13	05/12/15 16:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*28 - 109*	*05/06/15 12:13*	*05/12/15 16:17*	*1*
2-Fluorophenol (Surr)	*61*		*20 - 105*	*05/06/15 12:13*	*05/12/15 16:17*	*1*
2,4,6-Tribromophenol (Surr)	*63*		*30 - 118*	*05/06/15 12:13*	*05/12/15 16:17*	*1*
Nitrobenzene-d5 (Surr)	*64*		*27 - 114*	*05/06/15 12:13*	*05/12/15 16:17*	*1*
Phenol-d5 (Surr)	*67*		*25 - 105*	*05/06/15 12:13*	*05/12/15 16:17*	*1*
Terphenyl-d14 (Surr)	*73*		*20 - 118*	*05/06/15 12:13*	*05/12/15 16:17*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Client Sample ID: SRM
Date Collected: 05/01/15 00:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-31
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		20	4.7	ug/L		05/06/15 12:13	05/12/15 16:44	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		05/06/15 12:13	05/12/15 16:44	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		05/06/15 12:13	05/12/15 16:44	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		05/06/15 12:13	05/12/15 16:44	1
Benzoic acid	ND		5.0	1.6	ug/L		05/06/15 12:13	05/12/15 16:44	1
Bis(2-chloroethyl)ether	ND		1.0	0.032	ug/L		05/06/15 12:13	05/12/15 16:44	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		05/06/15 12:13	05/12/15 16:44	1
Bis(2-ethylhexyl) phthalate	ND		2.0	0.44	ug/L		05/06/15 12:13	05/12/15 16:44	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		05/06/15 12:13	05/12/15 16:44	1
Butyl benzyl phthalate	**0.25**	**J**	1.0	0.21	ug/L		05/06/15 12:13	05/12/15 16:44	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		05/06/15 12:13	05/12/15 16:44	1
2-Chloronaphthalene	ND		0.20	0.031	ug/L		05/06/15 12:13	05/12/15 16:44	1
2-Chlorophenol	ND		1.0	0.23	ug/L		05/06/15 12:13	05/12/15 16:44	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		05/06/15 12:13	05/12/15 16:44	1
Di-n-butyl phthalate	ND		1.0	0.24	ug/L		05/06/15 12:13	05/12/15 16:44	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		05/06/15 12:13	05/12/15 16:44	1
2,4-Dichlorophenol	ND		1.0	0.067	ug/L		05/06/15 12:13	05/12/15 16:44	1
Diethyl phthalate	**0.39**	**J**	1.0	0.30	ug/L		05/06/15 12:13	05/12/15 16:44	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		05/06/15 12:13	05/12/15 16:44	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		05/06/15 12:13	05/12/15 16:44	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		05/06/15 12:13	05/12/15 16:44	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		05/06/15 12:13	05/12/15 16:44	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		05/06/15 12:13	05/12/15 16:44	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		05/06/15 12:13	05/12/15 16:44	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.12	ug/L		05/06/15 12:13	05/12/15 16:44	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		05/06/15 12:13	05/12/15 16:44	1
Hexachlorobenzene	ND		1.0	0.061	ug/L		05/06/15 12:13	05/12/15 16:44	1
Hexachlorobutadiene	ND		1.0	0.094	ug/L		05/06/15 12:13	05/12/15 16:44	1
Hexachloroethane	ND		1.0	0.14	ug/L		05/06/15 12:13	05/12/15 16:44	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		05/06/15 12:13	05/12/15 16:44	1
Isophorone	ND		1.0	0.074	ug/L		05/06/15 12:13	05/12/15 16:44	1
2-Methylphenol	ND		1.0	0.19	ug/L		05/06/15 12:13	05/12/15 16:44	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		05/06/15 12:13	05/12/15 16:44	1
Nitrobenzene	ND		2.0	0.15	ug/L		05/06/15 12:13	05/12/15 16:44	1
2-Nitrophenol	ND		1.0	0.11	ug/L		05/06/15 12:13	05/12/15 16:44	1
4-Nitrophenol	ND		5.0	0.80	ug/L		05/06/15 12:13	05/12/15 16:44	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		05/06/15 12:13	05/12/15 16:44	1
N-Nitrosodimethylamine	ND		1.0	0.12	ug/L		05/06/15 12:13	05/12/15 16:44	1
N-Nitrosodi-n-propylamine	ND		1.0	0.050	ug/L		05/06/15 12:13	05/12/15 16:44	1
2,2'-oxybis[1-chloropropane]	ND		1.0	0.024	ug/L		05/06/15 12:13	05/12/15 16:44	1
Pentachlorophenol	ND		1.0	0.50	ug/L		05/06/15 12:13	05/12/15 16:44	1
Phenol	ND		1.0	0.055	ug/L		05/06/15 12:13	05/12/15 16:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		05/06/15 12:13	05/12/15 16:44	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		05/06/15 12:13	05/12/15 16:44	1
2-Methylnaphthalene	ND		0.20	0.019	ug/L		05/06/15 12:13	05/12/15 16:44	1
1-Methylnaphthalene	ND		0.20	0.031	ug/L		05/06/15 12:13	05/12/15 16:44	1
Naphthalene	**2.3**		0.20	0.023	ug/L		05/06/15 12:13	05/12/15 16:44	1
Acenaphthylene	**1.2**		0.20	0.022	ug/L		05/06/15 12:13	05/12/15 16:44	1
Acenaphthene	**1.1**		0.20	0.029	ug/L		05/06/15 12:13	05/12/15 16:44	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued)

Client Sample ID: SRM
Date Collected: 05/01/15 00:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-31
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**1.0**		0.20	0.024	ug/L		05/06/15 12:13	05/12/15 16:44	1
Phenanthrene	**2.4**		0.20	0.042	ug/L		05/06/15 12:13	05/12/15 16:44	1
Anthracene	**0.70**		0.20	0.019	ug/L		05/06/15 12:13	05/12/15 16:44	1
Fluoranthene	**1.6**		0.20	0.021	ug/L		05/06/15 12:13	05/12/15 16:44	1
Pyrene	**1.9**		0.20	0.023	ug/L		05/06/15 12:13	05/12/15 16:44	1
Benzo[a]anthracene	**0.90**		0.20	0.037	ug/L		05/06/15 12:13	05/12/15 16:44	1
Chrysene	**1.8**		0.20	0.031	ug/L		05/06/15 12:13	05/12/15 16:44	1
Benzo[b]fluoranthene	**2.0**		0.20	0.049	ug/L		05/06/15 12:13	05/12/15 16:44	1
Benzo[k]fluoranthene	**0.89**		0.20	0.030	ug/L		05/06/15 12:13	05/12/15 16:44	1
Benzo[a]pyrene	**0.88**		0.20	0.028	ug/L		05/06/15 12:13	05/12/15 16:44	1
Indeno[1,2,3-cd]pyrene	**0.98**		0.20	0.043	ug/L		05/06/15 12:13	05/12/15 16:44	1
Dibenz(a,h)anthracene	**1.4**		0.20	0.027	ug/L		05/06/15 12:13	05/12/15 16:44	1
Benzo[g,h,i]perylene	**1.1**		0.20	0.029	ug/L		05/06/15 12:13	05/12/15 16:44	1
Benzyl alcohol	**2.2**		1.0	0.20	ug/L		05/06/15 12:13	05/12/15 16:44	1
Dibenzofuran	ND		1.0	0.097	ug/L		05/06/15 12:13	05/12/15 16:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*28 - 109*	*05/06/15 12:13*	*05/12/15 16:44*	*1*
2-Fluorophenol (Surr)	*58*		*20 - 105*	*05/06/15 12:13*	*05/12/15 16:44*	*1*
2,4,6-Tribromophenol (Surr)	*58*		*30 - 118*	*05/06/15 12:13*	*05/12/15 16:44*	*1*
Nitrobenzene-d5 (Surr)	*72*		*27 - 114*	*05/06/15 12:13*	*05/12/15 16:44*	*1*
Phenol-d5 (Surr)	*73*		*25 - 105*	*05/06/15 12:13*	*05/12/15 16:44*	*1*
Terphenyl-d14 (Surr)	*72*		*20 - 118*	*05/06/15 12:13*	*05/12/15 16:44*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-1-SET
Date Collected: 04/28/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-16
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00078	ug/L		04/29/15 16:40	05/04/15 17:23	1
alpha-BHC	**0.0035**		0.0012	0.00062	ug/L		04/29/15 16:40	05/04/15 17:23	1
beta-BHC	ND		0.0012	0.00094	ug/L		04/29/15 16:40	05/04/15 17:23	1
delta-BHC	**0.0035**	**p**	0.0012	0.00036	ug/L		04/29/15 16:40	05/04/15 17:23	1
gamma-BHC (Lindane)	ND		0.0012	0.00075	ug/L		04/29/15 16:40	05/04/15 17:23	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		04/29/15 16:40	05/04/15 17:23	1
Chlorobenside	ND		0.0030	0.0014	ug/L		04/29/15 16:40	05/04/15 17:23	1
DCPA	ND		0.0024	0.00032	ug/L		04/29/15 16:40	05/04/15 17:23	1
4,4'-DDD	ND		0.0012	0.00063	ug/L		04/29/15 16:40	05/04/15 17:23	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		04/29/15 16:40	05/04/15 17:23	1
Dieldrin	ND		0.0012	0.00077	ug/L		04/29/15 16:40	05/04/15 17:23	1
Endosulfan I	ND		0.0012	0.00089	ug/L		04/29/15 16:40	05/04/15 17:23	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		04/29/15 16:40	05/04/15 17:23	1
Endosulfan II	ND		0.0012	0.00092	ug/L		04/29/15 16:40	05/04/15 17:23	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		04/29/15 16:40	05/04/15 17:23	1
2,4'-DDE	**0.00022**	**J**	0.0012	0.00014	ug/L		04/29/15 16:40	05/04/15 17:23	1
Endrin	ND		0.0012	0.00091	ug/L		04/29/15 16:40	05/04/15 17:23	1
Endrin aldehyde	ND		0.0012	0.00085	ug/L		04/29/15 16:40	05/04/15 17:23	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		04/29/15 16:40	05/04/15 17:23	1
Heptachlor	ND		0.0012	0.00093	ug/L		04/29/15 16:40	05/04/15 17:23	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		04/29/15 16:40	05/04/15 17:23	1
Mirex	ND		0.0012	0.00045	ug/L		04/29/15 16:40	05/04/15 17:23	1
Toxaphene	ND		0.094	0.018	ug/L		04/29/15 16:40	05/04/15 17:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*166*	*X*	*60 - 111*	*04/29/15 16:40*	*05/04/15 17:23*	*1*
Tetrachloro-m-xylene	*120*	*X*	*60 - 111*	*04/29/15 16:40*	*05/04/15 17:23*	*1*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 122*	*04/29/15 16:40*	*05/04/15 17:23*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 122*	*04/29/15 16:40*	*05/04/15 17:23*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-2ST-SET
Date Collected: 04/28/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-17
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00079	ug/L		04/29/15 16:40	05/04/15 17:38	1
alpha-BHC	**0.0034**		0.0012	0.00063	ug/L		04/29/15 16:40	05/04/15 17:38	1
beta-BHC	ND		0.0012	0.00095	ug/L		04/29/15 16:40	05/04/15 17:38	1
delta-BHC	**0.0093**		0.0012	0.00036	ug/L		04/29/15 16:40	05/04/15 17:38	1
gamma-BHC (Lindane)	ND		0.0012	0.00076	ug/L		04/29/15 16:40	05/04/15 17:38	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		04/29/15 16:40	05/04/15 17:38	1
Chlorobenside	ND		0.0030	0.0014	ug/L		04/29/15 16:40	05/04/15 17:38	1
DCPA	ND		0.0024	0.00032	ug/L		04/29/15 16:40	05/04/15 17:38	1
4,4'-DDD	ND		0.0012	0.00064	ug/L		04/29/15 16:40	05/04/15 17:38	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		04/29/15 16:40	05/04/15 17:38	1
Dieldrin	ND		0.0012	0.00078	ug/L		04/29/15 16:40	05/04/15 17:38	1
Endosulfan I	ND		0.0012	0.00090	ug/L		04/29/15 16:40	05/04/15 17:38	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		04/29/15 16:40	05/04/15 17:38	1
Endosulfan II	ND		0.0012	0.00093	ug/L		04/29/15 16:40	05/04/15 17:38	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		04/29/15 16:40	05/04/15 17:38	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		04/29/15 16:40	05/04/15 17:38	1
Endrin	ND		0.0012	0.00091	ug/L		04/29/15 16:40	05/04/15 17:38	1
Endrin aldehyde	ND		0.0012	0.00086	ug/L		04/29/15 16:40	05/04/15 17:38	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		04/29/15 16:40	05/04/15 17:38	1
Heptachlor	ND		0.0012	0.00094	ug/L		04/29/15 16:40	05/04/15 17:38	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		04/29/15 16:40	05/04/15 17:38	1
Mirex	ND		0.0012	0.00046	ug/L		04/29/15 16:40	05/04/15 17:38	1
Toxaphene	ND		0.095	0.018	ug/L		04/29/15 16:40	05/04/15 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*165*	*X*	*60 - 111*	*04/29/15 16:40*	*05/04/15 17:38*	*1*
Tetrachloro-m-xylene	*108*	*p*	*60 - 111*	*04/29/15 16:40*	*05/04/15 17:38*	*1*
DCB Decachlorobiphenyl (Surr)	*94*		*45 - 122*	*04/29/15 16:40*	*05/04/15 17:38*	*1*
DCB Decachlorobiphenyl (Surr)	*92*		*45 - 122*	*04/29/15 16:40*	*05/04/15 17:38*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-2SB-SET
Date Collected: 04/28/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-18
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00078	ug/L		04/29/15 16:40	05/04/15 17:54	1
alpha-BHC	**0.0037**		0.0012	0.00062	ug/L		04/29/15 16:40	05/04/15 17:54	1
beta-BHC	ND		0.0012	0.00094	ug/L		04/29/15 16:40	05/04/15 17:54	1
delta-BHC	**0.0046**	**p**	0.0012	0.00036	ug/L		04/29/15 16:40	05/04/15 17:54	1
gamma-BHC (Lindane)	ND		0.0012	0.00075	ug/L		04/29/15 16:40	05/04/15 17:54	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		04/29/15 16:40	05/04/15 17:54	1
Chlorobenside	ND		0.0030	0.0014	ug/L		04/29/15 16:40	05/04/15 17:54	1
DCPA	ND		0.0024	0.00032	ug/L		04/29/15 16:40	05/04/15 17:54	1
4,4'-DDD	ND		0.0012	0.00063	ug/L		04/29/15 16:40	05/04/15 17:54	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		04/29/15 16:40	05/04/15 17:54	1
Dieldrin	ND		0.0012	0.00077	ug/L		04/29/15 16:40	05/04/15 17:54	1
Endosulfan I	ND		0.0012	0.00089	ug/L		04/29/15 16:40	05/04/15 17:54	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		04/29/15 16:40	05/04/15 17:54	1
Endosulfan II	ND		0.0012	0.00092	ug/L		04/29/15 16:40	05/04/15 17:54	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		04/29/15 16:40	05/04/15 17:54	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		04/29/15 16:40	05/04/15 17:54	1
Endrin	ND		0.0012	0.00091	ug/L		04/29/15 16:40	05/04/15 17:54	1
Endrin aldehyde	ND		0.0012	0.00085	ug/L		04/29/15 16:40	05/04/15 17:54	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		04/29/15 16:40	05/04/15 17:54	1
Heptachlor	ND		0.0012	0.00093	ug/L		04/29/15 16:40	05/04/15 17:54	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		04/29/15 16:40	05/04/15 17:54	1
Mirex	ND		0.0012	0.00045	ug/L		04/29/15 16:40	05/04/15 17:54	1
Toxaphene	ND		0.094	0.018	ug/L		04/29/15 16:40	05/04/15 17:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*180*	*X*	*60 - 111*	*04/29/15 16:40*	*05/04/15 17:54*	*1*
Tetrachloro-m-xylene	*122*	*X*	*60 - 111*	*04/29/15 16:40*	*05/04/15 17:54*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*45 - 122*	*04/29/15 16:40*	*05/04/15 17:54*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 122*	*04/29/15 16:40*	*05/04/15 17:54*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-2MT-SET
Date Collected: 04/28/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-19
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00078	ug/L		04/29/15 16:40	05/04/15 18:09	1
alpha-BHC	**0.0033**		0.0012	0.00062	ug/L		04/29/15 16:40	05/04/15 18:09	1
beta-BHC	ND		0.0012	0.00094	ug/L		04/29/15 16:40	05/04/15 18:09	1
delta-BHC	**0.0037**	**p**	0.0012	0.00036	ug/L		04/29/15 16:40	05/04/15 18:09	1
gamma-BHC (Lindane)	ND		0.0012	0.00075	ug/L		04/29/15 16:40	05/04/15 18:09	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		04/29/15 16:40	05/04/15 18:09	1
Chlorobenside	ND		0.0030	0.0014	ug/L		04/29/15 16:40	05/04/15 18:09	1
DCPA	ND		0.0024	0.00032	ug/L		04/29/15 16:40	05/04/15 18:09	1
4,4'-DDD	ND		0.0012	0.00063	ug/L		04/29/15 16:40	05/04/15 18:09	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		04/29/15 16:40	05/04/15 18:09	1
Dieldrin	ND		0.0012	0.00077	ug/L		04/29/15 16:40	05/04/15 18:09	1
Endosulfan I	ND		0.0012	0.00089	ug/L		04/29/15 16:40	05/04/15 18:09	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		04/29/15 16:40	05/04/15 18:09	1
Endosulfan II	ND		0.0012	0.00092	ug/L		04/29/15 16:40	05/04/15 18:09	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		04/29/15 16:40	05/04/15 18:09	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		04/29/15 16:40	05/04/15 18:09	1
Endrin	ND		0.0012	0.00091	ug/L		04/29/15 16:40	05/04/15 18:09	1
Endrin aldehyde	ND		0.0012	0.00085	ug/L		04/29/15 16:40	05/04/15 18:09	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		04/29/15 16:40	05/04/15 18:09	1
Heptachlor	ND		0.0012	0.00093	ug/L		04/29/15 16:40	05/04/15 18:09	1
Heptachlor epoxide	**0.0017**		0.0012	0.00092	ug/L		04/29/15 16:40	05/04/15 18:09	1
Mirex	ND		0.0012	0.00045	ug/L		04/29/15 16:40	05/04/15 18:09	1
Toxaphene	ND		0.094	0.018	ug/L		04/29/15 16:40	05/04/15 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*148*	*X*	*60 - 111*	*04/29/15 16:40*	*05/04/15 18:09*	*1*
Tetrachloro-m-xylene	*106*		*60 - 111*	*04/29/15 16:40*	*05/04/15 18:09*	*1*
DCB Decachlorobiphenyl (Surr)	*91*		*45 - 122*	*04/29/15 16:40*	*05/04/15 18:09*	*1*
DCB Decachlorobiphenyl (Surr)	*91*		*45 - 122*	*04/29/15 16:40*	*05/04/15 18:09*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-2NT-SET
Date Collected: 04/28/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-20
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00078	ug/L		04/29/15 16:40	05/04/15 18:25	1
alpha-BHC	**0.0031**		0.0012	0.00062	ug/L		04/29/15 16:40	05/04/15 18:25	1
beta-BHC	ND		0.0012	0.00094	ug/L		04/29/15 16:40	05/04/15 18:25	1
delta-BHC	**0.0080**		0.0012	0.00036	ug/L		04/29/15 16:40	05/04/15 18:25	1
gamma-BHC (Lindane)	ND		0.0012	0.00075	ug/L		04/29/15 16:40	05/04/15 18:25	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		04/29/15 16:40	05/04/15 18:25	1
Chlorobenside	ND		0.0030	0.0014	ug/L		04/29/15 16:40	05/04/15 18:25	1
DCPA	ND		0.0024	0.00032	ug/L		04/29/15 16:40	05/04/15 18:25	1
4,4'-DDD	ND		0.0012	0.00063	ug/L		04/29/15 16:40	05/04/15 18:25	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		04/29/15 16:40	05/04/15 18:25	1
Dieldrin	ND		0.0012	0.00077	ug/L		04/29/15 16:40	05/04/15 18:25	1
Endosulfan I	ND		0.0012	0.00089	ug/L		04/29/15 16:40	05/04/15 18:25	1
2,4'-DDD	**0.00015**	**J p**	0.0012	0.00015	ug/L		04/29/15 16:40	05/04/15 18:25	1
Endosulfan II	ND		0.0012	0.00092	ug/L		04/29/15 16:40	05/04/15 18:25	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		04/29/15 16:40	05/04/15 18:25	1
2,4'-DDE	**0.00041**	**J p**	0.0012	0.00014	ug/L		04/29/15 16:40	05/04/15 18:25	1
Endrin	ND		0.0012	0.00091	ug/L		04/29/15 16:40	05/04/15 18:25	1
Endrin aldehyde	ND		0.0012	0.00085	ug/L		04/29/15 16:40	05/04/15 18:25	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		04/29/15 16:40	05/04/15 18:25	1
Heptachlor	ND		0.0012	0.00093	ug/L		04/29/15 16:40	05/04/15 18:25	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		04/29/15 16:40	05/04/15 18:25	1
Mirex	ND		0.0012	0.00045	ug/L		04/29/15 16:40	05/04/15 18:25	1
Toxaphene	ND		0.094	0.018	ug/L		04/29/15 16:40	05/04/15 18:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*141*	*X*	*60 - 111*	*04/29/15 16:40*	*05/04/15 18:25*	*1*
Tetrachloro-m-xylene	*99*		*60 - 111*	*04/29/15 16:40*	*05/04/15 18:25*	*1*
DCB Decachlorobiphenyl (Surr)	*89*		*45 - 122*	*04/29/15 16:40*	*05/04/15 18:25*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*45 - 122*	*04/29/15 16:40*	*05/04/15 18:25*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-2NB-SET
Date Collected: 04/28/15 12:15
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-21
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00080	ug/L		04/29/15 16:40	05/04/15 18:40	1
alpha-BHC	**0.0023**		0.0013	0.00063	ug/L		04/29/15 16:40	05/04/15 18:40	1
beta-BHC	ND		0.0013	0.00096	ug/L		04/29/15 16:40	05/04/15 18:40	1
delta-BHC	**0.00065**	**J p**	0.0013	0.00037	ug/L		04/29/15 16:40	05/04/15 18:40	1
gamma-BHC (Lindane)	ND		0.0013	0.00077	ug/L		04/29/15 16:40	05/04/15 18:40	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		04/29/15 16:40	05/04/15 18:40	1
Chlorobenside	ND		0.0031	0.0014	ug/L		04/29/15 16:40	05/04/15 18:40	1
DCPA	ND		0.0024	0.00033	ug/L		04/29/15 16:40	05/04/15 18:40	1
4,4'-DDD	ND		0.0013	0.00064	ug/L		04/29/15 16:40	05/04/15 18:40	1
4,4'-DDE	ND		0.0013	0.00076	ug/L		04/29/15 16:40	05/04/15 18:40	1
Dieldrin	ND		0.0013	0.00079	ug/L		04/29/15 16:40	05/04/15 18:40	1
Endosulfan I	ND		0.0013	0.00090	ug/L		04/29/15 16:40	05/04/15 18:40	1
2,4'-DDD	ND		0.0013	0.00015	ug/L		04/29/15 16:40	05/04/15 18:40	1
Endosulfan II	ND		0.0013	0.00094	ug/L		04/29/15 16:40	05/04/15 18:40	1
Endosulfan sulfate	ND		0.0013	0.00055	ug/L		04/29/15 16:40	05/04/15 18:40	1
2,4'-DDE	ND		0.0013	0.00014	ug/L		04/29/15 16:40	05/04/15 18:40	1
Endrin	ND		0.0013	0.00092	ug/L		04/29/15 16:40	05/04/15 18:40	1
Endrin aldehyde	ND		0.0013	0.00087	ug/L		04/29/15 16:40	05/04/15 18:40	1
2,4'-DDT	ND		0.0013	0.00021	ug/L		04/29/15 16:40	05/04/15 18:40	1
Heptachlor	ND		0.0013	0.00095	ug/L		04/29/15 16:40	05/04/15 18:40	1
Heptachlor epoxide	ND		0.0013	0.00093	ug/L		04/29/15 16:40	05/04/15 18:40	1
Mirex	ND		0.0013	0.00046	ug/L		04/29/15 16:40	05/04/15 18:40	1
Toxaphene	ND		0.096	0.018	ug/L		04/29/15 16:40	05/04/15 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*134*	*X*	*60 - 111*	*04/29/15 16:40*	*05/04/15 18:40*	*1*
Tetrachloro-m-xylene	*101*		*60 - 111*	*04/29/15 16:40*	*05/04/15 18:40*	*1*
DCB Decachlorobiphenyl (Surr)	*90*		*45 - 122*	*04/29/15 16:40*	*05/04/15 18:40*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 122*	*04/29/15 16:40*	*05/04/15 18:40*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-3ST-SET
Date Collected: 04/28/15 12:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-22
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00078	ug/L		04/29/15 16:40	05/04/15 19:27	1
alpha-BHC	**0.0038**		0.0012	0.00062	ug/L		04/29/15 16:40	05/04/15 19:27	1
beta-BHC	ND		0.0012	0.00094	ug/L		04/29/15 16:40	05/04/15 19:27	1
delta-BHC	**0.0029**	**p**	0.0012	0.00036	ug/L		04/29/15 16:40	05/04/15 19:27	1
gamma-BHC (Lindane)	ND		0.0012	0.00075	ug/L		04/29/15 16:40	05/04/15 19:27	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		04/29/15 16:40	05/04/15 19:27	1
Chlorobenside	ND		0.0030	0.0014	ug/L		04/29/15 16:40	05/04/15 19:27	1
DCPA	ND		0.0024	0.00032	ug/L		04/29/15 16:40	05/04/15 19:27	1
4,4'-DDD	ND		0.0012	0.00063	ug/L		04/29/15 16:40	05/04/15 19:27	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		04/29/15 16:40	05/04/15 19:27	1
Dieldrin	ND		0.0012	0.00077	ug/L		04/29/15 16:40	05/04/15 19:27	1
Endosulfan I	ND		0.0012	0.00089	ug/L		04/29/15 16:40	05/04/15 19:27	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		04/29/15 16:40	05/04/15 19:27	1
Endosulfan II	ND		0.0012	0.00092	ug/L		04/29/15 16:40	05/04/15 19:27	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		04/29/15 16:40	05/04/15 19:27	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		04/29/15 16:40	05/04/15 19:27	1
Endrin	ND		0.0012	0.00091	ug/L		04/29/15 16:40	05/04/15 19:27	1
Endrin aldehyde	ND		0.0012	0.00085	ug/L		04/29/15 16:40	05/04/15 19:27	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		04/29/15 16:40	05/04/15 19:27	1
Heptachlor	ND		0.0012	0.00093	ug/L		04/29/15 16:40	05/04/15 19:27	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		04/29/15 16:40	05/04/15 19:27	1
Mirex	ND		0.0012	0.00045	ug/L		04/29/15 16:40	05/04/15 19:27	1
Toxaphene	ND		0.094	0.018	ug/L		04/29/15 16:40	05/04/15 19:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*128*	*X*	*60 - 111*	*04/29/15 16:40*	*05/04/15 19:27*	*1*
Tetrachloro-m-xylene	*95*		*60 - 111*	*04/29/15 16:40*	*05/04/15 19:27*	*1*
DCB Decachlorobiphenyl (Surr)	*82*		*45 - 122*	*04/29/15 16:40*	*05/04/15 19:27*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 122*	*04/29/15 16:40*	*05/04/15 19:27*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-3SB-SET
Date Collected: 04/30/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-23
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00079	ug/L		05/01/15 14:20	05/04/15 13:15	1
alpha-BHC	**0.0019**		0.0012	0.00063	ug/L		05/01/15 14:20	05/04/15 13:15	1
beta-BHC	ND		0.0012	0.00095	ug/L		05/01/15 14:20	05/04/15 13:15	1
delta-BHC	**0.00083**	**J p**	0.0012	0.00036	ug/L		05/01/15 14:20	05/04/15 13:15	1
gamma-BHC (Lindane)	ND		0.0012	0.00076	ug/L		05/01/15 14:20	05/04/15 13:15	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		05/01/15 14:20	05/04/15 13:15	1
Chlorobenside	ND		0.0030	0.0014	ug/L		05/01/15 14:20	05/04/15 13:15	1
DCPA	ND		0.0024	0.00032	ug/L		05/01/15 14:20	05/04/15 13:15	1
4,4'-DDD	ND		0.0012	0.00064	ug/L		05/01/15 14:20	05/04/15 13:15	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		05/01/15 14:20	05/04/15 13:15	1
Dieldrin	ND		0.0012	0.00078	ug/L		05/01/15 14:20	05/04/15 13:15	1
Endosulfan I	ND		0.0012	0.00090	ug/L		05/01/15 14:20	05/04/15 13:15	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		05/01/15 14:20	05/04/15 13:15	1
Endosulfan II	ND		0.0012	0.00093	ug/L		05/01/15 14:20	05/04/15 13:15	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		05/01/15 14:20	05/04/15 13:15	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		05/01/15 14:20	05/04/15 13:15	1
Endrin	ND		0.0012	0.00091	ug/L		05/01/15 14:20	05/04/15 13:15	1
Endrin aldehyde	ND		0.0012	0.00086	ug/L		05/01/15 14:20	05/04/15 13:15	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		05/01/15 14:20	05/04/15 13:15	1
Heptachlor	ND		0.0012	0.00094	ug/L		05/01/15 14:20	05/04/15 13:15	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		05/01/15 14:20	05/04/15 13:15	1
Mirex	ND		0.0012	0.00046	ug/L		05/01/15 14:20	05/04/15 13:15	1
Toxaphene	ND		0.095	0.018	ug/L		05/01/15 14:20	05/04/15 13:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*198*	*X*	*60 - 111*	*05/01/15 14:20*	*05/04/15 13:15*	*1*
Tetrachloro-m-xylene	*137*	*X*	*60 - 111*	*05/01/15 14:20*	*05/04/15 13:15*	*1*
DCB Decachlorobiphenyl (Surr)	*102*		*45 - 122*	*05/01/15 14:20*	*05/04/15 13:15*	*1*
DCB Decachlorobiphenyl (Surr)	*97*		*45 - 122*	*05/01/15 14:20*	*05/04/15 13:15*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-3NT-SET
Date Collected: 04/30/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-24
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00079	ug/L		05/01/15 14:20	05/04/15 13:30	1
alpha-BHC	**0.0010**	**J p**	0.0012	0.00063	ug/L		05/01/15 14:20	05/04/15 13:30	1
beta-BHC	ND		0.0012	0.00095	ug/L		05/01/15 14:20	05/04/15 13:30	1
delta-BHC	**0.00049**	**J p**	0.0012	0.00036	ug/L		05/01/15 14:20	05/04/15 13:30	1
gamma-BHC (Lindane)	ND		0.0012	0.00076	ug/L		05/01/15 14:20	05/04/15 13:30	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		05/01/15 14:20	05/04/15 13:30	1
Chlorobenside	ND		0.0030	0.0014	ug/L		05/01/15 14:20	05/04/15 13:30	1
DCPA	ND		0.0024	0.00032	ug/L		05/01/15 14:20	05/04/15 13:30	1
4,4'-DDD	ND		0.0012	0.00064	ug/L		05/01/15 14:20	05/04/15 13:30	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		05/01/15 14:20	05/04/15 13:30	1
Dieldrin	ND		0.0012	0.00078	ug/L		05/01/15 14:20	05/04/15 13:30	1
Endosulfan I	ND		0.0012	0.00090	ug/L		05/01/15 14:20	05/04/15 13:30	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		05/01/15 14:20	05/04/15 13:30	1
Endosulfan II	ND		0.0012	0.00093	ug/L		05/01/15 14:20	05/04/15 13:30	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		05/01/15 14:20	05/04/15 13:30	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		05/01/15 14:20	05/04/15 13:30	1
Endrin	ND		0.0012	0.00091	ug/L		05/01/15 14:20	05/04/15 13:30	1
Endrin aldehyde	ND		0.0012	0.00086	ug/L		05/01/15 14:20	05/04/15 13:30	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		05/01/15 14:20	05/04/15 13:30	1
Heptachlor	ND		0.0012	0.00094	ug/L		05/01/15 14:20	05/04/15 13:30	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		05/01/15 14:20	05/04/15 13:30	1
Mirex	ND		0.0012	0.00046	ug/L		05/01/15 14:20	05/04/15 13:30	1
Toxaphene	ND		0.095	0.018	ug/L		05/01/15 14:20	05/04/15 13:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*150*	*X*	*60 - 111*	*05/01/15 14:20*	*05/04/15 13:30*	*1*
Tetrachloro-m-xylene	*116*	*X*	*60 - 111*	*05/01/15 14:20*	*05/04/15 13:30*	*1*
DCB Decachlorobiphenyl (Surr)	*98*		*45 - 122*	*05/01/15 14:20*	*05/04/15 13:30*	*1*
DCB Decachlorobiphenyl (Surr)	*93*		*45 - 122*	*05/01/15 14:20*	*05/04/15 13:30*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-3NB-SET
Date Collected: 04/30/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-25
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00079	ug/L		05/01/15 14:20	05/04/15 13:46	1
alpha-BHC	**0.0025**		0.0012	0.00063	ug/L		05/01/15 14:20	05/04/15 13:46	1
beta-BHC	ND		0.0012	0.00095	ug/L		05/01/15 14:20	05/04/15 13:46	1
delta-BHC	**0.00038**	**J p**	0.0012	0.00036	ug/L		05/01/15 14:20	05/04/15 13:46	1
gamma-BHC (Lindane)	ND		0.0012	0.00076	ug/L		05/01/15 14:20	05/04/15 13:46	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		05/01/15 14:20	05/04/15 13:46	1
Chlorobenside	ND		0.0030	0.0014	ug/L		05/01/15 14:20	05/04/15 13:46	1
DCPA	ND		0.0024	0.00032	ug/L		05/01/15 14:20	05/04/15 13:46	1
4,4'-DDD	ND		0.0012	0.00064	ug/L		05/01/15 14:20	05/04/15 13:46	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		05/01/15 14:20	05/04/15 13:46	1
Dieldrin	ND		0.0012	0.00078	ug/L		05/01/15 14:20	05/04/15 13:46	1
Endosulfan I	ND		0.0012	0.00090	ug/L		05/01/15 14:20	05/04/15 13:46	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		05/01/15 14:20	05/04/15 13:46	1
Endosulfan II	ND		0.0012	0.00093	ug/L		05/01/15 14:20	05/04/15 13:46	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		05/01/15 14:20	05/04/15 13:46	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		05/01/15 14:20	05/04/15 13:46	1
Endrin	ND		0.0012	0.00091	ug/L		05/01/15 14:20	05/04/15 13:46	1
Endrin aldehyde	ND		0.0012	0.00086	ug/L		05/01/15 14:20	05/04/15 13:46	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		05/01/15 14:20	05/04/15 13:46	1
Heptachlor	ND		0.0012	0.00094	ug/L		05/01/15 14:20	05/04/15 13:46	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		05/01/15 14:20	05/04/15 13:46	1
Mirex	ND		0.0012	0.00046	ug/L		05/01/15 14:20	05/04/15 13:46	1
Toxaphene	ND		0.095	0.018	ug/L		05/01/15 14:20	05/04/15 13:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*166*	*X*	*60 - 111*	*05/01/15 14:20*	*05/04/15 13:46*	*1*
Tetrachloro-m-xylene	*117*	*X*	*60 - 111*	*05/01/15 14:20*	*05/04/15 13:46*	*1*
DCB Decachlorobiphenyl (Surr)	*90*		*45 - 122*	*05/01/15 14:20*	*05/04/15 13:46*	*1*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 122*	*05/01/15 14:20*	*05/04/15 13:46*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-4ST-SET
Date Collected: 04/30/15 12:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-26
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00079	ug/L		05/01/15 14:20	05/04/15 14:01	1
alpha-BHC	**0.00073**	**J p**	0.0012	0.00063	ug/L		05/01/15 14:20	05/04/15 14:01	1
beta-BHC	ND		0.0012	0.00095	ug/L		05/01/15 14:20	05/04/15 14:01	1
delta-BHC	**0.0013**	**p**	0.0012	0.00036	ug/L		05/01/15 14:20	05/04/15 14:01	1
gamma-BHC (Lindane)	ND		0.0012	0.00076	ug/L		05/01/15 14:20	05/04/15 14:01	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		05/01/15 14:20	05/04/15 14:01	1
Chlorobenside	ND		0.0030	0.0014	ug/L		05/01/15 14:20	05/04/15 14:01	1
DCPA	ND		0.0024	0.00032	ug/L		05/01/15 14:20	05/04/15 14:01	1
4,4'-DDD	ND		0.0012	0.00064	ug/L		05/01/15 14:20	05/04/15 14:01	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		05/01/15 14:20	05/04/15 14:01	1
Dieldrin	ND		0.0012	0.00078	ug/L		05/01/15 14:20	05/04/15 14:01	1
Endosulfan I	ND		0.0012	0.00090	ug/L		05/01/15 14:20	05/04/15 14:01	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		05/01/15 14:20	05/04/15 14:01	1
Endosulfan II	ND		0.0012	0.00093	ug/L		05/01/15 14:20	05/04/15 14:01	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		05/01/15 14:20	05/04/15 14:01	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		05/01/15 14:20	05/04/15 14:01	1
Endrin	ND		0.0012	0.00091	ug/L		05/01/15 14:20	05/04/15 14:01	1
Endrin aldehyde	ND		0.0012	0.00086	ug/L		05/01/15 14:20	05/04/15 14:01	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		05/01/15 14:20	05/04/15 14:01	1
Heptachlor	ND		0.0012	0.00094	ug/L		05/01/15 14:20	05/04/15 14:01	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		05/01/15 14:20	05/04/15 14:01	1
Mirex	ND		0.0012	0.00046	ug/L		05/01/15 14:20	05/04/15 14:01	1
Toxaphene	ND		0.095	0.018	ug/L		05/01/15 14:20	05/04/15 14:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*148*	*X*	*60 - 111*	*05/01/15 14:20*	*05/04/15 14:01*	*1*
Tetrachloro-m-xylene	*107*		*60 - 111*	*05/01/15 14:20*	*05/04/15 14:01*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 122*	*05/01/15 14:20*	*05/04/15 14:01*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 122*	*05/01/15 14:20*	*05/04/15 14:01*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-4SB-SET
Date Collected: 04/30/15 12:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-27
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00079	ug/L		05/01/15 14:20	05/04/15 15:50	1
alpha-BHC	**0.0022**		0.0012	0.00063	ug/L		05/01/15 14:20	05/04/15 15:50	1
beta-BHC	ND		0.0012	0.00095	ug/L		05/01/15 14:20	05/04/15 15:50	1
delta-BHC	**0.00043**	**J p**	0.0012	0.00036	ug/L		05/01/15 14:20	05/04/15 15:50	1
gamma-BHC (Lindane)	ND		0.0012	0.00076	ug/L		05/01/15 14:20	05/04/15 15:50	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		05/01/15 14:20	05/04/15 15:50	1
Chlorobenside	ND		0.0030	0.0014	ug/L		05/01/15 14:20	05/04/15 15:50	1
DCPA	ND		0.0024	0.00032	ug/L		05/01/15 14:20	05/04/15 15:50	1
4,4'-DDD	ND		0.0012	0.00064	ug/L		05/01/15 14:20	05/04/15 15:50	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		05/01/15 14:20	05/04/15 15:50	1
Dieldrin	ND		0.0012	0.00078	ug/L		05/01/15 14:20	05/04/15 15:50	1
Endosulfan I	ND		0.0012	0.00090	ug/L		05/01/15 14:20	05/04/15 15:50	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		05/01/15 14:20	05/04/15 15:50	1
Endosulfan II	ND		0.0012	0.00093	ug/L		05/01/15 14:20	05/04/15 15:50	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		05/01/15 14:20	05/04/15 15:50	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		05/01/15 14:20	05/04/15 15:50	1
Endrin	ND		0.0012	0.00091	ug/L		05/01/15 14:20	05/04/15 15:50	1
Endrin aldehyde	ND		0.0012	0.00086	ug/L		05/01/15 14:20	05/04/15 15:50	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		05/01/15 14:20	05/04/15 15:50	1
Heptachlor	ND		0.0012	0.00094	ug/L		05/01/15 14:20	05/04/15 15:50	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		05/01/15 14:20	05/04/15 15:50	1
Mirex	ND		0.0012	0.00046	ug/L		05/01/15 14:20	05/04/15 15:50	1
Toxaphene	ND		0.095	0.018	ug/L		05/01/15 14:20	05/04/15 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*124*	*X*	*60 - 111*	*05/01/15 14:20*	*05/04/15 15:50*	*1*
Tetrachloro-m-xylene	*99*		*60 - 111*	*05/01/15 14:20*	*05/04/15 15:50*	*1*
DCB Decachlorobiphenyl (Surr)	*98*		*45 - 122*	*05/01/15 14:20*	*05/04/15 15:50*	*1*
DCB Decachlorobiphenyl (Surr)	*92*		*45 - 122*	*05/01/15 14:20*	*05/04/15 15:50*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-4MT-SET
Date Collected: 05/01/15 09:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-28
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00078	ug/L		05/01/15 14:20	05/04/15 16:05	1
alpha-BHC	**0.0032**		0.0012	0.00062	ug/L		05/01/15 14:20	05/04/15 16:05	1
beta-BHC	ND		0.0012	0.00094	ug/L		05/01/15 14:20	05/04/15 16:05	1
delta-BHC	**0.0018**	**p**	0.0012	0.00036	ug/L		05/01/15 14:20	05/04/15 16:05	1
gamma-BHC (Lindane)	ND		0.0012	0.00075	ug/L		05/01/15 14:20	05/04/15 16:05	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		05/01/15 14:20	05/04/15 16:05	1
Chlorobenside	ND		0.0030	0.0014	ug/L		05/01/15 14:20	05/04/15 16:05	1
DCPA	ND		0.0024	0.00032	ug/L		05/01/15 14:20	05/04/15 16:05	1
4,4'-DDD	ND		0.0012	0.00063	ug/L		05/01/15 14:20	05/04/15 16:05	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		05/01/15 14:20	05/04/15 16:05	1
Dieldrin	ND		0.0012	0.00077	ug/L		05/01/15 14:20	05/04/15 16:05	1
Endosulfan I	ND		0.0012	0.00089	ug/L		05/01/15 14:20	05/04/15 16:05	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		05/01/15 14:20	05/04/15 16:05	1
Endosulfan II	ND		0.0012	0.00092	ug/L		05/01/15 14:20	05/04/15 16:05	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		05/01/15 14:20	05/04/15 16:05	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		05/01/15 14:20	05/04/15 16:05	1
Endrin	ND		0.0012	0.00091	ug/L		05/01/15 14:20	05/04/15 16:05	1
Endrin aldehyde	ND		0.0012	0.00085	ug/L		05/01/15 14:20	05/04/15 16:05	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		05/01/15 14:20	05/04/15 16:05	1
Heptachlor	ND		0.0012	0.00093	ug/L		05/01/15 14:20	05/04/15 16:05	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		05/01/15 14:20	05/04/15 16:05	1
Mirex	ND		0.0012	0.00045	ug/L		05/01/15 14:20	05/04/15 16:05	1
Toxaphene	ND		0.094	0.018	ug/L		05/01/15 14:20	05/04/15 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*210*	*X*	*60 - 111*	*05/01/15 14:20*	*05/04/15 16:05*	*1*
Tetrachloro-m-xylene	*151*	*X*	*60 - 111*	*05/01/15 14:20*	*05/04/15 16:05*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 122*	*05/01/15 14:20*	*05/04/15 16:05*	*1*
DCB Decachlorobiphenyl (Surr)	*83*		*45 - 122*	*05/01/15 14:20*	*05/04/15 16:05*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-4NT-SET
Date Collected: 05/01/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-29
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00079	ug/L		05/01/15 14:20	05/04/15 16:21	1
alpha-BHC	ND		0.0012	0.00063	ug/L		05/01/15 14:20	05/04/15 16:21	1
beta-BHC	ND		0.0012	0.00095	ug/L		05/01/15 14:20	05/04/15 16:21	1
delta-BHC	**0.0028**	**p**	0.0012	0.00036	ug/L		05/01/15 14:20	05/04/15 16:21	1
gamma-BHC (Lindane)	ND		0.0012	0.00076	ug/L		05/01/15 14:20	05/04/15 16:21	1
Chlordane (technical)	ND		0.012	0.0016	ug/L		05/01/15 14:20	05/04/15 16:21	1
Chlorobenside	ND		0.0030	0.0014	ug/L		05/01/15 14:20	05/04/15 16:21	1
DCPA	ND		0.0024	0.00032	ug/L		05/01/15 14:20	05/04/15 16:21	1
4,4'-DDD	ND		0.0012	0.00064	ug/L		05/01/15 14:20	05/04/15 16:21	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		05/01/15 14:20	05/04/15 16:21	1
Dieldrin	ND		0.0012	0.00078	ug/L		05/01/15 14:20	05/04/15 16:21	1
Endosulfan I	ND		0.0012	0.00090	ug/L		05/01/15 14:20	05/04/15 16:21	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		05/01/15 14:20	05/04/15 16:21	1
Endosulfan II	ND		0.0012	0.00093	ug/L		05/01/15 14:20	05/04/15 16:21	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		05/01/15 14:20	05/04/15 16:21	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		05/01/15 14:20	05/04/15 16:21	1
Endrin	ND		0.0012	0.00091	ug/L		05/01/15 14:20	05/04/15 16:21	1
Endrin aldehyde	ND		0.0012	0.00086	ug/L		05/01/15 14:20	05/04/15 16:21	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		05/01/15 14:20	05/04/15 16:21	1
Heptachlor	ND		0.0012	0.00094	ug/L		05/01/15 14:20	05/04/15 16:21	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		05/01/15 14:20	05/04/15 16:21	1
Mirex	ND		0.0012	0.00046	ug/L		05/01/15 14:20	05/04/15 16:21	1
Toxaphene	ND		0.095	0.018	ug/L		05/01/15 14:20	05/04/15 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*142*	*X*	*60 - 111*	*05/01/15 14:20*	*05/04/15 16:21*	*1*
Tetrachloro-m-xylene	*107*		*60 - 111*	*05/01/15 14:20*	*05/04/15 16:21*	*1*
DCB Decachlorobiphenyl (Surr)	*80*		*45 - 122*	*05/01/15 14:20*	*05/04/15 16:21*	*1*
DCB Decachlorobiphenyl (Surr)	*78*		*45 - 122*	*05/01/15 14:20*	*05/04/15 16:21*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: TS-4NB-SET
Date Collected: 05/01/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-30
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0012	0.00079	ug/L		05/01/15 14:20	05/04/15 16:36	1
alpha-BHC	**0.0037**		0.0012	0.00063	ug/L		05/01/15 14:20	05/04/15 16:36	1
beta-BHC	ND		0.0012	0.00095	ug/L		05/01/15 14:20	05/04/15 16:36	1
delta-BHC	**0.0013**	**p**	0.0012	0.00036	ug/L		05/01/15 14:20	05/04/15 16:36	1
gamma-BHC (Lindane)	ND		0.0012	0.00076	ug/L		05/01/15 14:20	05/04/15 16:36	1
Chlordane (technical)	**0.0070**	**J p**	0.012	0.0016	ug/L		05/01/15 14:20	05/04/15 16:36	1
Chlorobenside	ND		0.0030	0.0014	ug/L		05/01/15 14:20	05/04/15 16:36	1
DCPA	ND		0.0024	0.00032	ug/L		05/01/15 14:20	05/04/15 16:36	1
4,4'-DDD	ND		0.0012	0.00064	ug/L		05/01/15 14:20	05/04/15 16:36	1
4,4'-DDE	ND		0.0012	0.00075	ug/L		05/01/15 14:20	05/04/15 16:36	1
Dieldrin	ND		0.0012	0.00078	ug/L		05/01/15 14:20	05/04/15 16:36	1
Endosulfan I	ND		0.0012	0.00090	ug/L		05/01/15 14:20	05/04/15 16:36	1
2,4'-DDD	ND		0.0012	0.00015	ug/L		05/01/15 14:20	05/04/15 16:36	1
Endosulfan II	ND		0.0012	0.00093	ug/L		05/01/15 14:20	05/04/15 16:36	1
Endosulfan sulfate	ND		0.0012	0.00054	ug/L		05/01/15 14:20	05/04/15 16:36	1
2,4'-DDE	ND		0.0012	0.00014	ug/L		05/01/15 14:20	05/04/15 16:36	1
Endrin	ND		0.0012	0.00091	ug/L		05/01/15 14:20	05/04/15 16:36	1
Endrin aldehyde	ND		0.0012	0.00086	ug/L		05/01/15 14:20	05/04/15 16:36	1
2,4'-DDT	ND		0.0012	0.00021	ug/L		05/01/15 14:20	05/04/15 16:36	1
Heptachlor	ND		0.0012	0.00094	ug/L		05/01/15 14:20	05/04/15 16:36	1
Heptachlor epoxide	ND		0.0012	0.00092	ug/L		05/01/15 14:20	05/04/15 16:36	1
Mirex	ND		0.0012	0.00046	ug/L		05/01/15 14:20	05/04/15 16:36	1
Toxaphene	ND		0.095	0.018	ug/L		05/01/15 14:20	05/04/15 16:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*172*	*X*	*60 - 111*	*05/01/15 14:20*	*05/04/15 16:36*	*1*
Tetrachloro-m-xylene	*114*	*p X*	*60 - 111*	*05/01/15 14:20*	*05/04/15 16:36*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 122*	*05/01/15 14:20*	*05/04/15 16:36*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 122*	*05/01/15 14:20*	*05/04/15 16:36*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Client Sample ID: SRM
Date Collected: 05/01/15 00:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-31
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	**0.019**		0.0026	0.0017	ug/L		04/29/15 16:40	05/04/15 17:07	1
alpha-BHC	ND		0.0026	0.0013	ug/L		04/29/15 16:40	05/04/15 17:07	1
beta-BHC	ND		0.0026	0.0020	ug/L		04/29/15 16:40	05/04/15 17:07	1
delta-BHC	ND		0.0026	0.00076	ug/L		04/29/15 16:40	05/04/15 17:07	1
gamma-BHC (Lindane)	**0.024**		0.0026	0.0016	ug/L		04/29/15 16:40	05/04/15 17:07	1
Chlordane (technical)	ND		0.025	0.0033	ug/L		04/29/15 16:40	05/04/15 17:07	1
Chlorobenside	ND		0.0064	0.0030	ug/L		04/29/15 16:40	05/04/15 17:07	1
DCPA	ND		0.0050	0.00068	ug/L		04/29/15 16:40	05/04/15 17:07	1
4,4'-DDD	**0.023**		0.0026	0.0013	ug/L		04/29/15 16:40	05/04/15 17:07	1
4,4'-DDE	**0.029**		0.0026	0.0016	ug/L		04/29/15 16:40	05/04/15 17:07	1
Dieldrin	**0.048**		0.0026	0.0016	ug/L		04/29/15 16:40	05/04/15 17:07	1
Endosulfan I	ND		0.0026	0.0019	ug/L		04/29/15 16:40	05/04/15 17:07	1
2,4'-DDD	**0.022**	**p**	0.0026	0.00032	ug/L		04/29/15 16:40	05/04/15 17:07	1
Endosulfan II	ND		0.0026	0.0020	ug/L		04/29/15 16:40	05/04/15 17:07	1
Endosulfan sulfate	ND		0.0026	0.0011	ug/L		04/29/15 16:40	05/04/15 17:07	1
2,4'-DDE	**0.021**		0.0026	0.00030	ug/L		04/29/15 16:40	05/04/15 17:07	1
Endrin	ND		0.0026	0.0019	ug/L		04/29/15 16:40	05/04/15 17:07	1
Endrin aldehyde	ND		0.0026	0.0018	ug/L		04/29/15 16:40	05/04/15 17:07	1
2,4'-DDT	**0.019**		0.0026	0.00044	ug/L		04/29/15 16:40	05/04/15 17:07	1
Heptachlor	**0.025**		0.0026	0.0020	ug/L		04/29/15 16:40	05/04/15 17:07	1
Heptachlor epoxide	**0.029**		0.0026	0.0019	ug/L		04/29/15 16:40	05/04/15 17:07	1
Mirex	**0.032**		0.0026	0.00096	ug/L		04/29/15 16:40	05/04/15 17:07	1
Toxaphene	ND		0.20	0.037	ug/L		04/29/15 16:40	05/04/15 17:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*89*		*60 - 111*	*04/29/15 16:40*	*05/04/15 17:07*	*1*
Tetrachloro-m-xylene	*89*		*60 - 111*	*04/29/15 16:40*	*05/04/15 17:07*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*45 - 122*	*04/29/15 16:40*	*05/04/15 17:07*	*1*
DCB Decachlorobiphenyl (Surr)	*89*		*45 - 122*	*04/29/15 16:40*	*05/04/15 17:07*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-1-SET
Date Collected: 04/28/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-16
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		04/29/15 16:40	05/06/15 02:49	1
Methoxychlor	ND		0.0024	0.00086	ug/L		04/29/15 16:40	05/06/15 02:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*112*	*X*	*60 - 111*	*04/29/15 16:40*	*05/06/15 02:49*	*1*
Tetrachloro-m-xylene	*110*		*60 - 111*	*04/29/15 16:40*	*05/06/15 02:49*	*1*
DCB Decachlorobiphenyl (Surr)	*83*		*45 - 122*	*04/29/15 16:40*	*05/06/15 02:49*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*45 - 122*	*04/29/15 16:40*	*05/06/15 02:49*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-2ST-SET
Date Collected: 04/28/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-17
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		04/29/15 16:40	05/06/15 03:05	1
Methoxychlor	ND		0.0024	0.00087	ug/L		04/29/15 16:40	05/06/15 03:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*131*	*X*	*60 - 111*	*04/29/15 16:40*	*05/06/15 03:05*	*1*
Tetrachloro-m-xylene	*111*		*60 - 111*	*04/29/15 16:40*	*05/06/15 03:05*	*1*
DCB Decachlorobiphenyl (Surr)	*94*		*45 - 122*	*04/29/15 16:40*	*05/06/15 03:05*	*1*
DCB Decachlorobiphenyl (Surr)	*97*		*45 - 122*	*04/29/15 16:40*	*05/06/15 03:05*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-2SB-SET
Date Collected: 04/28/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-18
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		04/29/15 16:40	05/06/15 03:20	1
Methoxychlor	ND		0.0024	0.00086	ug/L		04/29/15 16:40	05/06/15 03:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*127*	*X*	*60 - 111*	*04/29/15 16:40*	*05/06/15 03:20*	*1*
Tetrachloro-m-xylene	*111*		*60 - 111*	*04/29/15 16:40*	*05/06/15 03:20*	*1*
DCB Decachlorobiphenyl (Surr)	*91*		*45 - 122*	*04/29/15 16:40*	*05/06/15 03:20*	*1*
DCB Decachlorobiphenyl (Surr)	*90*		*45 - 122*	*04/29/15 16:40*	*05/06/15 03:20*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-2MT-SET
Date Collected: 04/28/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-19
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		04/29/15 16:40	05/06/15 03:36	1
Methoxychlor	ND		0.0024	0.00086	ug/L		04/29/15 16:40	05/06/15 03:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*115*	*X*	*60 - 111*	*04/29/15 16:40*	*05/06/15 03:36*	*1*
Tetrachloro-m-xylene	*105*		*60 - 111*	*04/29/15 16:40*	*05/06/15 03:36*	*1*
DCB Decachlorobiphenyl (Surr)	*93*		*45 - 122*	*04/29/15 16:40*	*05/06/15 03:36*	*1*
DCB Decachlorobiphenyl (Surr)	*94*		*45 - 122*	*04/29/15 16:40*	*05/06/15 03:36*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-2NT-SET
Date Collected: 04/28/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-20
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		04/29/15 16:40	05/06/15 03:51	1
Methoxychlor	ND		0.0024	0.00086	ug/L		04/29/15 16:40	05/06/15 03:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*111*		*60 - 111*	*04/29/15 16:40*	*05/06/15 03:51*	*1*
Tetrachloro-m-xylene	*101*		*60 - 111*	*04/29/15 16:40*	*05/06/15 03:51*	*1*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 122*	*04/29/15 16:40*	*05/06/15 03:51*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*45 - 122*	*04/29/15 16:40*	*05/06/15 03:51*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-2NB-SET
Date Collected: 04/28/15 12:15
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-21
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0013	0.00071	ug/L		04/29/15 16:40	05/06/15 04:06	1
Methoxychlor	ND		0.0024	0.00088	ug/L		04/29/15 16:40	05/06/15 04:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*101*		*60 - 111*	*04/29/15 16:40*	*05/06/15 04:06*	*1*
Tetrachloro-m-xylene	*100*		*60 - 111*	*04/29/15 16:40*	*05/06/15 04:06*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*45 - 122*	*04/29/15 16:40*	*05/06/15 04:06*	*1*
DCB Decachlorobiphenyl (Surr)	*90*		*45 - 122*	*04/29/15 16:40*	*05/06/15 04:06*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-3ST-SET
Date Collected: 04/28/15 12:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-22
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		04/29/15 16:40	05/06/15 04:53	1
Methoxychlor	ND		0.0024	0.00086	ug/L		04/29/15 16:40	05/06/15 04:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*103*		*60 - 111*	*04/29/15 16:40*	*05/06/15 04:53*	*1*
Tetrachloro-m-xylene	*93*		*60 - 111*	*04/29/15 16:40*	*05/06/15 04:53*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 122*	*04/29/15 16:40*	*05/06/15 04:53*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 122*	*04/29/15 16:40*	*05/06/15 04:53*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-3SB-SET
Date Collected: 04/30/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-23
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		05/01/15 14:20	05/05/15 23:43	1
Methoxychlor	ND		0.0024	0.00087	ug/L		05/01/15 14:20	05/05/15 23:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*139*	*X*	*60 - 111*	*05/01/15 14:20*	*05/05/15 23:43*	*1*
Tetrachloro-m-xylene	*124*	*X*	*60 - 111*	*05/01/15 14:20*	*05/05/15 23:43*	*1*
DCB Decachlorobiphenyl (Surr)	*83*		*45 - 122*	*05/01/15 14:20*	*05/05/15 23:43*	*1*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 122*	*05/01/15 14:20*	*05/05/15 23:43*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-3NT-SET
Date Collected: 04/30/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-24
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		05/01/15 14:20	05/05/15 23:59	1
Methoxychlor	ND		0.0024	0.00087	ug/L		05/01/15 14:20	05/05/15 23:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*118*	*X*	*60 - 111*	*05/01/15 14:20*	*05/05/15 23:59*	*1*
Tetrachloro-m-xylene	*112*	*X*	*60 - 111*	*05/01/15 14:20*	*05/05/15 23:59*	*1*
DCB Decachlorobiphenyl (Surr)	*90*		*45 - 122*	*05/01/15 14:20*	*05/05/15 23:59*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*45 - 122*	*05/01/15 14:20*	*05/05/15 23:59*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-3NB-SET
Date Collected: 04/30/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-25
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		05/01/15 14:20	05/06/15 00:14	1
Methoxychlor	ND		0.0024	0.00087	ug/L		05/01/15 14:20	05/06/15 00:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*122*	*X*	*60 - 111*	*05/01/15 14:20*	*05/06/15 00:14*	*1*
Tetrachloro-m-xylene	*106*		*60 - 111*	*05/01/15 14:20*	*05/06/15 00:14*	*1*
DCB Decachlorobiphenyl (Surr)	*82*		*45 - 122*	*05/01/15 14:20*	*05/06/15 00:14*	*1*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 122*	*05/01/15 14:20*	*05/06/15 00:14*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-4ST-SET
Date Collected: 04/30/15 12:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-26
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		05/01/15 14:20	05/06/15 00:30	1
Methoxychlor	ND		0.0024	0.00087	ug/L		05/01/15 14:20	05/06/15 00:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*118*	*X*	*60 - 111*	*05/01/15 14:20*	*05/06/15 00:30*	*1*
Tetrachloro-m-xylene	*104*		*60 - 111*	*05/01/15 14:20*	*05/06/15 00:30*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*45 - 122*	*05/01/15 14:20*	*05/06/15 00:30*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*45 - 122*	*05/01/15 14:20*	*05/06/15 00:30*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-4SB-SET
Date Collected: 04/30/15 12:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-27
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		05/01/15 14:20	05/06/15 00:45	1
Methoxychlor	ND		0.0024	0.00087	ug/L		05/01/15 14:20	05/06/15 00:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*102*		*60 - 111*	*05/01/15 14:20*	*05/06/15 00:45*	*1*
Tetrachloro-m-xylene	*96*		*60 - 111*	*05/01/15 14:20*	*05/06/15 00:45*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*45 - 122*	*05/01/15 14:20*	*05/06/15 00:45*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*45 - 122*	*05/01/15 14:20*	*05/06/15 00:45*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-4MT-SET
Date Collected: 05/01/15 09:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-28
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		05/01/15 14:20	05/06/15 01:01	1
Methoxychlor	ND		0.0024	0.00086	ug/L		05/01/15 14:20	05/06/15 01:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*144*	*X*	*60 - 111*	*05/01/15 14:20*	*05/06/15 01:01*	*1*
Tetrachloro-m-xylene	*126*	*X*	*60 - 111*	*05/01/15 14:20*	*05/06/15 01:01*	*1*
DCB Decachlorobiphenyl (Surr)	*83*		*45 - 122*	*05/01/15 14:20*	*05/06/15 01:01*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 122*	*05/01/15 14:20*	*05/06/15 01:01*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-4NT-SET
Date Collected: 05/01/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-29
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		05/01/15 14:20	05/06/15 01:16	1
Methoxychlor	ND		0.0024	0.00087	ug/L		05/01/15 14:20	05/06/15 01:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*104*		*60 - 111*	*05/01/15 14:20*	*05/06/15 01:16*	*1*
Tetrachloro-m-xylene	*99*		*60 - 111*	*05/01/15 14:20*	*05/06/15 01:16*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 122*	*05/01/15 14:20*	*05/06/15 01:16*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 122*	*05/01/15 14:20*	*05/06/15 01:16*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: TS-4NB-SET
Date Collected: 05/01/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-30
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		0.0012	0.00070	ug/L		05/01/15 14:20	05/06/15 02:18	1
Methoxychlor	ND		0.0024	0.00087	ug/L		05/01/15 14:20	05/06/15 02:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*120*	*X*	*60 - 111*	*05/01/15 14:20*	*05/06/15 02:18*	*1*
Tetrachloro-m-xylene	*103*		*60 - 111*	*05/01/15 14:20*	*05/06/15 02:18*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 122*	*05/01/15 14:20*	*05/06/15 02:18*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*45 - 122*	*05/01/15 14:20*	*05/06/15 02:18*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved - RA

Client Sample ID: SRM
Date Collected: 05/01/15 00:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-31
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	**0.036**		0.0026	0.0015	ug/L		04/29/15 16:40	05/06/15 02:34	1
Methoxychlor	ND		0.0050	0.0018	ug/L		04/29/15 16:40	05/06/15 02:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*95*		*60 - 111*	*04/29/15 16:40*	*05/06/15 02:34*	*1*
Tetrachloro-m-xylene	*97*		*60 - 111*	*04/29/15 16:40*	*05/06/15 02:34*	*1*
DCB Decachlorobiphenyl (Surr)	*90*		*45 - 122*	*04/29/15 16:40*	*05/06/15 02:34*	*1*
DCB Decachlorobiphenyl (Surr)	*92*		*45 - 122*	*04/29/15 16:40*	*05/06/15 02:34*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-1-SET
Date Collected: 04/28/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-16
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.94	0.30	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-18	ND		0.94	0.18	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-28	ND		0.94	0.22	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-44	ND		0.94	0.073	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-49	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-52	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-66	**1.9**	**p**	0.94	0.12	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-77	ND		0.94	0.15	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-87	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-101	**0.49**	**J p**	0.94	0.14	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-105	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-118	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-126	ND		0.94	0.30	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-128	ND		0.94	0.080	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-138	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-153	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-156	ND		0.94	0.074	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-169	ND		0.94	0.21	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-170	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-180	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-183	ND		0.94	0.25	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-184	ND		0.94	0.13	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-187	ND		0.94	0.38	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-195	ND		0.94	0.097	ng/L		04/29/15 15:40	05/01/15 07:59	1
PCB-206	ND		0.94	0.16	ng/L		04/29/15 15:40	05/01/15 07:59	1
DCB Decachlorobiphenyl	**0.14**	**J p**	0.94	0.099	ng/L		04/29/15 15:40	05/01/15 07:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*101*		*35 - 140*	*04/29/15 15:40*	*05/01/15 07:59*	*1*
Tetrachloro-m-xylene (Surr)	*107*		*35 - 140*	*04/29/15 15:40*	*05/01/15 07:59*	*1*
PCB-205 (Surr)	*106*		*35 - 140*	*04/29/15 15:40*	*05/01/15 07:59*	*1*
PCB-205 (Surr)	*130*		*35 - 140*	*04/29/15 15:40*	*05/01/15 07:59*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-2ST-SET
Date Collected: 04/28/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-17
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.94	0.30	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-18	ND		0.94	0.18	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-28	ND		0.94	0.22	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-44	ND		0.94	0.073	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-49	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-52	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-66	**4.8**	**p**	0.94	0.12	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-77	ND		0.94	0.15	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-87	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-101	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-105	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-118	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-126	ND		0.94	0.30	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-128	ND		0.94	0.080	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-138	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-153	**0.18**	**J p**	0.94	0.11	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-156	ND		0.94	0.074	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-169	ND		0.94	0.21	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-170	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-180	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-183	ND		0.94	0.25	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-184	ND		0.94	0.13	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-187	ND		0.94	0.38	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-195	ND		0.94	0.097	ng/L		04/29/15 15:40	05/01/15 08:30	1
PCB-206	ND		0.94	0.16	ng/L		04/29/15 15:40	05/01/15 08:30	1
DCB Decachlorobiphenyl	**0.12**	**J p**	0.94	0.099	ng/L		04/29/15 15:40	05/01/15 08:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*101*		*35 - 140*	*04/29/15 15:40*	*05/01/15 08:30*	*1*
Tetrachloro-m-xylene (Surr)	*102*		*35 - 140*	*04/29/15 15:40*	*05/01/15 08:30*	*1*
PCB-205 (Surr)	*100*		*35 - 140*	*04/29/15 15:40*	*05/01/15 08:30*	*1*
PCB-205 (Surr)	*127*		*35 - 140*	*04/29/15 15:40*	*05/01/15 08:30*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-2SB-SET
Date Collected: 04/28/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-18
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.94	0.30	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-18	ND		0.94	0.18	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-28	ND		0.94	0.22	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-44	ND		0.94	0.073	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-49	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-52	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-66	**5.3**	**p**	0.94	0.12	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-77	ND		0.94	0.15	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-87	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-101	**0.97**	**p**	0.94	0.14	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-105	**0.27**	**J p**	0.94	0.075	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-118	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-126	ND		0.94	0.30	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-128	ND		0.94	0.080	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-138	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-153	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-156	**0.079**	**J p**	0.94	0.074	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-169	ND		0.94	0.21	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-170	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-180	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-183	ND		0.94	0.25	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-184	ND		0.94	0.13	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-187	ND		0.94	0.38	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-195	ND		0.94	0.097	ng/L		04/29/15 15:40	05/01/15 09:02	1
PCB-206	ND		0.94	0.16	ng/L		04/29/15 15:40	05/01/15 09:02	1
DCB Decachlorobiphenyl	ND		0.94	0.099	ng/L		04/29/15 15:40	05/01/15 09:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*142*	*X*	*35 - 140*	*04/29/15 15:40*	*05/01/15 09:02*	*1*
Tetrachloro-m-xylene (Surr)	*101*		*35 - 140*	*04/29/15 15:40*	*05/01/15 09:02*	*1*
PCB-205 (Surr)	*96*		*35 - 140*	*04/29/15 15:40*	*05/01/15 09:02*	*1*
PCB-205 (Surr)	*116*		*35 - 140*	*04/29/15 15:40*	*05/01/15 09:02*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-2MT-SET
Date Collected: 04/28/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-19
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.94	0.30	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-18	ND		0.94	0.18	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-28	ND		0.94	0.22	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-44	ND		0.94	0.073	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-49	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-52	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-66	**6.6**	**p**	0.94	0.12	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-77	**0.35**	**J p**	0.94	0.15	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-87	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-101	**1.4**	**p**	0.94	0.14	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-105	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-118	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-126	ND		0.94	0.30	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-128	ND		0.94	0.080	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-138	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-153	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-156	ND		0.94	0.074	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-169	ND		0.94	0.21	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-170	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-180	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-183	ND		0.94	0.25	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-184	ND		0.94	0.13	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-187	ND		0.94	0.38	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-195	**0.47**	**J p**	0.94	0.097	ng/L		04/29/15 15:40	05/01/15 09:34	1
PCB-206	ND		0.94	0.16	ng/L		04/29/15 15:40	05/01/15 09:34	1
DCB Decachlorobiphenyl	**0.21**	**J p**	0.94	0.099	ng/L		04/29/15 15:40	05/01/15 09:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*104*		*35 - 140*	*04/29/15 15:40*	*05/01/15 09:34*	*1*
Tetrachloro-m-xylene (Surr)	*98*		*35 - 140*	*04/29/15 15:40*	*05/01/15 09:34*	*1*
PCB-205 (Surr)	*109*		*35 - 140*	*04/29/15 15:40*	*05/01/15 09:34*	*1*
PCB-205 (Surr)	*113*		*35 - 140*	*04/29/15 15:40*	*05/01/15 09:34*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-2NT-SET
Date Collected: 04/28/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-20
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.94	0.30	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-18	ND		0.94	0.18	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-28	ND		0.94	0.22	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-44	ND		0.94	0.073	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-49	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-52	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-66	**5.5**	**p**	0.94	0.12	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-77	ND		0.94	0.15	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-87	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-101	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-105	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-118	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-126	ND		0.94	0.30	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-128	ND		0.94	0.080	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-138	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-153	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-156	**0.13**	**J p**	0.94	0.074	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-169	ND		0.94	0.21	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-170	**0.22**	**J p**	0.94	0.11	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-180	**0.086**	**J p**	0.94	0.075	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-183	ND		0.94	0.25	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-184	**0.54**	**J**	0.94	0.13	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-187	ND		0.94	0.38	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-195	ND		0.94	0.097	ng/L		04/29/15 15:40	05/01/15 10:06	1
PCB-206	**0.23**	**J**	0.94	0.16	ng/L		04/29/15 15:40	05/01/15 10:06	1
DCB Decachlorobiphenyl	ND		0.94	0.099	ng/L		04/29/15 15:40	05/01/15 10:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*237*	*X*	*35 - 140*	*04/29/15 15:40*	*05/01/15 10:06*	*1*
Tetrachloro-m-xylene (Surr)	*102*	*p*	*35 - 140*	*04/29/15 15:40*	*05/01/15 10:06*	*1*
PCB-205 (Surr)	*111*		*35 - 140*	*04/29/15 15:40*	*05/01/15 10:06*	*1*
PCB-205 (Surr)	*116*		*35 - 140*	*04/29/15 15:40*	*05/01/15 10:06*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-2NB-SET
Date Collected: 04/28/15 12:15
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-21
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND	F1 F2	0.96	0.31	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-18	ND		0.96	0.19	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-28	ND	F1	0.96	0.22	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-44	ND		0.96	0.074	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-49	ND	F1	0.96	0.14	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-52	ND		0.96	0.15	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-66	**2.3**	**p F1**	0.96	0.12	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-77	ND	F1	0.96	0.15	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-87	ND		0.96	0.076	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-101	ND		0.96	0.14	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-105	ND		0.96	0.076	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-118	ND		0.96	0.11	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-126	ND		0.96	0.30	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-128	ND		0.96	0.082	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-138	ND		0.96	0.14	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-153	ND		0.96	0.11	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-156	**0.080**	**J p**	0.96	0.075	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-169	ND		0.96	0.22	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-170	ND		0.96	0.11	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-180	ND		0.96	0.077	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-183	ND		0.96	0.26	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-184	ND		0.96	0.14	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-187	ND		0.96	0.38	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-195	ND		0.96	0.099	ng/L		04/29/15 15:40	05/01/15 10:38	1
PCB-206	ND		0.96	0.17	ng/L		04/29/15 15:40	05/01/15 10:38	1
DCB Decachlorobiphenyl	ND		0.96	0.10	ng/L		04/29/15 15:40	05/01/15 10:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*116*		*35 - 140*	*04/29/15 15:40*	*05/01/15 10:38*	*1*
Tetrachloro-m-xylene (Surr)	*110*		*35 - 140*	*04/29/15 15:40*	*05/01/15 10:38*	*1*
PCB-205 (Surr)	*93*		*35 - 140*	*04/29/15 15:40*	*05/01/15 10:38*	*1*
PCB-205 (Surr)	*121*		*35 - 140*	*04/29/15 15:40*	*05/01/15 10:38*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-3ST-SET
Date Collected: 04/28/15 12:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-22
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.94	0.30	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-18	ND		0.94	0.18	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-28	ND		0.94	0.22	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-44	**0.32**	**J p**	0.94	0.073	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-49	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-52	**0.75**	**J p**	0.94	0.14	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-66	ND		0.94	0.12	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-77	ND		0.94	0.15	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-87	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-101	**0.42**	**J p**	0.94	0.14	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-105	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-118	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-126	ND		0.94	0.30	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-128	ND		0.94	0.080	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-138	ND		0.94	0.14	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-153	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-156	ND		0.94	0.074	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-169	ND		0.94	0.21	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-170	ND		0.94	0.11	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-180	ND		0.94	0.075	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-183	ND		0.94	0.25	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-184	ND		0.94	0.13	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-187	ND		0.94	0.38	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-195	ND		0.94	0.097	ng/L		04/29/15 15:40	05/01/15 12:15	1
PCB-206	ND		0.94	0.16	ng/L		04/29/15 15:40	05/01/15 12:15	1
DCB Decachlorobiphenyl	ND		0.94	0.099	ng/L		04/29/15 15:40	05/01/15 12:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*89*		*35 - 140*	*04/29/15 15:40*	*05/01/15 12:15*	*1*
Tetrachloro-m-xylene (Surr)	*93*		*35 - 140*	*04/29/15 15:40*	*05/01/15 12:15*	*1*
PCB-205 (Surr)	*97*		*35 - 140*	*04/29/15 15:40*	*05/01/15 12:15*	*1*
PCB-205 (Surr)	*111*		*35 - 140*	*04/29/15 15:40*	*05/01/15 12:15*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-3SB-SET
Date Collected: 04/30/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-23
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.95	0.31	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-18	ND		0.95	0.18	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-28	ND		0.95	0.22	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-44	**0.094**	**J p**	0.95	0.073	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-49	ND		0.95	0.14	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-52	ND		0.95	0.14	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-66	ND		0.95	0.12	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-77	**0.16**	**J p**	0.95	0.15	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-87	ND		0.95	0.076	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-101	**0.52**	**J p**	0.95	0.14	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-105	ND		0.95	0.076	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-118	ND		0.95	0.11	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-126	**0.41**	**J p**	0.95	0.30	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-128	ND		0.95	0.081	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-138	ND		0.95	0.14	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-153	ND		0.95	0.11	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-156	ND		0.95	0.075	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-169	ND		0.95	0.21	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-170	ND		0.95	0.11	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-180	ND		0.95	0.076	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-183	ND		0.95	0.26	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-184	ND		0.95	0.14	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-187	ND		0.95	0.38	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-195	ND		0.95	0.098	ng/L		05/01/15 15:20	05/07/15 23:24	1
PCB-206	ND		0.95	0.16	ng/L		05/01/15 15:20	05/07/15 23:24	1
DCB Decachlorobiphenyl	ND		0.95	0.10	ng/L		05/01/15 15:20	05/07/15 23:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*81*		*35 - 140*	*05/01/15 15:20*	*05/07/15 23:24*	*1*
Tetrachloro-m-xylene (Surr)	*82*		*35 - 140*	*05/01/15 15:20*	*05/07/15 23:24*	*1*
PCB-205 (Surr)	*84*		*35 - 140*	*05/01/15 15:20*	*05/07/15 23:24*	*1*
PCB-205 (Surr)	*85*		*35 - 140*	*05/01/15 15:20*	*05/07/15 23:24*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-3NT-SET
Date Collected: 04/30/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-24
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.95	0.31	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-18	ND		0.95	0.18	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-28	ND		0.95	0.22	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-44	ND		0.95	0.073	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-49	**0.48**	**J p**	0.95	0.14	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-52	ND		0.95	0.14	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-66	**0.30**	**J p**	0.95	0.12	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-77	**0.16**	**J p**	0.95	0.15	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-87	ND		0.95	0.076	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-101	**0.55**	**J p**	0.95	0.14	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-105	ND		0.95	0.076	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-118	ND		0.95	0.11	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-126	ND		0.95	0.30	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-128	ND		0.95	0.081	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-138	ND		0.95	0.14	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-153	ND		0.95	0.11	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-156	ND		0.95	0.075	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-169	ND		0.95	0.21	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-170	ND		0.95	0.11	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-180	ND		0.95	0.076	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-183	ND		0.95	0.26	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-184	ND		0.95	0.14	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-187	ND		0.95	0.38	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-195	ND		0.95	0.098	ng/L		05/01/15 15:20	05/07/15 23:56	1
PCB-206	ND		0.95	0.16	ng/L		05/01/15 15:20	05/07/15 23:56	1
DCB Decachlorobiphenyl	ND		0.95	0.10	ng/L		05/01/15 15:20	05/07/15 23:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*82*		*35 - 140*	*05/01/15 15:20*	*05/07/15 23:56*	*1*
Tetrachloro-m-xylene (Surr)	*90*		*35 - 140*	*05/01/15 15:20*	*05/07/15 23:56*	*1*
PCB-205 (Surr)	*95*		*35 - 140*	*05/01/15 15:20*	*05/07/15 23:56*	*1*
PCB-205 (Surr)	*95*		*35 - 140*	*05/01/15 15:20*	*05/07/15 23:56*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-3NB-SET
Date Collected: 04/30/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-25
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.95	0.31	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-18	ND		0.95	0.18	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-28	ND		0.95	0.22	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-44	**0.15**	**J p**	0.95	0.073	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-49	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-52	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-66	ND		0.95	0.12	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-77	**0.15**	**J p**	0.95	0.15	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-87	ND		0.95	0.076	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-101	**0.32**	**J p**	0.95	0.14	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-105	ND		0.95	0.076	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-118	ND		0.95	0.11	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-126	ND		0.95	0.30	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-128	ND		0.95	0.081	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-138	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-153	ND		0.95	0.11	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-156	ND		0.95	0.075	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-169	ND		0.95	0.21	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-170	ND		0.95	0.11	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-180	ND		0.95	0.076	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-183	ND		0.95	0.26	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-184	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-187	ND		0.95	0.38	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-195	ND		0.95	0.098	ng/L		05/01/15 15:20	05/08/15 00:28	1
PCB-206	ND		0.95	0.16	ng/L		05/01/15 15:20	05/08/15 00:28	1
DCB Decachlorobiphenyl	ND		0.95	0.10	ng/L		05/01/15 15:20	05/08/15 00:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*89*		*35 - 140*	*05/01/15 15:20*	*05/08/15 00:28*	*1*
Tetrachloro-m-xylene (Surr)	*95*		*35 - 140*	*05/01/15 15:20*	*05/08/15 00:28*	*1*
PCB-205 (Surr)	*96*		*35 - 140*	*05/01/15 15:20*	*05/08/15 00:28*	*1*
PCB-205 (Surr)	*96*		*35 - 140*	*05/01/15 15:20*	*05/08/15 00:28*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-4ST-SET
Date Collected: 04/30/15 12:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-26
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.95	0.31	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-18	ND		0.95	0.18	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-28	ND		0.95	0.22	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-44	ND		0.95	0.073	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-49	**0.16**	**J p**	0.95	0.14	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-52	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-66	ND		0.95	0.12	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-77	ND		0.95	0.15	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-87	ND		0.95	0.076	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-101	**0.31**	**J p**	0.95	0.14	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-105	ND		0.95	0.076	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-118	ND		0.95	0.11	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-126	ND		0.95	0.30	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-128	ND		0.95	0.081	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-138	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-153	ND		0.95	0.11	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-156	ND		0.95	0.075	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-169	ND		0.95	0.21	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-170	ND		0.95	0.11	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-180	ND		0.95	0.076	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-183	ND		0.95	0.26	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-184	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-187	ND		0.95	0.38	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-195	ND		0.95	0.098	ng/L		05/01/15 15:20	05/08/15 01:00	1
PCB-206	ND		0.95	0.16	ng/L		05/01/15 15:20	05/08/15 01:00	1
DCB Decachlorobiphenyl	ND		0.95	0.10	ng/L		05/01/15 15:20	05/08/15 01:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*88*		*35 - 140*	*05/01/15 15:20*	*05/08/15 01:00*	*1*
Tetrachloro-m-xylene (Surr)	*90*		*35 - 140*	*05/01/15 15:20*	*05/08/15 01:00*	*1*
PCB-205 (Surr)	*87*		*35 - 140*	*05/01/15 15:20*	*05/08/15 01:00*	*1*
PCB-205 (Surr)	*88*		*35 - 140*	*05/01/15 15:20*	*05/08/15 01:00*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-4SB-SET
Date Collected: 04/30/15 12:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-27
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	**3.9**		0.95	0.31	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-18	ND		0.95	0.18	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-28	ND		0.95	0.22	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-44	ND		0.95	0.073	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-49	**0.21**	**J p**	0.95	0.14	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-52	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-66	ND		0.95	0.12	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-77	ND		0.95	0.15	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-87	ND		0.95	0.076	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-101	**0.40**	**J**	0.95	0.14	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-105	ND		0.95	0.076	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-118	ND		0.95	0.11	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-126	ND		0.95	0.30	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-128	ND		0.95	0.081	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-138	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-153	ND		0.95	0.11	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-156	ND		0.95	0.075	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-169	ND		0.95	0.21	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-170	ND		0.95	0.11	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-180	ND		0.95	0.076	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-183	ND		0.95	0.26	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-184	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-187	ND		0.95	0.38	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-195	ND		0.95	0.098	ng/L		05/01/15 15:20	05/08/15 01:32	1
PCB-206	ND		0.95	0.16	ng/L		05/01/15 15:20	05/08/15 01:32	1
DCB Decachlorobiphenyl	ND		0.95	0.10	ng/L		05/01/15 15:20	05/08/15 01:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*84*		*35 - 140*	*05/01/15 15:20*	*05/08/15 01:32*	*1*
Tetrachloro-m-xylene (Surr)	*91*		*35 - 140*	*05/01/15 15:20*	*05/08/15 01:32*	*1*
PCB-205 (Surr)	*92*		*35 - 140*	*05/01/15 15:20*	*05/08/15 01:32*	*1*
PCB-205 (Surr)	*92*		*35 - 140*	*05/01/15 15:20*	*05/08/15 01:32*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-4MT-SET
Date Collected: 05/01/15 09:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-28
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.95	0.31	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-18	ND		0.95	0.18	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-28	ND		0.95	0.22	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-44	ND		0.95	0.073	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-49	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-52	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-66	**0.46**	**J p**	0.95	0.12	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-77	**0.15**	**J p**	0.95	0.15	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-87	ND		0.95	0.076	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-101	**0.36**	**J p**	0.95	0.14	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-105	ND		0.95	0.076	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-118	ND		0.95	0.11	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-126	ND		0.95	0.30	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-128	ND		0.95	0.081	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-138	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-153	ND		0.95	0.11	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-156	ND		0.95	0.075	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-169	ND		0.95	0.21	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-170	ND		0.95	0.11	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-180	ND		0.95	0.076	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-183	ND		0.95	0.26	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-184	ND		0.95	0.14	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-187	ND		0.95	0.38	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-195	ND		0.95	0.098	ng/L		05/01/15 15:20	05/08/15 02:04	1
PCB-206	ND		0.95	0.16	ng/L		05/01/15 15:20	05/08/15 02:04	1
DCB Decachlorobiphenyl	ND		0.95	0.10	ng/L		05/01/15 15:20	05/08/15 02:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*92*		*35 - 140*	*05/01/15 15:20*	*05/08/15 02:04*	*1*
Tetrachloro-m-xylene (Surr)	*94*		*35 - 140*	*05/01/15 15:20*	*05/08/15 02:04*	*1*
PCB-205 (Surr)	*93*		*35 - 140*	*05/01/15 15:20*	*05/08/15 02:04*	*1*
PCB-205 (Surr)	*94*		*35 - 140*	*05/01/15 15:20*	*05/08/15 02:04*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-4NT-SET
Date Collected: 05/01/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-29
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.94	0.30	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-18	ND		0.94	0.18	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-28	ND		0.94	0.22	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-44	ND		0.94	0.073	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-49	**1.1**	**p**	0.94	0.14	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-52	ND		0.94	0.14	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-66	ND		0.94	0.12	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-77	**0.42**	**J p**	0.94	0.15	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-87	ND		0.94	0.075	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-101	**2.0**	**p**	0.94	0.14	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-105	ND		0.94	0.075	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-118	ND		0.94	0.11	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-126	**1.1**	**p**	0.94	0.30	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-128	ND		0.94	0.080	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-138	ND		0.94	0.14	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-153	ND		0.94	0.11	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-156	ND		0.94	0.074	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-169	ND		0.94	0.21	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-170	**0.24**	**J**	0.94	0.11	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-180	**0.14**	**J p**	0.94	0.075	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-183	ND		0.94	0.25	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-184	ND		0.94	0.13	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-187	ND		0.94	0.38	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-195	ND		0.94	0.097	ng/L		05/01/15 15:20	05/08/15 02:36	1
PCB-206	ND		0.94	0.16	ng/L		05/01/15 15:20	05/08/15 02:36	1
DCB Decachlorobiphenyl	ND		0.94	0.099	ng/L		05/01/15 15:20	05/08/15 02:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*69*		*35 - 140*	*05/01/15 15:20*	*05/08/15 02:36*	*1*
Tetrachloro-m-xylene (Surr)	*84*		*35 - 140*	*05/01/15 15:20*	*05/08/15 02:36*	*1*
PCB-205 (Surr)	*83*		*35 - 140*	*05/01/15 15:20*	*05/08/15 02:36*	*1*
PCB-205 (Surr)	*88*		*35 - 140*	*05/01/15 15:20*	*05/08/15 02:36*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: TS-4NB-SET
Date Collected: 05/01/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-30
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.94	0.30	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-18	ND		0.94	0.18	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-28	ND		0.94	0.22	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-44	ND		0.94	0.073	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-49	**0.83**	**J p**	0.94	0.14	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-52	ND		0.94	0.14	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-66	ND		0.94	0.12	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-77	ND		0.94	0.15	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-87	ND		0.94	0.075	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-101	ND		0.94	0.14	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-105	ND		0.94	0.075	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-118	ND		0.94	0.11	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-126	**0.85**	**J p**	0.94	0.30	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-128	ND		0.94	0.080	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-138	ND		0.94	0.14	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-153	ND		0.94	0.11	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-156	ND		0.94	0.074	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-169	ND		0.94	0.21	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-170	**0.15**	**J p**	0.94	0.11	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-180	ND		0.94	0.075	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-183	ND		0.94	0.25	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-184	ND		0.94	0.13	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-187	ND		0.94	0.38	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-195	ND		0.94	0.097	ng/L		05/01/15 15:20	05/08/15 03:08	1
PCB-206	ND		0.94	0.16	ng/L		05/01/15 15:20	05/08/15 03:08	1
DCB Decachlorobiphenyl	ND		0.94	0.099	ng/L		05/01/15 15:20	05/08/15 03:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*90*		*35 - 140*	*05/01/15 15:20*	*05/08/15 03:08*	*1*
Tetrachloro-m-xylene (Surr)	*95*		*35 - 140*	*05/01/15 15:20*	*05/08/15 03:08*	*1*
PCB-205 (Surr)	*91*		*35 - 140*	*05/01/15 15:20*	*05/08/15 03:08*	*1*
PCB-205 (Surr)	*95*		*35 - 140*	*05/01/15 15:20*	*05/08/15 03:08*	*1*

Method: 8082A - PCB Congeners (GC) - Dissolved

Client Sample ID: SRM
Date Collected: 05/01/15 00:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-31
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	**21**		1.0	0.32	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-18	**19**		1.0	0.19	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-28	**20**		1.0	0.23	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-44	**17**		1.0	0.077	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-49	ND		1.0	0.15	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-52	**18**		1.0	0.15	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-66	**23**		1.0	0.13	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-77	**24**		1.0	0.16	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-87	ND		1.0	0.079	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-101	**20**		1.0	0.15	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-105	**22**		1.0	0.079	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-118	**10**	**p**	1.0	0.12	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-126	**19**		1.0	0.32	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-128	**20**		1.0	0.085	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-138	**19**		1.0	0.15	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-153	**18**		1.0	0.12	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-156	ND		1.0	0.078	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-169	ND		1.0	0.22	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-170	**20**		1.0	0.11	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-180	**20**		1.0	0.080	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-183	ND		1.0	0.27	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-184	ND		1.0	0.14	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-187	**18**		1.0	0.40	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-195	**19**		1.0	0.10	ng/L		04/29/15 15:40	05/01/15 07:27	1
PCB-206	**16**		1.0	0.17	ng/L		04/29/15 15:40	05/01/15 07:27	1
DCB Decachlorobiphenyl	**18**		1.0	0.11	ng/L		04/29/15 15:40	05/01/15 07:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*103*		*35 - 140*	*04/29/15 15:40*	*05/01/15 07:27*	*1*
Tetrachloro-m-xylene (Surr)	*98*		*35 - 140*	*04/29/15 15:40*	*05/01/15 07:27*	*1*
PCB-205 (Surr)	*104*		*35 - 140*	*04/29/15 15:40*	*05/01/15 07:27*	*1*
PCB-205 (Surr)	*115*		*35 - 140*	*04/29/15 15:40*	*05/01/15 07:27*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-1-SET
Date Collected: 04/28/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-16
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 11:31	1
Demeton, Total	ND		1.9	0.16	ug/L		04/29/15 14:35	04/30/15 11:31	1
Malathion	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 11:31	1
Methyl parathion	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 11:31	1
Parathion	ND		0.94	0.15	ug/L		04/29/15 14:35	04/30/15 11:31	1
Bolstar	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 11:31	1
Chlorpyrifos	ND		0.94	0.096	ug/L		04/29/15 14:35	04/30/15 11:31	1
Coumaphos	ND		0.94	0.14	ug/L		04/29/15 14:35	04/30/15 11:31	1
Diazinon	ND		0.94	0.089	ug/L		04/29/15 14:35	04/30/15 11:31	1
Dichlorvos	ND		0.94	0.080	ug/L		04/29/15 14:35	04/30/15 11:31	1
Dimethoate	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 11:31	1
Disulfoton	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 11:31	1
EPN	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 11:31	1
Mocap	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 11:31	1
Famphur	ND		0.94	0.12	ug/L		04/29/15 14:35	04/30/15 11:31	1
Fensulfothion	ND		0.94	0.16	ug/L		04/29/15 14:35	04/30/15 11:31	1
Fenthion	ND		0.94	0.080	ug/L		04/29/15 14:35	04/30/15 11:31	1
Mevinphos	ND		0.94	0.092	ug/L		04/29/15 14:35	04/30/15 11:31	1
Phorate	ND		0.94	0.087	ug/L		04/29/15 14:35	04/30/15 11:31	1
Ronnel	ND		0.94	0.097	ug/L		04/29/15 14:35	04/30/15 11:31	1
Stirophos	ND		0.94	0.090	ug/L		04/29/15 14:35	04/30/15 11:31	1
Sulfotepp	ND		0.94	0.089	ug/L		04/29/15 14:35	04/30/15 11:31	1
Thionazin	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 11:31	1
Tokuthion	ND		0.94	0.088	ug/L		04/29/15 14:35	04/30/15 11:31	1
Trichloronate	ND		0.94	0.094	ug/L		04/29/15 14:35	04/30/15 11:31	1
O,O,O-Triethyl phosphorothioate	ND		0.94	0.094	ug/L		04/29/15 14:35	04/30/15 11:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*94*		*49 - 122*	*04/29/15 14:35*	*04/30/15 11:31*	*1*
Tributyl phosphate	*90*		*49 - 122*	*04/29/15 14:35*	*04/30/15 11:31*	*1*
Triphenylphosphate	*98*		*45 - 145*	*04/29/15 14:35*	*04/30/15 11:31*	*1*
Triphenylphosphate	*100*		*45 - 145*	*04/29/15 14:35*	*04/30/15 11:31*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-2ST-SET
Date Collected: 04/28/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-17
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 12:05	1
Demeton, Total	ND		1.9	0.16	ug/L		04/29/15 14:35	04/30/15 12:05	1
Malathion	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 12:05	1
Methyl parathion	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 12:05	1
Parathion	ND		0.94	0.15	ug/L		04/29/15 14:35	04/30/15 12:05	1
Bolstar	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 12:05	1
Chlorpyrifos	ND		0.94	0.096	ug/L		04/29/15 14:35	04/30/15 12:05	1
Coumaphos	ND		0.94	0.14	ug/L		04/29/15 14:35	04/30/15 12:05	1
Diazinon	ND		0.94	0.089	ug/L		04/29/15 14:35	04/30/15 12:05	1
Dichlorvos	ND		0.94	0.080	ug/L		04/29/15 14:35	04/30/15 12:05	1
Dimethoate	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 12:05	1
Disulfoton	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 12:05	1
EPN	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 12:05	1
Mocap	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 12:05	1
Famphur	ND		0.94	0.12	ug/L		04/29/15 14:35	04/30/15 12:05	1
Fensulfothion	ND		0.94	0.16	ug/L		04/29/15 14:35	04/30/15 12:05	1
Fenthion	ND		0.94	0.080	ug/L		04/29/15 14:35	04/30/15 12:05	1
Mevinphos	ND		0.94	0.092	ug/L		04/29/15 14:35	04/30/15 12:05	1
Phorate	ND		0.94	0.087	ug/L		04/29/15 14:35	04/30/15 12:05	1
Ronnel	ND		0.94	0.097	ug/L		04/29/15 14:35	04/30/15 12:05	1
Stirophos	ND		0.94	0.090	ug/L		04/29/15 14:35	04/30/15 12:05	1
Sulfotepp	ND		0.94	0.089	ug/L		04/29/15 14:35	04/30/15 12:05	1
Thionazin	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 12:05	1
Tokuthion	ND		0.94	0.088	ug/L		04/29/15 14:35	04/30/15 12:05	1
Trichloronate	ND		0.94	0.094	ug/L		04/29/15 14:35	04/30/15 12:05	1
O,O,O-Triethyl phosphorothioate	ND		0.94	0.094	ug/L		04/29/15 14:35	04/30/15 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*96*		*49 - 122*	*04/29/15 14:35*	*04/30/15 12:05*	*1*
Tributyl phosphate	*92*		*49 - 122*	*04/29/15 14:35*	*04/30/15 12:05*	*1*
Triphenylphosphate	*97*		*45 - 145*	*04/29/15 14:35*	*04/30/15 12:05*	*1*
Triphenylphosphate	*101*		*45 - 145*	*04/29/15 14:35*	*04/30/15 12:05*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-2SB-SET
Date Collected: 04/28/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-18
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 12:39	1
Demeton, Total	ND		1.9	0.16	ug/L		04/29/15 14:35	04/30/15 12:39	1
Malathion	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 12:39	1
Methyl parathion	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 12:39	1
Parathion	ND		0.94	0.15	ug/L		04/29/15 14:35	04/30/15 12:39	1
Bolstar	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 12:39	1
Chlorpyrifos	ND		0.94	0.096	ug/L		04/29/15 14:35	04/30/15 12:39	1
Coumaphos	ND		0.94	0.14	ug/L		04/29/15 14:35	04/30/15 12:39	1
Diazinon	ND		0.94	0.089	ug/L		04/29/15 14:35	04/30/15 12:39	1
Dichlorvos	ND		0.94	0.080	ug/L		04/29/15 14:35	04/30/15 12:39	1
Dimethoate	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 12:39	1
Disulfoton	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 12:39	1
EPN	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 12:39	1
Mocap	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 12:39	1
Famphur	ND		0.94	0.12	ug/L		04/29/15 14:35	04/30/15 12:39	1
Fensulfothion	ND		0.94	0.16	ug/L		04/29/15 14:35	04/30/15 12:39	1
Fenthion	ND		0.94	0.080	ug/L		04/29/15 14:35	04/30/15 12:39	1
Mevinphos	ND		0.94	0.092	ug/L		04/29/15 14:35	04/30/15 12:39	1
Phorate	ND		0.94	0.087	ug/L		04/29/15 14:35	04/30/15 12:39	1
Ronnel	ND		0.94	0.097	ug/L		04/29/15 14:35	04/30/15 12:39	1
Stirophos	ND		0.94	0.090	ug/L		04/29/15 14:35	04/30/15 12:39	1
Sulfotepp	ND		0.94	0.089	ug/L		04/29/15 14:35	04/30/15 12:39	1
Thionazin	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 12:39	1
Tokuthion	ND		0.94	0.088	ug/L		04/29/15 14:35	04/30/15 12:39	1
Trichloronate	ND		0.94	0.094	ug/L		04/29/15 14:35	04/30/15 12:39	1
O,O,O-Triethyl phosphorothioate	ND		0.94	0.094	ug/L		04/29/15 14:35	04/30/15 12:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*96*		*49 - 122*	*04/29/15 14:35*	*04/30/15 12:39*	*1*
Tributyl phosphate	*93*		*49 - 122*	*04/29/15 14:35*	*04/30/15 12:39*	*1*
Triphenylphosphate	*100*		*45 - 145*	*04/29/15 14:35*	*04/30/15 12:39*	*1*
Triphenylphosphate	*102*		*45 - 145*	*04/29/15 14:35*	*04/30/15 12:39*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-2MT-SET
Date Collected: 04/28/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-19
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 13:13	1
Demeton, Total	ND		1.9	0.16	ug/L		04/29/15 14:35	04/30/15 13:13	1
Malathion	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 13:13	1
Methyl parathion	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 13:13	1
Parathion	ND		0.94	0.15	ug/L		04/29/15 14:35	04/30/15 13:13	1
Bolstar	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 13:13	1
Chlorpyrifos	ND		0.94	0.096	ug/L		04/29/15 14:35	04/30/15 13:13	1
Coumaphos	ND		0.94	0.14	ug/L		04/29/15 14:35	04/30/15 13:13	1
Diazinon	ND		0.94	0.089	ug/L		04/29/15 14:35	04/30/15 13:13	1
Dichlorvos	ND		0.94	0.080	ug/L		04/29/15 14:35	04/30/15 13:13	1
Dimethoate	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 13:13	1
Disulfoton	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 13:13	1
EPN	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 13:13	1
Mocap	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 13:13	1
Famphur	ND		0.94	0.12	ug/L		04/29/15 14:35	04/30/15 13:13	1
Fensulfothion	ND		0.94	0.16	ug/L		04/29/15 14:35	04/30/15 13:13	1
Fenthion	ND		0.94	0.080	ug/L		04/29/15 14:35	04/30/15 13:13	1
Mevinphos	ND		0.94	0.092	ug/L		04/29/15 14:35	04/30/15 13:13	1
Phorate	ND		0.94	0.087	ug/L		04/29/15 14:35	04/30/15 13:13	1
Ronnel	ND		0.94	0.097	ug/L		04/29/15 14:35	04/30/15 13:13	1
Stirophos	ND		0.94	0.090	ug/L		04/29/15 14:35	04/30/15 13:13	1
Sulfotepp	ND		0.94	0.089	ug/L		04/29/15 14:35	04/30/15 13:13	1
Thionazin	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 13:13	1
Tokuthion	ND		0.94	0.088	ug/L		04/29/15 14:35	04/30/15 13:13	1
Trichloronate	ND		0.94	0.094	ug/L		04/29/15 14:35	04/30/15 13:13	1
O,O,O-Triethyl phosphorothioate	ND		0.94	0.094	ug/L		04/29/15 14:35	04/30/15 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*94*		*49 - 122*	*04/29/15 14:35*	*04/30/15 13:13*	*1*
Tributyl phosphate	*91*		*49 - 122*	*04/29/15 14:35*	*04/30/15 13:13*	*1*
Triphenylphosphate	*97*		*45 - 145*	*04/29/15 14:35*	*04/30/15 13:13*	*1*
Triphenylphosphate	*101*		*45 - 145*	*04/29/15 14:35*	*04/30/15 13:13*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-2NT-SET
Date Collected: 04/28/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-20
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 13:47	1
Demeton, Total	ND		1.9	0.16	ug/L		04/29/15 14:35	04/30/15 13:47	1
Malathion	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 13:47	1
Methyl parathion	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 13:47	1
Parathion	ND		0.94	0.15	ug/L		04/29/15 14:35	04/30/15 13:47	1
Bolstar	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 13:47	1
Chlorpyrifos	ND		0.94	0.096	ug/L		04/29/15 14:35	04/30/15 13:47	1
Coumaphos	ND		0.94	0.14	ug/L		04/29/15 14:35	04/30/15 13:47	1
Diazinon	ND		0.94	0.089	ug/L		04/29/15 14:35	04/30/15 13:47	1
Dichlorvos	ND		0.94	0.080	ug/L		04/29/15 14:35	04/30/15 13:47	1
Dimethoate	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 13:47	1
Disulfoton	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 13:47	1
EPN	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 13:47	1
Mocap	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 13:47	1
Famphur	ND		0.94	0.12	ug/L		04/29/15 14:35	04/30/15 13:47	1
Fensulfothion	ND		0.94	0.16	ug/L		04/29/15 14:35	04/30/15 13:47	1
Fenthion	ND		0.94	0.080	ug/L		04/29/15 14:35	04/30/15 13:47	1
Mevinphos	ND		0.94	0.092	ug/L		04/29/15 14:35	04/30/15 13:47	1
Phorate	ND		0.94	0.087	ug/L		04/29/15 14:35	04/30/15 13:47	1
Ronnel	ND		0.94	0.097	ug/L		04/29/15 14:35	04/30/15 13:47	1
Stirophos	ND		0.94	0.090	ug/L		04/29/15 14:35	04/30/15 13:47	1
Sulfotepp	ND		0.94	0.089	ug/L		04/29/15 14:35	04/30/15 13:47	1
Thionazin	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 13:47	1
Tokuthion	ND		0.94	0.088	ug/L		04/29/15 14:35	04/30/15 13:47	1
Trichloronate	ND		0.94	0.094	ug/L		04/29/15 14:35	04/30/15 13:47	1
O,O,O-Triethyl phosphorothioate	ND		0.94	0.094	ug/L		04/29/15 14:35	04/30/15 13:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*95*		*49 - 122*	*04/29/15 14:35*	*04/30/15 13:47*	*1*
Tributyl phosphate	*93*		*49 - 122*	*04/29/15 14:35*	*04/30/15 13:47*	*1*
Triphenylphosphate	*97*		*45 - 145*	*04/29/15 14:35*	*04/30/15 13:47*	*1*
Triphenylphosphate	*102*		*45 - 145*	*04/29/15 14:35*	*04/30/15 13:47*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-2NB-SET
Date Collected: 04/28/15 12:15
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-21
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.96	0.11	ug/L		04/29/15 14:35	04/30/15 14:21	1
Demeton, Total	ND		1.9	0.16	ug/L		04/29/15 14:35	04/30/15 14:21	1
Malathion	ND		0.96	0.11	ug/L		04/29/15 14:35	04/30/15 14:21	1
Methyl parathion	ND		0.96	0.11	ug/L		04/29/15 14:35	04/30/15 14:21	1
Parathion	ND		0.96	0.16	ug/L		04/29/15 14:35	04/30/15 14:21	1
Bolstar	ND		0.96	0.11	ug/L		04/29/15 14:35	04/30/15 14:21	1
Chlorpyrifos	ND		0.96	0.098	ug/L		04/29/15 14:35	04/30/15 14:21	1
Coumaphos	ND		0.96	0.14	ug/L		04/29/15 14:35	04/30/15 14:21	1
Diazinon	ND		0.96	0.091	ug/L		04/29/15 14:35	04/30/15 14:21	1
Dichlorvos	ND		0.96	0.082	ug/L		04/29/15 14:35	04/30/15 14:21	1
Dimethoate	ND		0.96	0.11	ug/L		04/29/15 14:35	04/30/15 14:21	1
Disulfoton	ND		0.96	0.097	ug/L		04/29/15 14:35	04/30/15 14:21	1
EPN	ND		0.96	0.11	ug/L		04/29/15 14:35	04/30/15 14:21	1
Mocap	ND		0.96	0.097	ug/L		04/29/15 14:35	04/30/15 14:21	1
Famphur	ND		0.96	0.12	ug/L		04/29/15 14:35	04/30/15 14:21	1
Fensulfothion	ND		0.96	0.16	ug/L		04/29/15 14:35	04/30/15 14:21	1
Fenthion	ND		0.96	0.081	ug/L		04/29/15 14:35	04/30/15 14:21	1
Mevinphos	ND		0.96	0.094	ug/L		04/29/15 14:35	04/30/15 14:21	1
Phorate	ND		0.96	0.089	ug/L		04/29/15 14:35	04/30/15 14:21	1
Ronnel	ND		0.96	0.098	ug/L		04/29/15 14:35	04/30/15 14:21	1
Stirophos	ND		0.96	0.092	ug/L		04/29/15 14:35	04/30/15 14:21	1
Sulfotepp	ND		0.96	0.091	ug/L		04/29/15 14:35	04/30/15 14:21	1
Thionazin	ND		0.96	0.096	ug/L		04/29/15 14:35	04/30/15 14:21	1
Tokuthion	ND		0.96	0.090	ug/L		04/29/15 14:35	04/30/15 14:21	1
Trichloronate	ND		0.96	0.095	ug/L		04/29/15 14:35	04/30/15 14:21	1
O,O,O-Triethyl phosphorothioate	ND		0.96	0.096	ug/L		04/29/15 14:35	04/30/15 14:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*95*		*49 - 122*	*04/29/15 14:35*	*04/30/15 14:21*	*1*
Tributyl phosphate	*92*		*49 - 122*	*04/29/15 14:35*	*04/30/15 14:21*	*1*
Triphenylphosphate	*96*		*45 - 145*	*04/29/15 14:35*	*04/30/15 14:21*	*1*
Triphenylphosphate	*102*		*45 - 145*	*04/29/15 14:35*	*04/30/15 14:21*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-3ST-SET
Date Collected: 04/28/15 12:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-22
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 16:02	1
Demeton, Total	ND		1.9	0.16	ug/L		04/29/15 14:35	04/30/15 16:02	1
Malathion	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 16:02	1
Methyl parathion	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 16:02	1
Parathion	ND		0.94	0.15	ug/L		04/29/15 14:35	04/30/15 16:02	1
Bolstar	ND		0.94	0.10	ug/L		04/29/15 14:35	04/30/15 16:02	1
Chlorpyrifos	ND		0.94	0.096	ug/L		04/29/15 14:35	04/30/15 16:02	1
Coumaphos	ND		0.94	0.14	ug/L		04/29/15 14:35	04/30/15 16:02	1
Diazinon	ND		0.94	0.089	ug/L		04/29/15 14:35	04/30/15 16:02	1
Dichlorvos	ND		0.94	0.080	ug/L		04/29/15 14:35	04/30/15 16:02	1
Dimethoate	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 16:02	1
Disulfoton	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 16:02	1
EPN	ND		0.94	0.11	ug/L		04/29/15 14:35	04/30/15 16:02	1
Mocap	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 16:02	1
Famphur	ND		0.94	0.12	ug/L		04/29/15 14:35	04/30/15 16:02	1
Fensulfothion	ND		0.94	0.16	ug/L		04/29/15 14:35	04/30/15 16:02	1
Fenthion	ND		0.94	0.080	ug/L		04/29/15 14:35	04/30/15 16:02	1
Mevinphos	ND		0.94	0.092	ug/L		04/29/15 14:35	04/30/15 16:02	1
Phorate	ND		0.94	0.087	ug/L		04/29/15 14:35	04/30/15 16:02	1
Ronnel	ND		0.94	0.097	ug/L		04/29/15 14:35	04/30/15 16:02	1
Stirophos	ND		0.94	0.090	ug/L		04/29/15 14:35	04/30/15 16:02	1
Sulfotepp	ND		0.94	0.089	ug/L		04/29/15 14:35	04/30/15 16:02	1
Thionazin	ND		0.94	0.095	ug/L		04/29/15 14:35	04/30/15 16:02	1
Tokuthion	ND		0.94	0.088	ug/L		04/29/15 14:35	04/30/15 16:02	1
Trichloronate	ND		0.94	0.094	ug/L		04/29/15 14:35	04/30/15 16:02	1
O,O,O-Triethyl phosphorothioate	ND		0.94	0.094	ug/L		04/29/15 14:35	04/30/15 16:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*94*		*49 - 122*	*04/29/15 14:35*	*04/30/15 16:02*	*1*
Tributyl phosphate	*91*		*49 - 122*	*04/29/15 14:35*	*04/30/15 16:02*	*1*
Triphenylphosphate	*98*		*45 - 145*	*04/29/15 14:35*	*04/30/15 16:02*	*1*
Triphenylphosphate	*101*		*45 - 145*	*04/29/15 14:35*	*04/30/15 16:02*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-3SB-SET
Date Collected: 04/30/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-23
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 10:10	1
Demeton, Total	ND		1.9	0.16	ug/L		05/01/15 16:20	05/06/15 10:10	1
Malathion	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 10:10	1
Methyl parathion	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 10:10	1
Parathion	ND		0.95	0.15	ug/L		05/01/15 16:20	05/06/15 10:10	1
Bolstar	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 10:10	1
Chlorpyrifos	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 10:10	1
Coumaphos	ND		0.95	0.14	ug/L		05/01/15 16:20	05/06/15 10:10	1
Diazinon	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 10:10	1
Dichlorvos	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 10:10	1
Dimethoate	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 10:10	1
Disulfoton	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 10:10	1
EPN	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 10:10	1
Mocap	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 10:10	1
Famphur	ND		0.95	0.12	ug/L		05/01/15 16:20	05/06/15 10:10	1
Fensulfothion	ND		0.95	0.16	ug/L		05/01/15 16:20	05/06/15 10:10	1
Fenthion	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 10:10	1
Mevinphos	ND		0.95	0.093	ug/L		05/01/15 16:20	05/06/15 10:10	1
Phorate	ND		0.95	0.088	ug/L		05/01/15 16:20	05/06/15 10:10	1
Ronnel	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 10:10	1
Stirophos	ND		0.95	0.091	ug/L		05/01/15 16:20	05/06/15 10:10	1
Sulfotepp	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 10:10	1
Thionazin	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 10:10	1
Tokuthion	ND		0.95	0.089	ug/L		05/01/15 16:20	05/06/15 10:10	1
Trichloronate	ND		0.95	0.094	ug/L		05/01/15 16:20	05/06/15 10:10	1
O,O,O-Triethyl phosphorothioate	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 10:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*93*		*49 - 122*	*05/01/15 16:20*	*05/06/15 10:10*	*1*
Tributyl phosphate	*87*		*49 - 122*	*05/01/15 16:20*	*05/06/15 10:10*	*1*
Triphenylphosphate	*96*		*45 - 145*	*05/01/15 16:20*	*05/06/15 10:10*	*1*
Triphenylphosphate	*98*		*45 - 145*	*05/01/15 16:20*	*05/06/15 10:10*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-3NT-SET
Date Collected: 04/30/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-24
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 10:44	1
Demeton, Total	ND		1.9	0.16	ug/L		05/01/15 16:20	05/06/15 10:44	1
Malathion	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 10:44	1
Methyl parathion	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 10:44	1
Parathion	ND		0.95	0.15	ug/L		05/01/15 16:20	05/06/15 10:44	1
Bolstar	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 10:44	1
Chlorpyrifos	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 10:44	1
Coumaphos	ND		0.95	0.14	ug/L		05/01/15 16:20	05/06/15 10:44	1
Diazinon	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 10:44	1
Dichlorvos	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 10:44	1
Dimethoate	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 10:44	1
Disulfoton	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 10:44	1
EPN	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 10:44	1
Mocap	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 10:44	1
Famphur	ND		0.95	0.12	ug/L		05/01/15 16:20	05/06/15 10:44	1
Fensulfothion	ND		0.95	0.16	ug/L		05/01/15 16:20	05/06/15 10:44	1
Fenthion	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 10:44	1
Mevinphos	ND		0.95	0.093	ug/L		05/01/15 16:20	05/06/15 10:44	1
Phorate	ND		0.95	0.088	ug/L		05/01/15 16:20	05/06/15 10:44	1
Ronnel	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 10:44	1
Stirophos	ND		0.95	0.091	ug/L		05/01/15 16:20	05/06/15 10:44	1
Sulfotepp	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 10:44	1
Thionazin	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 10:44	1
Tokuthion	ND		0.95	0.089	ug/L		05/01/15 16:20	05/06/15 10:44	1
Trichloronate	ND		0.95	0.094	ug/L		05/01/15 16:20	05/06/15 10:44	1
O,O,O-Triethyl phosphorothioate	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 10:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*88*		*49 - 122*	*05/01/15 16:20*	*05/06/15 10:44*	*1*
Tributyl phosphate	*82*		*49 - 122*	*05/01/15 16:20*	*05/06/15 10:44*	*1*
Triphenylphosphate	*93*		*45 - 145*	*05/01/15 16:20*	*05/06/15 10:44*	*1*
Triphenylphosphate	*94*		*45 - 145*	*05/01/15 16:20*	*05/06/15 10:44*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-3NB-SET
Date Collected: 04/30/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-25
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 11:18	1
Demeton, Total	ND		1.9	0.16	ug/L		05/01/15 16:20	05/06/15 11:18	1
Malathion	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 11:18	1
Methyl parathion	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 11:18	1
Parathion	ND		0.95	0.15	ug/L		05/01/15 16:20	05/06/15 11:18	1
Bolstar	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 11:18	1
Chlorpyrifos	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 11:18	1
Coumaphos	ND		0.95	0.14	ug/L		05/01/15 16:20	05/06/15 11:18	1
Diazinon	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 11:18	1
Dichlorvos	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 11:18	1
Dimethoate	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 11:18	1
Disulfoton	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 11:18	1
EPN	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 11:18	1
Mocap	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 11:18	1
Famphur	ND		0.95	0.12	ug/L		05/01/15 16:20	05/06/15 11:18	1
Fensulfothion	ND		0.95	0.16	ug/L		05/01/15 16:20	05/06/15 11:18	1
Fenthion	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 11:18	1
Mevinphos	ND		0.95	0.093	ug/L		05/01/15 16:20	05/06/15 11:18	1
Phorate	ND		0.95	0.088	ug/L		05/01/15 16:20	05/06/15 11:18	1
Ronnel	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 11:18	1
Stirophos	ND		0.95	0.091	ug/L		05/01/15 16:20	05/06/15 11:18	1
Sulfotepp	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 11:18	1
Thionazin	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 11:18	1
Tokuthion	ND		0.95	0.089	ug/L		05/01/15 16:20	05/06/15 11:18	1
Trichloronate	ND		0.95	0.094	ug/L		05/01/15 16:20	05/06/15 11:18	1
O,O,O-Triethyl phosphorothioate	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 11:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*96*		*49 - 122*	*05/01/15 16:20*	*05/06/15 11:18*	*1*
Tributyl phosphate	*91*		*49 - 122*	*05/01/15 16:20*	*05/06/15 11:18*	*1*
Triphenylphosphate	*101*		*45 - 145*	*05/01/15 16:20*	*05/06/15 11:18*	*1*
Triphenylphosphate	*102*		*45 - 145*	*05/01/15 16:20*	*05/06/15 11:18*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-4ST-SET
Date Collected: 04/30/15 12:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-26
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 11:51	1
Demeton, Total	ND		1.9	0.16	ug/L		05/01/15 16:20	05/06/15 11:51	1
Malathion	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 11:51	1
Methyl parathion	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 11:51	1
Parathion	ND		0.95	0.15	ug/L		05/01/15 16:20	05/06/15 11:51	1
Bolstar	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 11:51	1
Chlorpyrifos	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 11:51	1
Coumaphos	ND		0.95	0.14	ug/L		05/01/15 16:20	05/06/15 11:51	1
Diazinon	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 11:51	1
Dichlorvos	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 11:51	1
Dimethoate	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 11:51	1
Disulfoton	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 11:51	1
EPN	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 11:51	1
Mocap	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 11:51	1
Famphur	ND		0.95	0.12	ug/L		05/01/15 16:20	05/06/15 11:51	1
Fensulfothion	ND		0.95	0.16	ug/L		05/01/15 16:20	05/06/15 11:51	1
Fenthion	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 11:51	1
Mevinphos	ND		0.95	0.093	ug/L		05/01/15 16:20	05/06/15 11:51	1
Phorate	ND		0.95	0.088	ug/L		05/01/15 16:20	05/06/15 11:51	1
Ronnel	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 11:51	1
Stirophos	ND		0.95	0.091	ug/L		05/01/15 16:20	05/06/15 11:51	1
Sulfotepp	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 11:51	1
Thionazin	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 11:51	1
Tokuthion	ND		0.95	0.089	ug/L		05/01/15 16:20	05/06/15 11:51	1
Trichloronate	ND		0.95	0.094	ug/L		05/01/15 16:20	05/06/15 11:51	1
O,O,O-Triethyl phosphorothioate	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 11:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*94*		*49 - 122*	*05/01/15 16:20*	*05/06/15 11:51*	*1*
Tributyl phosphate	*88*		*49 - 122*	*05/01/15 16:20*	*05/06/15 11:51*	*1*
Triphenylphosphate	*99*		*45 - 145*	*05/01/15 16:20*	*05/06/15 11:51*	*1*
Triphenylphosphate	*99*		*45 - 145*	*05/01/15 16:20*	*05/06/15 11:51*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-4SB-SET
Date Collected: 04/30/15 12:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-27
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 12:25	1
Demeton, Total	ND		1.9	0.16	ug/L		05/01/15 16:20	05/06/15 12:25	1
Malathion	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 12:25	1
Methyl parathion	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 12:25	1
Parathion	ND		0.95	0.15	ug/L		05/01/15 16:20	05/06/15 12:25	1
Bolstar	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 12:25	1
Chlorpyrifos	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 12:25	1
Coumaphos	ND		0.95	0.14	ug/L		05/01/15 16:20	05/06/15 12:25	1
Diazinon	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 12:25	1
Dichlorvos	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 12:25	1
Dimethoate	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 12:25	1
Disulfoton	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 12:25	1
EPN	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 12:25	1
Mocap	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 12:25	1
Famphur	ND		0.95	0.12	ug/L		05/01/15 16:20	05/06/15 12:25	1
Fensulfothion	ND		0.95	0.16	ug/L		05/01/15 16:20	05/06/15 12:25	1
Fenthion	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 12:25	1
Mevinphos	ND		0.95	0.093	ug/L		05/01/15 16:20	05/06/15 12:25	1
Phorate	ND		0.95	0.088	ug/L		05/01/15 16:20	05/06/15 12:25	1
Ronnel	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 12:25	1
Stirophos	ND		0.95	0.091	ug/L		05/01/15 16:20	05/06/15 12:25	1
Sulfotepp	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 12:25	1
Thionazin	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 12:25	1
Tokuthion	ND		0.95	0.089	ug/L		05/01/15 16:20	05/06/15 12:25	1
Trichloronate	ND		0.95	0.094	ug/L		05/01/15 16:20	05/06/15 12:25	1
O,O,O-Triethyl phosphorothioate	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 12:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*81*		*49 - 122*	*05/01/15 16:20*	*05/06/15 12:25*	*1*
Tributyl phosphate	*76*		*49 - 122*	*05/01/15 16:20*	*05/06/15 12:25*	*1*
Triphenylphosphate	*86*		*45 - 145*	*05/01/15 16:20*	*05/06/15 12:25*	*1*
Triphenylphosphate	*87*		*45 - 145*	*05/01/15 16:20*	*05/06/15 12:25*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-4MT-SET
Date Collected: 05/01/15 09:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-28
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 12:59	1
Demeton, Total	ND		1.9	0.16	ug/L		05/01/15 16:20	05/06/15 12:59	1
Malathion	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 12:59	1
Methyl parathion	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 12:59	1
Parathion	ND		0.95	0.15	ug/L		05/01/15 16:20	05/06/15 12:59	1
Bolstar	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 12:59	1
Chlorpyrifos	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 12:59	1
Coumaphos	ND		0.95	0.14	ug/L		05/01/15 16:20	05/06/15 12:59	1
Diazinon	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 12:59	1
Dichlorvos	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 12:59	1
Dimethoate	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 12:59	1
Disulfoton	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 12:59	1
EPN	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 12:59	1
Mocap	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 12:59	1
Famphur	ND		0.95	0.12	ug/L		05/01/15 16:20	05/06/15 12:59	1
Fensulfothion	ND		0.95	0.16	ug/L		05/01/15 16:20	05/06/15 12:59	1
Fenthion	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 12:59	1
Mevinphos	ND		0.95	0.093	ug/L		05/01/15 16:20	05/06/15 12:59	1
Phorate	ND		0.95	0.088	ug/L		05/01/15 16:20	05/06/15 12:59	1
Ronnel	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 12:59	1
Stirophos	ND		0.95	0.091	ug/L		05/01/15 16:20	05/06/15 12:59	1
Sulfotepp	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 12:59	1
Thionazin	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 12:59	1
Tokuthion	ND		0.95	0.089	ug/L		05/01/15 16:20	05/06/15 12:59	1
Trichloronate	ND		0.95	0.094	ug/L		05/01/15 16:20	05/06/15 12:59	1
O,O,O-Triethyl phosphorothioate	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 12:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*84*		*49 - 122*	*05/01/15 16:20*	*05/06/15 12:59*	*1*
Tributyl phosphate	*80*		*49 - 122*	*05/01/15 16:20*	*05/06/15 12:59*	*1*
Triphenylphosphate	*87*		*45 - 145*	*05/01/15 16:20*	*05/06/15 12:59*	*1*
Triphenylphosphate	*91*		*45 - 145*	*05/01/15 16:20*	*05/06/15 12:59*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-4NT-SET
Date Collected: 05/01/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-29
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 13:32	1
Demeton, Total	ND		1.9	0.16	ug/L		05/01/15 16:20	05/06/15 13:32	1
Malathion	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 13:32	1
Methyl parathion	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 13:32	1
Parathion	ND		0.95	0.15	ug/L		05/01/15 16:20	05/06/15 13:32	1
Bolstar	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 13:32	1
Chlorpyrifos	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 13:32	1
Coumaphos	ND		0.95	0.14	ug/L		05/01/15 16:20	05/06/15 13:32	1
Diazinon	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 13:32	1
Dichlorvos	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 13:32	1
Dimethoate	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 13:32	1
Disulfoton	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 13:32	1
EPN	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 13:32	1
Mocap	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 13:32	1
Famphur	ND		0.95	0.12	ug/L		05/01/15 16:20	05/06/15 13:32	1
Fensulfothion	ND		0.95	0.16	ug/L		05/01/15 16:20	05/06/15 13:32	1
Fenthion	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 13:32	1
Mevinphos	ND		0.95	0.093	ug/L		05/01/15 16:20	05/06/15 13:32	1
Phorate	ND		0.95	0.088	ug/L		05/01/15 16:20	05/06/15 13:32	1
Ronnel	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 13:32	1
Stirophos	ND		0.95	0.091	ug/L		05/01/15 16:20	05/06/15 13:32	1
Sulfotepp	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 13:32	1
Thionazin	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 13:32	1
Tokuthion	ND		0.95	0.089	ug/L		05/01/15 16:20	05/06/15 13:32	1
Trichloronate	ND		0.95	0.094	ug/L		05/01/15 16:20	05/06/15 13:32	1
O,O,O-Triethyl phosphorothioate	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*92*		*49 - 122*	*05/01/15 16:20*	*05/06/15 13:32*	*1*
Tributyl phosphate	*87*		*49 - 122*	*05/01/15 16:20*	*05/06/15 13:32*	*1*
Triphenylphosphate	*98*		*45 - 145*	*05/01/15 16:20*	*05/06/15 13:32*	*1*
Triphenylphosphate	*101*		*45 - 145*	*05/01/15 16:20*	*05/06/15 13:32*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique - Dissolved

Client Sample ID: TS-4NB-SET
Date Collected: 05/01/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-30
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 14:06	1
Demeton, Total	ND		1.9	0.16	ug/L		05/01/15 16:20	05/06/15 14:06	1
Malathion	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 14:06	1
Methyl parathion	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 14:06	1
Parathion	ND		0.95	0.15	ug/L		05/01/15 16:20	05/06/15 14:06	1
Bolstar	ND		0.95	0.10	ug/L		05/01/15 16:20	05/06/15 14:06	1
Chlorpyrifos	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 14:06	1
Coumaphos	ND		0.95	0.14	ug/L		05/01/15 16:20	05/06/15 14:06	1
Diazinon	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 14:06	1
Dichlorvos	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 14:06	1
Dimethoate	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 14:06	1
Disulfoton	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 14:06	1
EPN	ND		0.95	0.11	ug/L		05/01/15 16:20	05/06/15 14:06	1
Mocap	ND		0.95	0.096	ug/L		05/01/15 16:20	05/06/15 14:06	1
Famphur	ND		0.95	0.12	ug/L		05/01/15 16:20	05/06/15 14:06	1
Fensulfothion	ND		0.95	0.16	ug/L		05/01/15 16:20	05/06/15 14:06	1
Fenthion	ND		0.95	0.081	ug/L		05/01/15 16:20	05/06/15 14:06	1
Mevinphos	ND		0.95	0.093	ug/L		05/01/15 16:20	05/06/15 14:06	1
Phorate	ND		0.95	0.088	ug/L		05/01/15 16:20	05/06/15 14:06	1
Ronnel	ND		0.95	0.097	ug/L		05/01/15 16:20	05/06/15 14:06	1
Stirophos	ND		0.95	0.091	ug/L		05/01/15 16:20	05/06/15 14:06	1
Sulfotepp	ND		0.95	0.090	ug/L		05/01/15 16:20	05/06/15 14:06	1
Thionazin	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 14:06	1
Tokuthion	ND		0.95	0.089	ug/L		05/01/15 16:20	05/06/15 14:06	1
Trichloronate	ND		0.95	0.094	ug/L		05/01/15 16:20	05/06/15 14:06	1
O,O,O-Triethyl phosphorothioate	ND		0.95	0.095	ug/L		05/01/15 16:20	05/06/15 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*84*		*49 - 122*	*05/01/15 16:20*	*05/06/15 14:06*	*1*
Tributyl phosphate	*78*		*49 - 122*	*05/01/15 16:20*	*05/06/15 14:06*	*1*
Triphenylphosphate	*86*		*45 - 145*	*05/01/15 16:20*	*05/06/15 14:06*	*1*
Triphenylphosphate	*89*		*45 - 145*	*05/01/15 16:20*	*05/06/15 14:06*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-1-SET
Date Collected: 04/28/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-16
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/01/15 09:02	05/05/15 15:55	1
Tributyltin	ND		0.044	0.044	ug/L		05/01/15 09:02	05/05/15 15:55	1
Dibutyltin	ND		0.038	0.038	ug/L		05/01/15 09:02	05/05/15 15:55	1
Monobutyltin	ND	* cn	0.61	0.61	ug/L		05/01/15 09:02	05/05/15 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*75*		*15 - 150*	*05/01/15 09:02*	*05/05/15 15:55*	*1*
Tripentyltin	*80*		*15 - 150*	*05/01/15 09:02*	*05/05/15 15:55*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-2ST-SET
Date Collected: 04/28/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-17
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/01/15 09:02	05/05/15 16:09	1
Tributyltin	ND		0.044	0.044	ug/L		05/01/15 09:02	05/05/15 16:09	1
Dibutyltin	ND		0.038	0.038	ug/L		05/01/15 09:02	05/05/15 16:09	1
Monobutyltin	ND	* cn	0.61	0.61	ug/L		05/01/15 09:02	05/05/15 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*58*		*15 - 150*	*05/01/15 09:02*	*05/05/15 16:09*	*1*
Tripentyltin	*51*		*15 - 150*	*05/01/15 09:02*	*05/05/15 16:09*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-2SB-SET
Date Collected: 04/28/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-18
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.050	0.050	ug/L		05/01/15 09:02	05/05/15 16:24	1
Tributyltin	ND		0.045	0.045	ug/L		05/01/15 09:02	05/05/15 16:24	1
Dibutyltin	ND		0.039	0.039	ug/L		05/01/15 09:02	05/05/15 16:24	1
Monobutyltin	ND	* cn	0.62	0.62	ug/L		05/01/15 09:02	05/05/15 16:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*68*		*15 - 150*	*05/01/15 09:02*	*05/05/15 16:24*	*1*
Tripentyltin	*63*		*15 - 150*	*05/01/15 09:02*	*05/05/15 16:24*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-2MT-SET
Date Collected: 04/28/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-19
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/01/15 09:02	05/05/15 16:38	1
Tributyltin	ND		0.044	0.044	ug/L		05/01/15 09:02	05/05/15 16:38	1
Dibutyltin	ND		0.038	0.038	ug/L		05/01/15 09:02	05/05/15 16:38	1
Monobutyltin	ND	* cn	0.61	0.61	ug/L		05/01/15 09:02	05/05/15 16:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*61*		*15 - 150*	*05/01/15 09:02*	*05/05/15 16:38*	*1*
Tripentyltin	*60*		*15 - 150*	*05/01/15 09:02*	*05/05/15 16:38*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-2NT-SET
Date Collected: 04/28/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-20
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/01/15 09:02	05/05/15 16:53	1
Tributyltin	ND		0.044	0.044	ug/L		05/01/15 09:02	05/05/15 16:53	1
Dibutyltin	ND		0.038	0.038	ug/L		05/01/15 09:02	05/05/15 16:53	1
Monobutyltin	ND	* cn	0.61	0.61	ug/L		05/01/15 09:02	05/05/15 16:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*60*		*15 - 150*	*05/01/15 09:02*	*05/05/15 16:53*	*1*
Tripentyltin	*56*		*15 - 150*	*05/01/15 09:02*	*05/05/15 16:53*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-2NB-SET
Date Collected: 04/28/15 12:15
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-21
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/01/15 09:02	05/05/15 17:07	1
Tributyltin	ND		0.044	0.044	ug/L		05/01/15 09:02	05/05/15 17:07	1
Dibutyltin	ND		0.038	0.038	ug/L		05/01/15 09:02	05/05/15 17:07	1
Monobutyltin	ND	* F1 cn	0.61	0.61	ug/L		05/01/15 09:02	05/05/15 17:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*76*		*15 - 150*	*05/01/15 09:02*	*05/05/15 17:07*	*1*
Tripentyltin	*76*		*15 - 150*	*05/01/15 09:02*	*05/05/15 17:07*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-3ST-SET
Date Collected: 04/28/15 12:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-22
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/01/15 09:02	05/05/15 18:06	1
Tributyltin	ND		0.044	0.044	ug/L		05/01/15 09:02	05/05/15 18:06	1
Dibutyltin	ND		0.038	0.038	ug/L		05/01/15 09:02	05/05/15 18:06	1
Monobutyltin	ND	* cn	0.61	0.61	ug/L		05/01/15 09:02	05/05/15 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*71*		*15 - 150*	*05/01/15 09:02*	*05/05/15 18:06*	*1*
Tripentyltin	*81*		*15 - 150*	*05/01/15 09:02*	*05/05/15 18:06*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-3SB-SET
Date Collected: 04/30/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-23
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/11/15 09:25	05/12/15 14:51	1
Tributyltin	ND		0.044	0.044	ug/L		05/11/15 09:25	05/12/15 14:51	1
Dibutyltin	ND		0.038	0.038	ug/L		05/11/15 09:25	05/12/15 14:51	1
Monobutyltin	ND	* cn	0.60	0.60	ug/L		05/11/15 09:25	05/12/15 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*59*		*15 - 150*	*05/11/15 09:25*	*05/12/15 14:51*	*1*
Tripentyltin	*71*		*15 - 150*	*05/11/15 09:25*	*05/12/15 14:51*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-3NT-SET
Date Collected: 04/30/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-24
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/11/15 09:25	05/12/15 15:05	1
Tributyltin	ND		0.044	0.044	ug/L		05/11/15 09:25	05/12/15 15:05	1
Dibutyltin	ND		0.038	0.038	ug/L		05/11/15 09:25	05/12/15 15:05	1
Monobutyltin	ND	* cn	0.60	0.60	ug/L		05/11/15 09:25	05/12/15 15:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*75*		*15 - 150*	*05/11/15 09:25*	*05/12/15 15:05*	*1*
Tripentyltin	*79*		*15 - 150*	*05/11/15 09:25*	*05/12/15 15:05*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-3NB-SET
Date Collected: 04/30/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-25
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/11/15 09:25	05/12/15 15:20	1
Tributyltin	ND		0.044	0.044	ug/L		05/11/15 09:25	05/12/15 15:20	1
Dibutyltin	ND		0.038	0.038	ug/L		05/11/15 09:25	05/12/15 15:20	1
Monobutyltin	ND	* cn	0.61	0.61	ug/L		05/11/15 09:25	05/12/15 15:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*72*		*15 - 150*	*05/11/15 09:25*	*05/12/15 15:20*	*1*
Tripentyltin	*72*		*15 - 150*	*05/11/15 09:25*	*05/12/15 15:20*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-4ST-SET
Date Collected: 04/30/15 12:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-26
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/11/15 09:25	05/12/15 15:34	1
Tributyltin	ND		0.044	0.044	ug/L		05/11/15 09:25	05/12/15 15:34	1
Dibutyltin	ND		0.038	0.038	ug/L		05/11/15 09:25	05/12/15 15:34	1
Monobutyltin	ND	* cn	0.61	0.61	ug/L		05/11/15 09:25	05/12/15 15:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*72*		*15 - 150*	*05/11/15 09:25*	*05/12/15 15:34*	*1*
Tripentyltin	*75*		*15 - 150*	*05/11/15 09:25*	*05/12/15 15:34*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-4SB-SET
Date Collected: 04/30/15 12:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-27
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/11/15 09:25	05/12/15 15:49	1
Tributyltin	ND		0.044	0.044	ug/L		05/11/15 09:25	05/12/15 15:49	1
Dibutyltin	ND		0.038	0.038	ug/L		05/11/15 09:25	05/12/15 15:49	1
Monobutyltin	ND	* cn	0.60	0.60	ug/L		05/11/15 09:25	05/12/15 15:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*87*		*15 - 150*	*05/11/15 09:25*	*05/12/15 15:49*	*1*
Tripentyltin	*74*		*15 - 150*	*05/11/15 09:25*	*05/12/15 15:49*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-4MT-SET
Date Collected: 05/01/15 09:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-28
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/11/15 09:25	05/12/15 16:04	1
Tributyltin	ND		0.044	0.044	ug/L		05/11/15 09:25	05/12/15 16:04	1
Dibutyltin	ND		0.038	0.038	ug/L		05/11/15 09:25	05/12/15 16:04	1
Monobutyltin	ND	* cn	0.60	0.60	ug/L		05/11/15 09:25	05/12/15 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*68*		*15 - 150*	*05/11/15 09:25*	*05/12/15 16:04*	*1*
Tripentyltin	*82*		*15 - 150*	*05/11/15 09:25*	*05/12/15 16:04*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-4NT-SET
Date Collected: 05/01/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-29
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/11/15 09:25	05/12/15 16:18	1
Tributyltin	ND		0.044	0.044	ug/L		05/11/15 09:25	05/12/15 16:18	1
Dibutyltin	ND		0.038	0.038	ug/L		05/11/15 09:25	05/12/15 16:18	1
Monobutyltin	ND	* cn	0.61	0.61	ug/L		05/11/15 09:25	05/12/15 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*65*		*15 - 150*	*05/11/15 09:25*	*05/12/15 16:18*	*1*
Tripentyltin	*78*		*15 - 150*	*05/11/15 09:25*	*05/12/15 16:18*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: TS-4NB-SET
Date Collected: 05/01/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-30
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/11/15 09:25	05/12/15 16:33	1
Tributyltin	ND		0.044	0.044	ug/L		05/11/15 09:25	05/12/15 16:33	1
Dibutyltin	ND		0.038	0.038	ug/L		05/11/15 09:25	05/12/15 16:33	1
Monobutyltin	ND	* cn	0.61	0.61	ug/L		05/11/15 09:25	05/12/15 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*84*		*15 - 150*	*05/11/15 09:25*	*05/12/15 16:33*	*1*
Tripentyltin	*78*		*15 - 150*	*05/11/15 09:25*	*05/12/15 16:33*	*1*

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-1-SET
Date Collected: 04/28/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-16
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**52**	**J B**	300	26	ug/L		05/01/15 10:11	05/04/15 14:04	10
Arsenic	**24**		10	2.9	ug/L		05/01/15 10:11	05/04/15 14:04	10
Barium	**28**	**J**	100	0.98	ug/L		05/01/15 10:11	05/04/15 14:04	10
Beryllium	ND		10	0.37	ug/L		05/01/15 10:11	05/04/15 14:04	10
Cadmium	ND		10	1.1	ug/L		05/01/15 10:11	05/04/15 14:04	10
Calcium	**250000**	**B**	5000	28	ug/L		05/01/15 10:11	05/04/15 14:04	10
Chromium	ND		20	5.4	ug/L		05/01/15 10:11	05/04/15 14:04	10
Cobalt	**0.54**	**J**	5.0	0.26	ug/L		05/01/15 10:11	05/04/15 14:04	10
Copper	**2.7**	**J**	20	2.4	ug/L		05/01/15 10:11	05/04/15 14:04	10
Iron	ND		500	61	ug/L		05/01/15 10:11	05/04/15 14:04	10
Silver	ND		10	0.36	ug/L		05/01/15 10:11	05/04/15 14:04	10
Potassium	**260000**		5000	58	ug/L		05/01/15 10:11	05/04/15 14:04	10
Magnesium	**770000**		5000	12	ug/L		05/01/15 10:11	05/04/15 14:04	10
Sodium	**6500000**		25000	190	ug/L		05/01/15 10:11	05/05/15 12:56	50
Nickel	**1.8**	**J**	10	1.7	ug/L		05/01/15 10:11	05/04/15 14:04	10
Lead	**0.55**	**J B**	10	0.19	ug/L		05/01/15 10:11	05/04/15 14:04	10
Antimony	**3.9**	**J**	20	0.19	ug/L		05/01/15 10:11	05/04/15 14:04	10
Selenium	**59**		50	4.2	ug/L		05/01/15 10:11	05/04/15 14:04	10
Thallium	**1.8**	**J**	10	0.15	ug/L		05/01/15 10:11	05/04/15 14:04	10
Vanadium	**28**		10	0.82	ug/L		05/01/15 10:11	05/04/15 14:04	10
Zinc	**12**	**J**	50	9.6	ug/L		05/01/15 10:11	05/04/15 14:04	10
Manganese	**45**	**J B**	50	0.39	ug/L		05/01/15 10:11	05/04/15 14:04	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-2ST-SET
Date Collected: 04/28/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-17
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**35**	**J B**	300	26	ug/L		05/01/15 10:11	05/04/15 14:08	10
Arsenic	**17**		10	2.9	ug/L		05/01/15 10:11	05/04/15 14:08	10
Barium	**25**	**J**	100	0.98	ug/L		05/01/15 10:11	05/04/15 14:08	10
Beryllium	ND		10	0.37	ug/L		05/01/15 10:11	05/04/15 14:08	10
Cadmium	ND		10	1.1	ug/L		05/01/15 10:11	05/04/15 14:08	10
Calcium	**270000**	**B**	5000	28	ug/L		05/01/15 10:11	05/04/15 14:08	10
Chromium	ND		20	5.4	ug/L		05/01/15 10:11	05/04/15 14:08	10
Cobalt	**0.69**	**J**	5.0	0.26	ug/L		05/01/15 10:11	05/04/15 14:08	10
Copper	**2.6**	**J**	20	2.4	ug/L		05/01/15 10:11	05/04/15 14:08	10
Iron	ND		500	61	ug/L		05/01/15 10:11	05/04/15 14:08	10
Silver	ND		10	0.36	ug/L		05/01/15 10:11	05/04/15 14:08	10
Potassium	**260000**		5000	58	ug/L		05/01/15 10:11	05/04/15 14:08	10
Magnesium	**790000**		5000	12	ug/L		05/01/15 10:11	05/04/15 14:08	10
Sodium	**6900000**		25000	190	ug/L		05/01/15 10:11	05/05/15 13:01	50
Nickel	**2.2**	**J**	10	1.7	ug/L		05/01/15 10:11	05/04/15 14:08	10
Lead	**0.40**	**J B**	10	0.19	ug/L		05/01/15 10:11	05/04/15 14:08	10
Antimony	**0.77**	**J**	20	0.19	ug/L		05/01/15 10:11	05/04/15 14:08	10
Selenium	**63**		50	4.2	ug/L		05/01/15 10:11	05/04/15 14:08	10
Thallium	**0.47**	**J**	10	0.15	ug/L		05/01/15 10:11	05/04/15 14:08	10
Vanadium	**1.1**	**J**	10	0.82	ug/L		05/01/15 10:11	05/04/15 14:08	10
Zinc	**13**	**J**	50	9.6	ug/L		05/01/15 10:11	05/04/15 14:08	10
Manganese	**220**	**B**	50	0.39	ug/L		05/01/15 10:11	05/04/15 14:08	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-2SB-SET
Date Collected: 04/28/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-18
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**33**	**J B**	300	26	ug/L		05/01/15 10:11	05/04/15 14:12	10
Arsenic	**20**		10	2.9	ug/L		05/01/15 10:11	05/04/15 14:12	10
Barium	**42**	**J**	100	0.98	ug/L		05/01/15 10:11	05/04/15 14:12	10
Beryllium	ND		10	0.37	ug/L		05/01/15 10:11	05/04/15 14:12	10
Cadmium	ND		10	1.1	ug/L		05/01/15 10:11	05/04/15 14:12	10
Calcium	**400000**	**B**	5000	28	ug/L		05/01/15 10:11	05/04/15 14:12	10
Chromium	ND		20	5.4	ug/L		05/01/15 10:11	05/04/15 14:12	10
Cobalt	**6.5**		5.0	0.26	ug/L		05/01/15 10:11	05/04/15 14:12	10
Copper	**2.6**	**J**	20	2.4	ug/L		05/01/15 10:11	05/04/15 14:12	10
Iron	**67**	**J**	500	61	ug/L		05/01/15 10:11	05/04/15 14:12	10
Silver	ND		10	0.36	ug/L		05/01/15 10:11	05/04/15 14:12	10
Potassium	**260000**		5000	58	ug/L		05/01/15 10:11	05/04/15 14:12	10
Magnesium	**770000**		5000	12	ug/L		05/01/15 10:11	05/04/15 14:12	10
Sodium	**6600000**		25000	190	ug/L		05/01/15 10:11	05/05/15 13:06	50
Nickel	**11**		10	1.7	ug/L		05/01/15 10:11	05/04/15 14:12	10
Lead	**0.37**	**J B**	10	0.19	ug/L		05/01/15 10:11	05/04/15 14:12	10
Antimony	**0.27**	**J**	20	0.19	ug/L		05/01/15 10:11	05/04/15 14:12	10
Selenium	**77**		50	4.2	ug/L		05/01/15 10:11	05/04/15 14:12	10
Thallium	**0.22**	**J**	10	0.15	ug/L		05/01/15 10:11	05/04/15 14:12	10
Vanadium	ND		10	0.82	ug/L		05/01/15 10:11	05/04/15 14:12	10
Zinc	**25**	**J**	50	9.6	ug/L		05/01/15 10:11	05/04/15 14:12	10
Manganese	**260**	**B**	50	0.39	ug/L		05/01/15 10:11	05/04/15 14:12	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-2MT-SET
Date Collected: 04/28/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-19
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**45**	**J B**	300	26	ug/L		05/01/15 10:11	05/04/15 14:16	10
Arsenic	**19**		10	2.9	ug/L		05/01/15 10:11	05/04/15 14:16	10
Barium	**22**	**J**	100	0.98	ug/L		05/01/15 10:11	05/04/15 14:16	10
Beryllium	ND		10	0.37	ug/L		05/01/15 10:11	05/04/15 14:16	10
Cadmium	ND		10	1.1	ug/L		05/01/15 10:11	05/04/15 14:16	10
Calcium	**270000**	**B**	5000	28	ug/L		05/01/15 10:11	05/04/15 14:16	10
Chromium	ND		20	5.4	ug/L		05/01/15 10:11	05/04/15 14:16	10
Cobalt	**1.1**	**J**	5.0	0.26	ug/L		05/01/15 10:11	05/04/15 14:16	10
Copper	**3.1**	**J**	20	2.4	ug/L		05/01/15 10:11	05/04/15 14:16	10
Iron	ND		500	61	ug/L		05/01/15 10:11	05/04/15 14:16	10
Silver	ND		10	0.36	ug/L		05/01/15 10:11	05/04/15 14:16	10
Potassium	**250000**		5000	58	ug/L		05/01/15 10:11	05/04/15 14:16	10
Magnesium	**790000**		5000	12	ug/L		05/01/15 10:11	05/04/15 14:16	10
Sodium	**7100000**		25000	190	ug/L		05/01/15 10:11	05/05/15 13:11	50
Nickel	**2.5**	**J**	10	1.7	ug/L		05/01/15 10:11	05/04/15 14:16	10
Lead	**0.78**	**J B**	10	0.19	ug/L		05/01/15 10:11	05/04/15 14:16	10
Antimony	ND		20	0.19	ug/L		05/01/15 10:11	05/04/15 14:16	10
Selenium	**72**		50	4.2	ug/L		05/01/15 10:11	05/04/15 14:16	10
Thallium	**0.16**	**J**	10	0.15	ug/L		05/01/15 10:11	05/04/15 14:16	10
Vanadium	ND		10	0.82	ug/L		05/01/15 10:11	05/04/15 14:16	10
Zinc	**14**	**J**	50	9.6	ug/L		05/01/15 10:11	05/04/15 14:16	10
Manganese	**54**	**B**	50	0.39	ug/L		05/01/15 10:11	05/04/15 14:16	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-2NT-SET
Date Collected: 04/28/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-20
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**35**	**J B**	300	26	ug/L		05/01/15 10:11	05/04/15 14:19	10
Arsenic	**8.8**	**J**	10	2.9	ug/L		05/01/15 10:11	05/04/15 14:19	10
Barium	**22**	**J**	100	0.98	ug/L		05/01/15 10:11	05/04/15 14:19	10
Beryllium	ND		10	0.37	ug/L		05/01/15 10:11	05/04/15 14:19	10
Cadmium	ND		10	1.1	ug/L		05/01/15 10:11	05/04/15 14:19	10
Calcium	**240000**	**B**	5000	28	ug/L		05/01/15 10:11	05/04/15 14:19	10
Chromium	ND		20	5.4	ug/L		05/01/15 10:11	05/04/15 14:19	10
Cobalt	**0.79**	**J**	5.0	0.26	ug/L		05/01/15 10:11	05/04/15 14:19	10
Copper	**2.4**	**J**	20	2.4	ug/L		05/01/15 10:11	05/04/15 14:19	10
Iron	ND		500	61	ug/L		05/01/15 10:11	05/04/15 14:19	10
Silver	ND		10	0.36	ug/L		05/01/15 10:11	05/04/15 14:19	10
Potassium	**230000**		5000	58	ug/L		05/01/15 10:11	05/04/15 14:19	10
Magnesium	**700000**		5000	12	ug/L		05/01/15 10:11	05/04/15 14:19	10
Sodium	**6200000**		25000	190	ug/L		05/01/15 10:11	05/05/15 13:16	50
Nickel	**2.5**	**J**	10	1.7	ug/L		05/01/15 10:11	05/04/15 14:19	10
Lead	**0.34**	**J B**	10	0.19	ug/L		05/01/15 10:11	05/04/15 14:19	10
Antimony	ND		20	0.19	ug/L		05/01/15 10:11	05/04/15 14:19	10
Selenium	**31**	**J**	50	4.2	ug/L		05/01/15 10:11	05/04/15 14:19	10
Thallium	ND		10	0.15	ug/L		05/01/15 10:11	05/04/15 14:19	10
Vanadium	ND		10	0.82	ug/L		05/01/15 10:11	05/04/15 14:19	10
Zinc	**17**	**J**	50	9.6	ug/L		05/01/15 10:11	05/04/15 14:19	10
Manganese	**200**	**B**	50	0.39	ug/L		05/01/15 10:11	05/04/15 14:19	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-2NB-SET
Date Collected: 04/28/15 12:15
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-21
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**100**	**J B**	300	26	ug/L		05/01/15 10:11	05/04/15 14:23	10
Arsenic	**15**		10	2.9	ug/L		05/01/15 10:11	05/04/15 14:23	10
Barium	**49**	**J**	100	0.98	ug/L		05/01/15 10:11	05/04/15 14:23	10
Beryllium	ND		10	0.37	ug/L		05/01/15 10:11	05/04/15 14:23	10
Cadmium	ND		10	1.1	ug/L		05/01/15 10:11	05/04/15 14:23	10
Calcium	**460000**	**B**	5000	28	ug/L		05/01/15 10:11	05/04/15 14:23	10
Chromium	ND		20	5.4	ug/L		05/01/15 10:11	05/04/15 14:23	10
Cobalt	**8.4**		5.0	0.26	ug/L		05/01/15 10:11	05/04/15 14:23	10
Copper	**2.7**	**J**	20	2.4	ug/L		05/01/15 10:11	05/04/15 14:23	10
Iron	ND		500	61	ug/L		05/01/15 10:11	05/04/15 14:23	10
Silver	ND		10	0.36	ug/L		05/01/15 10:11	05/04/15 14:23	10
Potassium	**230000**		5000	58	ug/L		05/01/15 10:11	05/04/15 14:23	10
Magnesium	**730000**		5000	12	ug/L		05/01/15 10:11	05/04/15 14:23	10
Sodium	**6300000**		25000	190	ug/L		05/01/15 10:11	05/05/15 13:21	50
Nickel	**19**		10	1.7	ug/L		05/01/15 10:11	05/04/15 14:23	10
Lead	**0.37**	**J B**	10	0.19	ug/L		05/01/15 10:11	05/04/15 14:23	10
Antimony	ND		20	0.19	ug/L		05/01/15 10:11	05/04/15 14:23	10
Selenium	**60**	**F2**	50	4.2	ug/L		05/01/15 10:11	05/04/15 14:23	10
Thallium	ND		10	0.15	ug/L		05/01/15 10:11	05/04/15 14:23	10
Vanadium	ND		10	0.82	ug/L		05/01/15 10:11	05/04/15 14:23	10
Zinc	**28**	**J**	50	9.6	ug/L		05/01/15 10:11	05/04/15 14:23	10
Manganese	**290**	**B**	50	0.39	ug/L		05/01/15 10:11	05/04/15 14:23	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-3ST-SET
Date Collected: 04/28/15 12:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-22
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**31**	**J B**	300	26	ug/L		05/01/15 10:11	05/04/15 14:53	10
Arsenic	**18**		10	2.9	ug/L		05/01/15 10:11	05/04/15 14:53	10
Barium	**18**	**J**	100	0.98	ug/L		05/01/15 10:11	05/04/15 14:53	10
Beryllium	ND		10	0.37	ug/L		05/01/15 10:11	05/04/15 14:53	10
Cadmium	ND		10	1.1	ug/L		05/01/15 10:11	05/04/15 14:53	10
Calcium	**300000**	**B**	5000	28	ug/L		05/01/15 10:11	05/04/15 14:53	10
Chromium	ND		20	5.4	ug/L		05/01/15 10:11	05/04/15 14:53	10
Cobalt	**0.40**	**J**	5.0	0.26	ug/L		05/01/15 10:11	05/04/15 14:53	10
Copper	**2.8**	**J**	20	2.4	ug/L		05/01/15 10:11	05/04/15 14:53	10
Iron	ND		500	61	ug/L		05/01/15 10:11	05/04/15 14:53	10
Silver	ND		10	0.36	ug/L		05/01/15 10:11	05/04/15 14:53	10
Potassium	**270000**		5000	58	ug/L		05/01/15 10:11	05/04/15 14:53	10
Magnesium	**780000**		5000	12	ug/L		05/01/15 10:11	05/04/15 14:53	10
Sodium	**7000000**		25000	190	ug/L		05/01/15 10:11	05/05/15 14:00	50
Nickel	ND		10	1.7	ug/L		05/01/15 10:11	05/04/15 14:53	10
Lead	**0.59**	**J B**	10	0.19	ug/L		05/01/15 10:11	05/04/15 14:53	10
Antimony	**3.7**	**J**	20	0.19	ug/L		05/01/15 10:11	05/04/15 14:53	10
Selenium	**65**		50	4.2	ug/L		05/01/15 10:11	05/04/15 14:53	10
Thallium	ND		10	0.15	ug/L		05/01/15 10:11	05/04/15 14:53	10
Vanadium	ND		10	0.82	ug/L		05/01/15 10:11	05/04/15 14:53	10
Zinc	**13**	**J**	50	9.6	ug/L		05/01/15 10:11	05/04/15 14:53	10
Manganese	**52**	**B**	50	0.39	ug/L		05/01/15 10:11	05/04/15 14:53	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-3SB-SET
Date Collected: 04/30/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-23
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**32**	**J B**	300	26	ug/L		05/01/15 10:11	05/04/15 14:57	10
Arsenic	**19**		10	2.9	ug/L		05/01/15 10:11	05/04/15 14:57	10
Barium	**67**	**J**	100	0.98	ug/L		05/01/15 10:11	05/04/15 14:57	10
Beryllium	ND		10	0.37	ug/L		05/01/15 10:11	05/04/15 14:57	10
Cadmium	ND		10	1.1	ug/L		05/01/15 10:11	05/04/15 14:57	10
Calcium	**460000**	**B**	5000	28	ug/L		05/01/15 10:11	05/04/15 14:57	10
Chromium	ND		20	5.4	ug/L		05/01/15 10:11	05/04/15 14:57	10
Cobalt	**9.6**		5.0	0.26	ug/L		05/01/15 10:11	05/04/15 14:57	10
Copper	**3.2**	**J**	20	2.4	ug/L		05/01/15 10:11	05/04/15 14:57	10
Iron	ND		500	61	ug/L		05/01/15 10:11	05/04/15 14:57	10
Silver	ND		10	0.36	ug/L		05/01/15 10:11	05/04/15 14:57	10
Potassium	**240000**		5000	58	ug/L		05/01/15 10:11	05/04/15 14:57	10
Magnesium	**740000**		5000	12	ug/L		05/01/15 10:11	05/04/15 14:57	10
Sodium	**6500000**		25000	190	ug/L		05/01/15 10:11	05/05/15 14:05	50
Nickel	**22**		10	1.7	ug/L		05/01/15 10:11	05/04/15 14:57	10
Lead	**0.28**	**J B**	10	0.19	ug/L		05/01/15 10:11	05/04/15 14:57	10
Antimony	**0.91**	**J**	20	0.19	ug/L		05/01/15 10:11	05/04/15 14:57	10
Selenium	**76**		50	4.2	ug/L		05/01/15 10:11	05/04/15 14:57	10
Thallium	ND		10	0.15	ug/L		05/01/15 10:11	05/04/15 14:57	10
Vanadium	ND		10	0.82	ug/L		05/01/15 10:11	05/04/15 14:57	10
Zinc	**15**	**J**	50	9.6	ug/L		05/01/15 10:11	05/04/15 14:57	10
Manganese	**310**	**B**	50	0.39	ug/L		05/01/15 10:11	05/04/15 14:57	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-3NT-SET
Date Collected: 04/30/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-24
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**30**	**J B**	300	26	ug/L		05/01/15 10:11	05/04/15 15:00	10
Arsenic	**16**		10	2.9	ug/L		05/01/15 10:11	05/04/15 15:00	10
Barium	**18**	**J**	100	0.98	ug/L		05/01/15 10:11	05/04/15 15:00	10
Beryllium	ND		10	0.37	ug/L		05/01/15 10:11	05/04/15 15:00	10
Cadmium	ND		10	1.1	ug/L		05/01/15 10:11	05/04/15 15:00	10
Calcium	**280000**	**B**	5000	28	ug/L		05/01/15 10:11	05/04/15 15:00	10
Chromium	ND		20	5.4	ug/L		05/01/15 10:11	05/04/15 15:00	10
Cobalt	**0.53**	**J**	5.0	0.26	ug/L		05/01/15 10:11	05/04/15 15:00	10
Copper	**2.6**	**J**	20	2.4	ug/L		05/01/15 10:11	05/04/15 15:00	10
Iron	**68**	**J**	500	61	ug/L		05/01/15 10:11	05/04/15 15:00	10
Silver	ND		10	0.36	ug/L		05/01/15 10:11	05/04/15 15:00	10
Potassium	**250000**		5000	58	ug/L		05/01/15 10:11	05/04/15 15:00	10
Magnesium	**700000**		5000	12	ug/L		05/01/15 10:11	05/04/15 15:00	10
Sodium	**6400000**		25000	190	ug/L		05/01/15 10:11	05/05/15 14:10	50
Nickel	**2.2**	**J**	10	1.7	ug/L		05/01/15 10:11	05/04/15 15:00	10
Lead	**0.32**	**J B**	10	0.19	ug/L		05/01/15 10:11	05/04/15 15:00	10
Antimony	**5.4**	**J**	20	0.19	ug/L		05/01/15 10:11	05/04/15 15:00	10
Selenium	**54**		50	4.2	ug/L		05/01/15 10:11	05/04/15 15:00	10
Thallium	ND		10	0.15	ug/L		05/01/15 10:11	05/04/15 15:00	10
Vanadium	**2.2**	**J**	10	0.82	ug/L		05/01/15 10:11	05/04/15 15:00	10
Zinc	**14**	**J**	50	9.6	ug/L		05/01/15 10:11	05/04/15 15:00	10
Manganese	**100**	**B**	50	0.39	ug/L		05/01/15 10:11	05/04/15 15:00	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-3NB-SET
Date Collected: 04/30/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-25
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		300	26	ug/L		05/01/15 10:11	05/04/15 15:04	10
Arsenic	**10**		10	2.9	ug/L		05/01/15 10:11	05/04/15 15:04	10
Barium	**67**	**J**	100	0.98	ug/L		05/01/15 10:11	05/04/15 15:04	10
Beryllium	ND		10	0.37	ug/L		05/01/15 10:11	05/04/15 15:04	10
Cadmium	ND		10	1.1	ug/L		05/01/15 10:11	05/04/15 15:04	10
Calcium	**460000**	**B**	5000	28	ug/L		05/01/15 10:11	05/04/15 15:04	10
Chromium	ND		20	5.4	ug/L		05/01/15 10:11	05/04/15 15:04	10
Cobalt	**8.1**		5.0	0.26	ug/L		05/01/15 10:11	05/04/15 15:04	10
Copper	ND		20	2.4	ug/L		05/01/15 10:11	05/04/15 15:04	10
Iron	**62**	**J**	500	61	ug/L		05/01/15 10:11	05/04/15 15:04	10
Silver	ND		10	0.36	ug/L		05/01/15 10:11	05/04/15 15:04	10
Potassium	**240000**		5000	58	ug/L		05/01/15 10:11	05/04/15 15:04	10
Magnesium	**730000**		5000	12	ug/L		05/01/15 10:11	05/04/15 15:04	10
Sodium	**6200000**		25000	190	ug/L		05/01/15 10:11	05/05/15 14:16	50
Nickel	**20**		10	1.7	ug/L		05/01/15 10:11	05/04/15 15:04	10
Lead	ND		10	0.19	ug/L		05/01/15 10:11	05/04/15 15:04	10
Antimony	**0.57**	**J**	20	0.19	ug/L		05/01/15 10:11	05/04/15 15:04	10
Selenium	**37**	**J**	50	4.2	ug/L		05/01/15 10:11	05/04/15 15:04	10
Thallium	ND		10	0.15	ug/L		05/01/15 10:11	05/04/15 15:04	10
Vanadium	ND		10	0.82	ug/L		05/01/15 10:11	05/04/15 15:04	10
Zinc	ND		50	9.6	ug/L		05/01/15 10:11	05/04/15 15:04	10
Manganese	**260**	**B**	50	0.39	ug/L		05/01/15 10:11	05/04/15 15:04	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-4ST-SET
Date Collected: 04/30/15 12:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-26
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		300	26	ug/L		05/01/15 10:11	05/04/15 15:08	10
Arsenic	**14**		10	2.9	ug/L		05/01/15 10:11	05/04/15 15:08	10
Barium	**21**	**J**	100	0.98	ug/L		05/01/15 10:11	05/04/15 15:08	10
Beryllium	ND		10	0.37	ug/L		05/01/15 10:11	05/04/15 15:08	10
Cadmium	ND		10	1.1	ug/L		05/01/15 10:11	05/04/15 15:08	10
Calcium	**310000**	**B**	5000	28	ug/L		05/01/15 10:11	05/04/15 15:08	10
Chromium	ND		20	5.4	ug/L		05/01/15 10:11	05/04/15 15:08	10
Cobalt	**0.56**	**J**	5.0	0.26	ug/L		05/01/15 10:11	05/04/15 15:08	10
Copper	**2.6**	**J**	20	2.4	ug/L		05/01/15 10:11	05/04/15 15:08	10
Iron	ND		500	61	ug/L		05/01/15 10:11	05/04/15 15:08	10
Silver	ND		10	0.36	ug/L		05/01/15 10:11	05/04/15 15:08	10
Potassium	**250000**		5000	58	ug/L		05/01/15 10:11	05/04/15 15:08	10
Magnesium	**750000**		5000	12	ug/L		05/01/15 10:11	05/04/15 15:08	10
Sodium	**6800000**		25000	190	ug/L		05/01/15 10:11	05/05/15 14:21	50
Nickel	**2.5**	**J**	10	1.7	ug/L		05/01/15 10:11	05/04/15 15:08	10
Lead	**0.25**	**J B**	10	0.19	ug/L		05/01/15 10:11	05/04/15 15:08	10
Antimony	**3.7**	**J**	20	0.19	ug/L		05/01/15 10:11	05/04/15 15:08	10
Selenium	**50**		50	4.2	ug/L		05/01/15 10:11	05/04/15 15:08	10
Thallium	ND		10	0.15	ug/L		05/01/15 10:11	05/04/15 15:08	10
Vanadium	ND		10	0.82	ug/L		05/01/15 10:11	05/04/15 15:08	10
Zinc	**19**	**J**	50	9.6	ug/L		05/01/15 10:11	05/04/15 15:08	10
Manganese	**100**	**B**	50	0.39	ug/L		05/01/15 10:11	05/04/15 15:08	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-4SB-SET
Date Collected: 04/30/15 12:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-27
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		300	26	ug/L		05/01/15 10:11	05/04/15 15:12	10
Arsenic	**19**		10	2.9	ug/L		05/01/15 10:11	05/04/15 15:12	10
Barium	**57**	**J**	100	0.98	ug/L		05/01/15 10:11	05/04/15 15:12	10
Beryllium	ND		10	0.37	ug/L		05/01/15 10:11	05/04/15 15:12	10
Cadmium	ND		10	1.1	ug/L		05/01/15 10:11	05/04/15 15:12	10
Calcium	**450000**	**B**	5000	28	ug/L		05/01/15 10:11	05/04/15 15:12	10
Chromium	ND		20	5.4	ug/L		05/01/15 10:11	05/04/15 15:12	10
Cobalt	**6.7**		5.0	0.26	ug/L		05/01/15 10:11	05/04/15 15:12	10
Copper	ND		20	2.4	ug/L		05/01/15 10:11	05/04/15 15:12	10
Iron	**110**	**J**	500	61	ug/L		05/01/15 10:11	05/04/15 15:12	10
Silver	ND		10	0.36	ug/L		05/01/15 10:11	05/04/15 15:12	10
Potassium	**220000**		5000	58	ug/L		05/01/15 10:11	05/04/15 15:12	10
Magnesium	**670000**		5000	12	ug/L		05/01/15 10:11	05/04/15 15:12	10
Sodium	**6100000**		25000	190	ug/L		05/01/15 10:11	05/05/15 14:26	50
Nickel	**16**		10	1.7	ug/L		05/01/15 10:11	05/04/15 15:12	10
Lead	ND		10	0.19	ug/L		05/01/15 10:11	05/04/15 15:12	10
Antimony	**0.41**	**J**	20	0.19	ug/L		05/01/15 10:11	05/04/15 15:12	10
Selenium	**69**		50	4.2	ug/L		05/01/15 10:11	05/04/15 15:12	10
Thallium	ND		10	0.15	ug/L		05/01/15 10:11	05/04/15 15:12	10
Vanadium	ND		10	0.82	ug/L		05/01/15 10:11	05/04/15 15:12	10
Zinc	ND		50	9.6	ug/L		05/01/15 10:11	05/04/15 15:12	10
Manganese	**230**	**B**	50	0.39	ug/L		05/01/15 10:11	05/04/15 15:12	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-4MT-SET
Date Collected: 05/01/15 09:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-28
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**63**	**J**	300	26	ug/L		05/04/15 11:22	05/07/15 18:02	10
Arsenic	**12**		10	2.9	ug/L		05/04/15 11:22	05/07/15 18:02	10
Barium	**24**	**J**	100	0.98	ug/L		05/04/15 11:22	05/07/15 18:02	10
Beryllium	**0.51**	**J**	10	0.37	ug/L		05/04/15 11:22	05/07/15 18:02	10
Cadmium	ND		10	1.1	ug/L		05/04/15 11:22	05/07/15 18:02	10
Calcium	**360000**		5000	28	ug/L		05/04/15 11:22	05/07/15 18:02	10
Chromium	ND		20	5.4	ug/L		05/04/15 11:22	05/07/15 18:02	10
Cobalt	**0.79**	**J**	5.0	0.26	ug/L		05/04/15 11:22	05/07/15 18:02	10
Copper	**3.1**	**J**	20	2.4	ug/L		05/04/15 11:22	05/07/15 18:02	10
Iron	**170**	**J**	500	61	ug/L		05/04/15 11:22	05/07/15 18:02	10
Silver	ND		10	0.36	ug/L		05/04/15 11:22	05/07/15 18:02	10
Potassium	**280000**		5000	58	ug/L		05/04/15 11:22	05/07/15 18:02	10
Magnesium	**820000**		5000	12	ug/L		05/04/15 11:22	05/07/15 18:02	10
Sodium	**7500000**	**B**	25000	190	ug/L		05/04/15 11:22	05/08/15 22:02	50
Nickel	**4.0**	**J**	10	1.7	ug/L		05/04/15 11:22	05/07/15 18:02	10
Lead	**1.4**	**J**	10	0.19	ug/L		05/04/15 11:22	05/07/15 18:02	10
Antimony	**2.3**	**J**	20	0.19	ug/L		05/04/15 11:22	05/07/15 18:02	10
Selenium	**9.2**	**J**	50	4.2	ug/L		05/04/15 11:22	05/07/15 18:02	10
Thallium	**0.48**	**J**	10	0.15	ug/L		05/04/15 11:22	05/07/15 18:02	10
Vanadium	ND		10	0.82	ug/L		05/04/15 11:22	05/07/15 18:02	10
Zinc	**32**	**J**	50	9.6	ug/L		05/04/15 11:22	05/07/15 18:02	10
Manganese	**130**		50	0.39	ug/L		05/04/15 11:22	05/07/15 18:02	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-4NT-SET
Date Collected: 05/01/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-29
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**34**	**J**	300	26	ug/L		05/04/15 11:22	05/07/15 18:21	10
Arsenic	**12**		10	2.9	ug/L		05/04/15 11:22	05/07/15 18:21	10
Barium	**62**	**J**	100	0.98	ug/L		05/04/15 11:22	05/07/15 18:21	10
Beryllium	ND		10	0.37	ug/L		05/04/15 11:22	05/07/15 18:21	10
Cadmium	ND		10	1.1	ug/L		05/04/15 11:22	05/07/15 18:21	10
Calcium	**290000**		5000	28	ug/L		05/04/15 11:22	05/07/15 18:21	10
Chromium	ND		20	5.4	ug/L		05/04/15 11:22	05/07/15 18:21	10
Cobalt	**0.56**	**J**	5.0	0.26	ug/L		05/04/15 11:22	05/07/15 18:21	10
Copper	**2.6**	**J**	20	2.4	ug/L		05/04/15 11:22	05/07/15 18:21	10
Iron	**230**	**J**	500	61	ug/L		05/04/15 11:22	05/07/15 18:21	10
Silver	ND		10	0.36	ug/L		05/04/15 11:22	05/07/15 18:21	10
Potassium	**270000**		5000	58	ug/L		05/04/15 11:22	05/07/15 18:21	10
Magnesium	**790000**		5000	12	ug/L		05/04/15 11:22	05/07/15 18:21	10
Sodium	**6500000**	**B**	25000	190	ug/L		05/04/15 11:22	05/08/15 22:42	50
Nickel	**4.0**	**J**	10	1.7	ug/L		05/04/15 11:22	05/07/15 18:21	10
Lead	ND		10	0.19	ug/L		05/04/15 11:22	05/07/15 18:21	10
Antimony	**0.82**	**J**	20	0.19	ug/L		05/04/15 11:22	05/07/15 18:21	10
Selenium	**9.5**	**J**	50	4.2	ug/L		05/04/15 11:22	05/07/15 18:21	10
Thallium	**0.34**	**J**	10	0.15	ug/L		05/04/15 11:22	05/07/15 18:21	10
Vanadium	**4.7**	**J**	10	0.82	ug/L		05/04/15 11:22	05/07/15 18:21	10
Zinc	ND		50	9.6	ug/L		05/04/15 11:22	05/07/15 18:21	10
Manganese	**71**		50	0.39	ug/L		05/04/15 11:22	05/07/15 18:21	10

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: TS-4NB-SET
Date Collected: 05/01/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-30
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		300	26	ug/L		05/04/15 11:22	05/07/15 18:25	10
Arsenic	**11**		10	2.9	ug/L		05/04/15 11:22	05/07/15 18:25	10
Barium	**44**	**J**	100	0.98	ug/L		05/04/15 11:22	05/07/15 18:25	10
Beryllium	**0.40**	**J**	10	0.37	ug/L		05/04/15 11:22	05/07/15 18:25	10
Cadmium	ND		10	1.1	ug/L		05/04/15 11:22	05/07/15 18:25	10
Calcium	**440000**		5000	28	ug/L		05/04/15 11:22	05/07/15 18:25	10
Chromium	ND		20	5.4	ug/L		05/04/15 11:22	05/07/15 18:25	10
Cobalt	**3.1**	**J**	5.0	0.26	ug/L		05/04/15 11:22	05/07/15 18:25	10
Copper	**3.1**	**J**	20	2.4	ug/L		05/04/15 11:22	05/07/15 18:25	10
Iron	**220**	**J**	500	61	ug/L		05/04/15 11:22	05/07/15 18:25	10
Silver	ND		10	0.36	ug/L		05/04/15 11:22	05/07/15 18:25	10
Potassium	**240000**		5000	58	ug/L		05/04/15 11:22	05/07/15 18:25	10
Magnesium	**760000**		5000	12	ug/L		05/04/15 11:22	05/07/15 18:25	10
Sodium	**6100000**	**B**	25000	190	ug/L		05/04/15 11:22	05/08/15 22:47	50
Nickel	**10**		10	1.7	ug/L		05/04/15 11:22	05/07/15 18:25	10
Lead	ND		10	0.19	ug/L		05/04/15 11:22	05/07/15 18:25	10
Antimony	**0.61**	**J**	20	0.19	ug/L		05/04/15 11:22	05/07/15 18:25	10
Selenium	**11**	**J**	50	4.2	ug/L		05/04/15 11:22	05/07/15 18:25	10
Thallium	**0.21**	**J**	10	0.15	ug/L		05/04/15 11:22	05/07/15 18:25	10
Vanadium	ND		10	0.82	ug/L		05/04/15 11:22	05/07/15 18:25	10
Zinc	ND		50	9.6	ug/L		05/04/15 11:22	05/07/15 18:25	10
Manganese	**190**		50	0.39	ug/L		05/04/15 11:22	05/07/15 18:25	10

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-1-SET
Date Collected: 04/28/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-16
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/05/15 07:48	05/05/15 15:25	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-2ST-SET
Date Collected: 04/28/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-17
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/05/15 07:48	05/05/15 15:27	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-2SB-SET
Date Collected: 04/28/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-18
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/05/15 07:48	05/05/15 15:29	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-2MT-SET
Date Collected: 04/28/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-19
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/05/15 07:48	05/06/15 09:43	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-2NT-SET
Date Collected: 04/28/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-20
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/05/15 07:48	05/06/15 09:45	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-2NB-SET
Date Collected: 04/28/15 12:15
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-21
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/11/15 08:34	05/11/15 17:57	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-3ST-SET
Date Collected: 04/28/15 12:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-22
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/11/15 08:34	05/11/15 18:03	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-3SB-SET
Date Collected: 04/30/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-23
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/11/15 08:34	05/11/15 18:05	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-3NT-SET
Date Collected: 04/30/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-24
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/11/15 08:34	05/11/15 18:07	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-3NB-SET
Date Collected: 04/30/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-25
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/11/15 08:34	05/11/15 18:09	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-4ST-SET
Date Collected: 04/30/15 12:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-26
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/11/15 08:34	05/11/15 18:10	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-4SB-SET
Date Collected: 04/30/15 12:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-27
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/11/15 08:34	05/11/15 18:16	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-4MT-SET
Date Collected: 05/01/15 09:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-28
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/11/15 08:34	05/11/15 18:18	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-4NT-SET
Date Collected: 05/01/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-29
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/11/15 08:34	05/11/15 18:20	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: TS-4NB-SET
Date Collected: 05/01/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-30
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/11/15 08:34	05/11/15 18:22	1

General Chemistry - Dissolved

Client Sample ID: TS-1-SET
Date Collected: 04/28/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-16
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**6.0**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 14:59	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 09:32	1
Cyanide, Total	ND		10	2.5	ug/L		05/11/15 08:00	05/11/15 10:45	1
Sulfide	ND		3.0	0.59	mg/L		05/01/15 12:30	05/01/15 16:35	1
Dissolved Organic Carbon - Duplicate	**1.6**		1.0	0.14	mg/L			05/06/15 11:58	1
Total Phosphorus as P	**0.10**		0.10	0.050	mg/L		05/07/15 05:03	05/07/15 12:55	1
Nitrogen, Kjeldahl	**5.5**		5.0	1.7	mg/L		05/04/15 14:30	05/05/15 16:48	1

General Chemistry - Dissolved

Client Sample ID: TS-2ST-SET
Date Collected: 04/28/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-17
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**0.46**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:00	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 09:34	1
Cyanide, Total	ND		10	2.5	ug/L		05/11/15 08:00	05/11/15 10:47	1
Sulfide	**0.62**	**J**	3.0	0.59	mg/L		05/01/15 12:30	05/01/15 16:36	1
Dissolved Organic Carbon - Duplicate	**1.0**		1.0	0.14	mg/L			05/06/15 12:11	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/07/15 05:03	05/07/15 12:55	1
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		05/04/15 14:30	05/05/15 18:19	1

General Chemistry - Dissolved

Client Sample ID: TS-2SB-SET
Date Collected: 04/28/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-18
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**1.2**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:01	1
Nitrate Nitrite as N	**0.37**		0.10	0.022	mg/L			05/12/15 09:35	1
Cyanide, Total	ND		10	2.5	ug/L		05/07/15 13:00	05/07/15 13:30	1
Sulfide	ND		3.0	0.59	mg/L		05/01/15 12:30	05/01/15 16:38	1
Dissolved Organic Carbon - Duplicate	**0.86**	**J**	1.0	0.14	mg/L			05/06/15 12:24	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/07/15 05:04	05/07/15 12:57	1
Nitrogen, Kjeldahl	**2.2**	**J**	5.0	1.7	mg/L		05/04/15 14:30	05/05/15 19:50	1

General Chemistry - Dissolved

Client Sample ID: TS-2MT-SET
Date Collected: 04/28/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-19
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**0.10**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:03	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 09:37	1
Cyanide, Total	ND		10	2.5	ug/L		05/07/15 13:00	05/07/15 13:32	1
Sulfide	ND		3.0	0.59	mg/L		05/01/15 12:30	05/01/15 16:39	1
Dissolved Organic Carbon - Duplicate	**0.91**	**J**	1.0	0.14	mg/L			05/06/15 12:37	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/07/15 05:05	05/07/15 12:57	1
Nitrogen, Kjeldahl	**2.2**	**J**	5.0	1.7	mg/L		05/04/15 14:30	05/05/15 21:21	1

General Chemistry - Dissolved

Client Sample ID: TS-2NT-SET
Date Collected: 04/28/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-20
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**0.13**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:08	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 09:39	1
Cyanide, Total	ND		10	2.5	ug/L		05/07/15 13:00	05/07/15 13:34	1
Sulfide	**1.3**	**J**	3.0	0.59	mg/L		05/01/15 12:30	05/01/15 16:40	1
Dissolved Organic Carbon - Duplicate	**0.88**	**J**	1.0	0.14	mg/L			05/06/15 12:50	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/07/15 05:06	05/07/15 12:57	1
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		05/04/15 14:30	05/05/15 22:52	1

General Chemistry - Dissolved

Client Sample ID: TS-2NB-SET
Date Collected: 04/28/15 12:15
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-21
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**2.4**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:34	1
Nitrate Nitrite as N	**0.52**		0.10	0.022	mg/L			05/12/15 09:27	1
Cyanide, Total	ND		10	2.5	ug/L		05/11/15 08:00	05/11/15 10:50	1
Sulfide	**0.78**	**J**	3.0	0.59	mg/L		05/01/15 12:30	05/01/15 16:42	1
Dissolved Organic Carbon - Duplicate	**1.3**	**F1**	1.0	0.14	mg/L			05/06/15 13:03	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/07/15 04:59	05/07/15 12:55	1
Nitrogen, Kjeldahl	**2.2**	**J**	5.0	1.7	mg/L		05/04/15 14:30	05/06/15 00:23	1

General Chemistry - Dissolved

Client Sample ID: TS-3ST-SET
Date Collected: 04/28/15 12:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-22
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**0.46**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:10	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 09:40	1
Cyanide, Total	ND		10	2.5	ug/L		05/11/15 08:00	05/11/15 10:56	1
Sulfide	**0.62**	**J**	3.0	0.59	mg/L		05/01/15 12:30	05/01/15 16:49	1
Dissolved Organic Carbon - Duplicate	**0.63**	**J**	1.0	0.14	mg/L			05/06/15 13:44	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/07/15 05:07	05/07/15 12:57	1
Nitrogen, Kjeldahl	**2.2**	**J**	5.0	1.7	mg/L		05/04/15 14:30	05/06/15 04:56	1

General Chemistry - Dissolved

Client Sample ID: TS-3SB-SET
Date Collected: 04/30/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-23
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**3.8**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:11	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 09:47	1
Cyanide, Total	ND		10	2.5	ug/L		05/11/15 08:00	05/11/15 11:03	1
Sulfide	**9.5**		3.0	0.59	mg/L		05/06/15 12:30	05/06/15 18:00	1
Dissolved Organic Carbon - Duplicate	**1.2**		1.0	0.14	mg/L			05/06/15 14:24	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/07/15 05:08	05/07/15 12:57	1
Nitrogen, Kjeldahl	**6.6**		5.0	1.7	mg/L		05/04/15 14:30	05/06/15 06:27	1

General Chemistry - Dissolved

Client Sample ID: TS-3NT-SET
Date Collected: 04/30/15 11:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-24
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**0.36**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:13	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 09:49	1
Cyanide, Total	ND		10	2.5	ug/L		05/11/15 08:00	05/11/15 11:05	1
Sulfide	ND		3.0	0.59	mg/L		05/06/15 12:30	05/06/15 18:02	1
Dissolved Organic Carbon - Duplicate	**1.0**		1.0	0.14	mg/L			05/06/15 14:37	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/07/15 05:09	05/07/15 12:57	1
Nitrogen, Kjeldahl	**2.2**	**J**	5.0	1.7	mg/L		05/04/15 14:30	05/06/15 07:58	1

General Chemistry - Dissolved

Client Sample ID: TS-3NB-SET
Date Collected: 04/30/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-25
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**4.5**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:14	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 09:50	1
Cyanide, Total	ND		10	2.5	ug/L		05/11/15 08:00	05/11/15 11:07	1
Sulfide	**9.8**		3.0	0.59	mg/L		05/06/15 12:30	05/06/15 18:03	1
Dissolved Organic Carbon - Duplicate	**1.3**		1.0	0.14	mg/L			05/06/15 14:50	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/08/15 05:05	05/08/15 12:13	1
Nitrogen, Kjeldahl	**5.5**		5.0	1.7	mg/L		05/04/15 14:30	05/06/15 09:29	1

General Chemistry - Dissolved

Client Sample ID: TS-4ST-SET
Date Collected: 04/30/15 12:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-26
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**0.71**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:42	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 09:52	1
Cyanide, Total	ND		10	2.5	ug/L		05/11/15 08:00	05/11/15 11:09	1
Sulfide	**1.0**	**J**	3.0	0.59	mg/L		05/06/15 12:30	05/06/15 18:04	1
Dissolved Organic Carbon - Duplicate	**0.90**	**J**	1.0	0.14	mg/L			05/06/15 15:04	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/08/15 05:07	05/08/15 12:13	1
Nitrogen, Kjeldahl	**2.2**	**J**	5.0	1.7	mg/L		05/04/15 14:30	05/06/15 11:00	1

General Chemistry - Dissolved

Client Sample ID: TS-4SB-SET
Date Collected: 04/30/15 12:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-27
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**3.7**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:20	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 09:57	1
Cyanide, Total	ND		10	2.5	ug/L		05/11/15 08:00	05/11/15 11:11	1
Sulfide	**1.0**	**J**	3.0	0.59	mg/L		05/06/15 12:30	05/06/15 18:05	1
Dissolved Organic Carbon - Duplicate	**0.99**	**J**	1.0	0.14	mg/L			05/06/15 15:17	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/08/15 05:08	05/08/15 12:13	1
Nitrogen, Kjeldahl	**4.9**	**J**	5.0	1.7	mg/L		05/04/15 14:30	05/06/15 12:31	1

General Chemistry - Dissolved

Client Sample ID: TS-4MT-SET
Date Collected: 05/01/15 09:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-28
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**0.51**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:25	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 09:59	1
Cyanide, Total	ND		10	2.5	ug/L		05/11/15 08:00	05/11/15 11:13	1
Sulfide	**1.3**	**J**	3.0	0.59	mg/L		05/08/15 15:00	05/08/15 18:41	1
Dissolved Organic Carbon - Duplicate	**1.5**		1.0	0.14	mg/L			05/06/15 15:30	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/08/15 05:09	05/08/15 12:13	1
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		05/06/15 14:00	05/07/15 15:00	1

General Chemistry - Dissolved

Client Sample ID: TS-4NT-SET
Date Collected: 05/01/15 10:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-29
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**3.5**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:27	1
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 10:00	1
Cyanide, Total	ND		10	2.5	ug/L		05/11/15 08:00	05/11/15 11:15	1
Sulfide	**1.1**	**J**	3.0	0.59	mg/L		05/08/15 15:00	05/08/15 18:45	1
Dissolved Organic Carbon - Duplicate	**1.7**		1.0	0.14	mg/L			05/06/15 15:44	1
Total Phosphorus as P	**0.070**	**J**	0.10	0.050	mg/L		05/08/15 05:10	05/08/15 12:13	1
Nitrogen, Kjeldahl	**3.8**	**J**	5.0	1.7	mg/L		05/06/15 14:00	05/07/15 15:02	1

General Chemistry - Dissolved

Client Sample ID: TS-4NB-SET
Date Collected: 05/01/15 10:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-30
Matrix: SET, Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**2.4**		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:28	1
Nitrate Nitrite as N	**0.15**		0.10	0.022	mg/L			05/12/15 10:07	1
Cyanide, Total	ND		10	2.5	ug/L		05/11/15 08:00	05/11/15 11:18	1
Sulfide	**1.3**	**J**	3.0	0.59	mg/L		05/08/15 15:00	05/08/15 18:47	1
Dissolved Organic Carbon - Duplicate	**0.69**	**J**	1.0	0.14	mg/L			05/06/15 15:56	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/08/15 05:11	05/08/15 12:13	1
Nitrogen, Kjeldahl	**2.7**	**J**	5.0	1.7	mg/L		05/06/15 14:00	05/07/15 15:04	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-1-SET
Date Collected: 04/06/15 14:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-1
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	20				%			04/28/15 07:00	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-2ST-SET
Date Collected: 04/06/15 16:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-2
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	20				%			04/28/15 07:35	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-2SB-SET
Date Collected: 04/08/15 11:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-3
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	20				%			04/28/15 08:10	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-2MT-SET
Date Collected: 04/07/15 10:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-4
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	%				ug/L			04/28/15 08:45	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-2NT-SET
Date Collected: 04/07/15 14:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-5
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	%				ug/L			04/28/15 09:20	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-2NB-SET
Date Collected: 04/09/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-6
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	20				%			04/28/15 09:55	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-3ST-SET
Date Collected: 04/07/15 16:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-7
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	20				%			04/28/15 11:50	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-3SB-SET
Date Collected: 04/10/15 13:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-8
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	20				%			04/30/15 07:50	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-3NT-SET
Date Collected: 04/08/15 15:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-9
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	20				%			04/30/15 08:25	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-3NB-SET
Date Collected: 04/14/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-10
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	20				%			04/30/15 09:00	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-4ST-SET
Date Collected: 04/13/15 15:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-11
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	20				%			04/30/15 09:35	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-4SB-SET
Date Collected: 04/13/15 11:30
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-12
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	20				%			04/30/15 10:10	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-4MT-SET
Date Collected: 04/10/15 16:00
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-13
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	20				%			05/01/15 07:30	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-4NT-SET
Date Collected: 04/09/15 14:45
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-14
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	20				%			05/01/15 07:40	1

Method: SET - Standard Elutriate Test, Dissolved - Dissolved

Client Sample ID: TS-4NB-SET
Date Collected: 04/13/15 13:50
Date Received: 04/20/15 14:00

Lab Sample ID: 180-43250-15
Matrix: Sediment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Elutriate Generated	20				%			05/01/15 08:05	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved

Analyte	RL	MDL	Units	Method
1,2,4-Trichlorobenzene	1.0	0.085	ug/L	8270D LL
1,2,4-Trichlorobenzene	1.0	0.085	ug/L	8270D LL
1,2-Dichlorobenzene	1.0	0.11	ug/L	8270D LL
1,2-Dichlorobenzene	1.0	0.11	ug/L	8270D LL
1,2-Diphenylhydrazine(as Azobenzene)	1.0	0.12	ug/L	8270D LL
1,2-Diphenylhydrazine(as Azobenzene)	1.0	0.12	ug/L	8270D LL
1,3-Dichlorobenzene	1.0	0.075	ug/L	8270D LL
1,3-Dichlorobenzene	1.0	0.075	ug/L	8270D LL
1,4-Dichlorobenzene	1.0	0.16	ug/L	8270D LL
1,4-Dichlorobenzene	1.0	0.16	ug/L	8270D LL
1-Methylnaphthalene	0.20	0.031	ug/L	8270D LL
1-Methylnaphthalene	0.20	0.031	ug/L	8270D LL
2,2'-oxybis[1-chloropropane]	1.0	0.024	ug/L	8270D LL
2,2'-oxybis[1-chloropropane]	1.0	0.024	ug/L	8270D LL
2,4,6-Trichlorophenol	1.0	0.30	ug/L	8270D LL
2,4,6-Trichlorophenol	1.0	0.30	ug/L	8270D LL
2,4-Dichlorophenol	1.0	0.067	ug/L	8270D LL
2,4-Dichlorophenol	1.0	0.067	ug/L	8270D LL
2,4-Dimethylphenol	1.0	0.17	ug/L	8270D LL
2,4-Dimethylphenol	1.0	0.17	ug/L	8270D LL
2,4-Dinitrophenol	5.0	2.5	ug/L	8270D LL
2,4-Dinitrophenol	5.0	2.5	ug/L	8270D LL
2,4-Dinitrotoluene	1.0	0.21	ug/L	8270D LL
2,4-Dinitrotoluene	1.0	0.21	ug/L	8270D LL
2,6-Dinitrotoluene	1.0	0.14	ug/L	8270D LL
2,6-Dinitrotoluene	1.0	0.14	ug/L	8270D LL
2-Chloronaphthalene	0.20	0.031	ug/L	8270D LL
2-Chloronaphthalene	0.20	0.031	ug/L	8270D LL
2-Chlorophenol	1.0	0.23	ug/L	8270D LL
2-Chlorophenol	1.0	0.23	ug/L	8270D LL
2-Methylnaphthalene	0.20	0.019	ug/L	8270D LL
2-Methylnaphthalene	0.20	0.019	ug/L	8270D LL
2-Methylphenol	1.0	0.19	ug/L	8270D LL
2-Methylphenol	1.0	0.19	ug/L	8270D LL
2-Nitrophenol	1.0	0.11	ug/L	8270D LL
2-Nitrophenol	1.0	0.11	ug/L	8270D LL
3,3'-Dichlorobenzidine	1.0	0.15	ug/L	8270D LL
3,3'-Dichlorobenzidine	1.0	0.15	ug/L	8270D LL
4,6-Dinitro-2-methylphenol	5.0	1.6	ug/L	8270D LL
4,6-Dinitro-2-methylphenol	5.0	1.6	ug/L	8270D LL
4-Bromophenyl phenyl ether	1.0	0.12	ug/L	8270D LL
4-Bromophenyl phenyl ether	1.0	0.12	ug/L	8270D LL
4-Chloro-3-methylphenol	1.0	0.17	ug/L	8270D LL
4-Chloro-3-methylphenol	1.0	0.17	ug/L	8270D LL
4-Chlorophenyl phenyl ether	1.0	0.080	ug/L	8270D LL
4-Chlorophenyl phenyl ether	1.0	0.080	ug/L	8270D LL
4-Nitrophenol	5.0	0.80	ug/L	8270D LL
4-Nitrophenol	5.0	0.80	ug/L	8270D LL
Acenaphthene	0.20	0.029	ug/L	8270D LL
Acenaphthene	0.20	0.029	ug/L	8270D LL
Acenaphthylene	0.20	0.022	ug/L	8270D LL
Acenaphthylene	0.20	0.022	ug/L	8270D LL

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued

Analyte	RL	MDL	Units	Method
Anthracene	0.20	0.019	ug/L	8270D LL
Anthracene	0.20	0.019	ug/L	8270D LL
Benzidine	20	4.7	ug/L	8270D LL
Benzidine	20	4.7	ug/L	8270D LL
Benzo[a]anthracene	0.20	0.037	ug/L	8270D LL
Benzo[a]anthracene	0.20	0.037	ug/L	8270D LL
Benzo[a]pyrene	0.20	0.028	ug/L	8270D LL
Benzo[a]pyrene	0.20	0.028	ug/L	8270D LL
Benzo[b]fluoranthene	0.20	0.049	ug/L	8270D LL
Benzo[b]fluoranthene	0.20	0.049	ug/L	8270D LL
Benzo[g,h,i]perylene	0.20	0.029	ug/L	8270D LL
Benzo[g,h,i]perylene	0.20	0.029	ug/L	8270D LL
Benzo[k]fluoranthene	0.20	0.030	ug/L	8270D LL
Benzo[k]fluoranthene	0.20	0.030	ug/L	8270D LL
Benzoic acid	5.0	1.6	ug/L	8270D LL
Benzoic acid	5.0	1.6	ug/L	8270D LL
Benzyl alcohol	1.0	0.20	ug/L	8270D LL
Benzyl alcohol	1.0	0.20	ug/L	8270D LL
Bis(2-chloroethoxy)methane	1.0	0.13	ug/L	8270D LL
Bis(2-chloroethoxy)methane	1.0	0.13	ug/L	8270D LL
Bis(2-chloroethyl)ether	1.0	0.032	ug/L	8270D LL
Bis(2-chloroethyl)ether	1.0	0.032	ug/L	8270D LL
Bis(2-ethylhexyl) phthalate	2.0	0.44	ug/L	8270D LL
Bis(2-ethylhexyl) phthalate	2.0	0.44	ug/L	8270D LL
Butyl benzyl phthalate	1.0	0.21	ug/L	8270D LL
Butyl benzyl phthalate	1.0	0.21	ug/L	8270D LL
Chrysene	0.20	0.031	ug/L	8270D LL
Chrysene	0.20	0.031	ug/L	8270D LL
Dibenz(a,h)anthracene	0.20	0.027	ug/L	8270D LL
Dibenz(a,h)anthracene	0.20	0.027	ug/L	8270D LL
Dibenzofuran	1.0	0.097	ug/L	8270D LL
Dibenzofuran	1.0	0.097	ug/L	8270D LL
Diethyl phthalate	1.0	0.30	ug/L	8270D LL
Diethyl phthalate	1.0	0.30	ug/L	8270D LL
Dimethyl phthalate	1.0	0.18	ug/L	8270D LL
Dimethyl phthalate	1.0	0.18	ug/L	8270D LL
Di-n-butyl phthalate	1.0	0.24	ug/L	8270D LL
Di-n-butyl phthalate	1.0	0.24	ug/L	8270D LL
Di-n-octyl phthalate	1.0	0.20	ug/L	8270D LL
Di-n-octyl phthalate	1.0	0.20	ug/L	8270D LL
Fluoranthene	0.20	0.021	ug/L	8270D LL
Fluoranthene	0.20	0.021	ug/L	8270D LL
Fluorene	0.20	0.024	ug/L	8270D LL
Fluorene	0.20	0.024	ug/L	8270D LL
Hexachlorobenzene	1.0	0.061	ug/L	8270D LL
Hexachlorobenzene	1.0	0.061	ug/L	8270D LL
Hexachlorobutadiene	1.0	0.094	ug/L	8270D LL
Hexachlorobutadiene	1.0	0.094	ug/L	8270D LL
Hexachlorocyclopentadiene	1.0	0.14	ug/L	8270D LL
Hexachlorocyclopentadiene	1.0	0.14	ug/L	8270D LL
Hexachloroethane	1.0	0.14	ug/L	8270D LL
Hexachloroethane	1.0	0.14	ug/L	8270D LL

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - Dissolved (Continued

Analyte	RL	MDL	Units	Method
Indeno[1,2,3-cd]pyrene	0.20	0.043	ug/L	8270D LL
Indeno[1,2,3-cd]pyrene	0.20	0.043	ug/L	8270D LL
Isophorone	1.0	0.074	ug/L	8270D LL
Isophorone	1.0	0.074	ug/L	8270D LL
Methylphenol, 3 & 4	1.0	0.21	ug/L	8270D LL
Methylphenol, 3 & 4	1.0	0.21	ug/L	8270D LL
Naphthalene	0.20	0.023	ug/L	8270D LL
Naphthalene	0.20	0.023	ug/L	8270D LL
Nitrobenzene	2.0	0.15	ug/L	8270D LL
Nitrobenzene	2.0	0.15	ug/L	8270D LL
N-Nitrosodimethylamine	1.0	0.12	ug/L	8270D LL
N-Nitrosodimethylamine	1.0	0.12	ug/L	8270D LL
N-Nitrosodi-n-propylamine	1.0	0.050	ug/L	8270D LL
N-Nitrosodi-n-propylamine	1.0	0.050	ug/L	8270D LL
N-Nitrosodiphenylamine	1.0	0.12	ug/L	8270D LL
N-Nitrosodiphenylamine	1.0	0.12	ug/L	8270D LL
Pentachlorophenol	1.0	0.50	ug/L	8270D LL
Pentachlorophenol	1.0	0.50	ug/L	8270D LL
Phenanthrene	0.20	0.042	ug/L	8270D LL
Phenanthrene	0.20	0.042	ug/L	8270D LL
Phenol	1.0	0.055	ug/L	8270D LL
Phenol	1.0	0.055	ug/L	8270D LL
Pyrene	0.20	0.023	ug/L	8270D LL
Pyrene	0.20	0.023	ug/L	8270D LL

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.0013	0.00016	ug/L	8081B_LL
2,4'-DDD	0.0013	0.00016	ug/L	8081B_LL
2,4'-DDE	0.0013	0.00015	ug/L	8081B_LL
2,4'-DDE	0.0013	0.00015	ug/L	8081B_LL
2,4'-DDT	0.0013	0.00022	ug/L	8081B_LL
2,4'-DDT	0.0013	0.00022	ug/L	8081B_LL
4,4'-DDD	0.0013	0.00067	ug/L	8081B_LL
4,4'-DDD	0.0013	0.00067	ug/L	8081B_LL
4,4'-DDE	0.0013	0.00079	ug/L	8081B_LL
4,4'-DDE	0.0013	0.00079	ug/L	8081B_LL
4,4'-DDT	0.0013	0.00074	ug/L	8081B_LL
4,4'-DDT	0.0013	0.00074	ug/L	8081B_LL
Aldrin	0.0013	0.00083	ug/L	8081B_LL
Aldrin	0.0013	0.00083	ug/L	8081B_LL
alpha-BHC	0.0013	0.00066	ug/L	8081B_LL
alpha-BHC	0.0013	0.00066	ug/L	8081B_LL
beta-BHC	0.0013	0.0010	ug/L	8081B_LL
beta-BHC	0.0013	0.0010	ug/L	8081B_LL
Chlordane (technical)	0.013	0.0017	ug/L	8081B_LL
Chlordane (technical)	0.013	0.0017	ug/L	8081B_LL
Chlorobenside	0.0032	0.0015	ug/L	8081B_LL
Chlorobenside	0.0032	0.0015	ug/L	8081B_LL
DCPA	0.0025	0.00034	ug/L	8081B_LL
DCPA	0.0025	0.00034	ug/L	8081B_LL

Method: 8081B_LL - Organochlorine Pesticides (GC) - Dissolved (Continued)

Analyte	RL	MDL	Units	Method
delta-BHC	0.0013	0.00038	ug/L	8081B_LL
delta-BHC	0.0013	0.00038	ug/L	8081B_LL
Dieldrin	0.0013	0.00082	ug/L	8081B_LL
Dieldrin	0.0013	0.00082	ug/L	8081B_LL
Endosulfan I	0.0013	0.00094	ug/L	8081B_LL
Endosulfan I	0.0013	0.00094	ug/L	8081B_LL
Endosulfan II	0.0013	0.00098	ug/L	8081B_LL
Endosulfan II	0.0013	0.00098	ug/L	8081B_LL
Endosulfan sulfate	0.0013	0.00057	ug/L	8081B_LL
Endosulfan sulfate	0.0013	0.00057	ug/L	8081B_LL
Endrin	0.0013	0.00096	ug/L	8081B_LL
Endrin	0.0013	0.00096	ug/L	8081B_LL
Endrin aldehyde	0.0013	0.00090	ug/L	8081B_LL
Endrin aldehyde	0.0013	0.00090	ug/L	8081B_LL
gamma-BHC (Lindane)	0.0013	0.00080	ug/L	8081B_LL
gamma-BHC (Lindane)	0.0013	0.00080	ug/L	8081B_LL
Heptachlor	0.0013	0.00099	ug/L	8081B_LL
Heptachlor	0.0013	0.00099	ug/L	8081B_LL
Heptachlor epoxide	0.0013	0.00097	ug/L	8081B_LL
Heptachlor epoxide	0.0013	0.00097	ug/L	8081B_LL
Methoxychlor	0.0025	0.00091	ug/L	8081B_LL
Methoxychlor	0.0025	0.00091	ug/L	8081B_LL
Mirex	0.0013	0.00048	ug/L	8081B_LL
Mirex	0.0013	0.00048	ug/L	8081B_LL
Toxaphene	0.10	0.019	ug/L	8081B_LL
Toxaphene	0.10	0.019	ug/L	8081B_LL

Method: 8082A - PCB Congeners (GC) - Dissolved

Analyte	RL	MDL	Units	Method
DCB Decachlorobiphenyl	1.0	0.11	ng/L	8082A
DCB Decachlorobiphenyl	1.0	0.11	ng/L	8082A
PCB-101	1.0	0.15	ng/L	8082A
PCB-101	1.0	0.15	ng/L	8082A
PCB-105	1.0	0.079	ng/L	8082A
PCB-105	1.0	0.079	ng/L	8082A
PCB-118	1.0	0.12	ng/L	8082A
PCB-118	1.0	0.12	ng/L	8082A
PCB-126	1.0	0.32	ng/L	8082A
PCB-126	1.0	0.32	ng/L	8082A
PCB-128	1.0	0.085	ng/L	8082A
PCB-128	1.0	0.085	ng/L	8082A
PCB-138	1.0	0.15	ng/L	8082A
PCB-138	1.0	0.15	ng/L	8082A
PCB-153	1.0	0.12	ng/L	8082A
PCB-153	1.0	0.12	ng/L	8082A
PCB-156	1.0	0.078	ng/L	8082A
PCB-156	1.0	0.078	ng/L	8082A
PCB-169	1.0	0.22	ng/L	8082A
PCB-169	1.0	0.22	ng/L	8082A
PCB-170	1.0	0.11	ng/L	8082A
PCB-170	1.0	0.11	ng/L	8082A

Method: 8082A - PCB Congeners (GC) - Dissolved (Continued)

Analyte	RL	MDL	Units	Method
PCB-18	1.0	0.19	ng/L	8082A
PCB-18	1.0	0.19	ng/L	8082A
PCB-180	1.0	0.080	ng/L	8082A
PCB-180	1.0	0.080	ng/L	8082A
PCB-183	1.0	0.27	ng/L	8082A
PCB-183	1.0	0.27	ng/L	8082A
PCB-184	1.0	0.14	ng/L	8082A
PCB-184	1.0	0.14	ng/L	8082A
PCB-187	1.0	0.40	ng/L	8082A
PCB-187	1.0	0.40	ng/L	8082A
PCB-195	1.0	0.10	ng/L	8082A
PCB-195	1.0	0.10	ng/L	8082A
PCB-206	1.0	0.17	ng/L	8082A
PCB-206	1.0	0.17	ng/L	8082A
PCB-28	1.0	0.23	ng/L	8082A
PCB-28	1.0	0.23	ng/L	8082A
PCB-44	1.0	0.077	ng/L	8082A
PCB-44	1.0	0.077	ng/L	8082A
PCB-49	1.0	0.15	ng/L	8082A
PCB-49	1.0	0.15	ng/L	8082A
PCB-52	1.0	0.15	ng/L	8082A
PCB-52	1.0	0.15	ng/L	8082A
PCB-66	1.0	0.13	ng/L	8082A
PCB-66	1.0	0.13	ng/L	8082A
PCB-77	1.0	0.16	ng/L	8082A
PCB-77	1.0	0.16	ng/L	8082A
PCB-8	1.0	0.32	ng/L	8082A
PCB-8	1.0	0.32	ng/L	8082A
PCB-87	1.0	0.079	ng/L	8082A
PCB-87	1.0	0.079	ng/L	8082A

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
Azinphos-methyl	1.0	0.11	ug/L	8141B
Bolstar	1.0	0.11	ug/L	8141B
Chlorpyrifos	1.0	0.10	ug/L	8141B
Coumaphos	1.0	0.15	ug/L	8141B
Demeton, Total	2.0	0.16	ug/L	8141B
Diazinon	1.0	0.094	ug/L	8141B
Dichlorvos	1.0	0.085	ug/L	8141B
Dimethoate	1.0	0.12	ug/L	8141B
Disulfoton	1.0	0.10	ug/L	8141B
EPN	1.0	0.12	ug/L	8141B
Famphur	1.0	0.12	ug/L	8141B
Fensulfothion	1.0	0.17	ug/L	8141B
Fenthion	1.0	0.085	ug/L	8141B
Malathion	1.0	0.11	ug/L	8141B
Methyl parathion	1.0	0.11	ug/L	8141B
Mevinphos	1.0	0.098	ug/L	8141B
Mocap	1.0	0.10	ug/L	8141B
O,O,O-Triethyl phosphorothioate	1.0	0.10	ug/L	8141B

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43250-1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
Parathion	1.0	0.16	ug/L	8141B
Phorate	1.0	0.092	ug/L	8141B
Ronnel	1.0	0.10	ug/L	8141B
Stirophos	1.0	0.096	ug/L	8141B
Sulfotepp	1.0	0.095	ug/L	8141B
Thionazin	1.0	0.10	ug/L	8141B
Tokuthion	1.0	0.094	ug/L	8141B
Trichloronate	1.0	0.099	ug/L	8141B

Method: Organotins/GC - Organotins (GC/FPD)

Analyte	RL	MDL	Units	Method
Dibutyltin	0.039	0.039	ug/L	Organotins/GC
Monobutyltin	0.62	0.62	ug/L	Organotins/GC
Tetrabutyltin	0.050	0.050	ug/L	Organotins/GC
Tributyltin	0.045	0.045	ug/L	Organotins/GC

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	RL	MDL	Units	Method
Aluminum	30	2.6	ug/L	6020A
Antimony	2.0	0.019	ug/L	6020A
Arsenic	1.0	0.29	ug/L	6020A
Barium	10	0.098	ug/L	6020A
Beryllium	1.0	0.037	ug/L	6020A
Cadmium	1.0	0.11	ug/L	6020A
Calcium	500	2.8	ug/L	6020A
Chromium	2.0	0.54	ug/L	6020A
Cobalt	0.50	0.026	ug/L	6020A
Copper	2.0	0.24	ug/L	6020A
Iron	50	6.1	ug/L	6020A
Lead	1.0	0.019	ug/L	6020A
Magnesium	500	1.2	ug/L	6020A
Manganese	5.0	0.039	ug/L	6020A
Nickel	1.0	0.17	ug/L	6020A
Potassium	500	5.8	ug/L	6020A
Selenium	5.0	0.42	ug/L	6020A
Silver	1.0	0.036	ug/L	6020A
Sodium	500	3.8	ug/L	6020A
Thallium	1.0	0.015	ug/L	6020A
Vanadium	1.0	0.082	ug/L	6020A
Zinc	5.0	0.96	ug/L	6020A

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	RL	MDL	Units	Method
Mercury	0.20	0.078	ug/L	7470A

General Chemistry - Dissolved

Analyte	RL	MDL	Units	Method
Ammonia, distilled	0.10	0.086	mg/L	350.1

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43250-1

General Chemistry - Dissolved (Continued)

Analyte	RL	MDL	Units	Method
Nitrate Nitrite as N	0.10	0.022	mg/L	353.2
Cyanide, Total	10	2.5	ug/L	9014
Sulfide	3.0	0.59	mg/L	9034
Dissolved Organic Carbon - Duplicate	1.0	0.14	mg/L	SM 5310C
Total Phosphorus as P	0.10	0.050	mg/L	SM4500 P E-1999
Nitrogen, Kjeldahl	5.0	1.7	mg/L	SM4500_NH3_E

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43250-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: SET, Dissolved **Prep Type: Dissolved**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(28-109)	(20-105)	(30-118)	(27-114)	(25-105)	(20-118)
180-43250-16	TS-1-SET	55	53	63	55	60	65
180-43250-17	TS-2ST-SET	56	51	62	53	60	71
180-43250-18	TS-2SB-SET	56	53	61	55	62	72
180-43250-19	TS-2MT-SET	61	57	67	60	64	74
180-43250-20	TS-2NT-SET	54	52	57	54	59	63
180-43250-21	TS-2NB-SET	53	55	57	56	65	63
180-43250-21MS	TS-2NB-SET	61	58	70	64	68	71
180-43250-21MSD	TS-2NB-SET	63	61	75	67	72	76
180-43250-22	TS-3ST-SET	57	58	61	61	67	69
180-43250-23	TS-3SB-SET	49	49	55	51	55	62
180-43250-24	TS-3NT-SET	56	54	58	60	62	62
180-43250-25	TS-3NB-SET	48	52	53	53	57	58
180-43250-26	TS-4ST-SET	57	60	60	62	65	66
180-43250-27	TS-4SB-SET	59	61	63	64	68	69
180-43250-28	TS-4MT-SET	52	53	55	53	57	54
180-43250-29	TS-4NT-SET	54	57	57	57	62	61
180-43250-30	TS-4NB-SET	59	61	63	64	67	73

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(28-109)	(20-105)	(30-118)	(27-114)	(25-105)	(20-118)
LCS 180-140501/2-A	Lab Control Sample	55	55	61	59	62	62
LCS 180-140746/2-A	Lab Control Sample	53	52	58	55	57	60
LCSD 180-140746/3-A	Lab Control Sample Dup	53	53	57	55	57	59
MB 180-140501/1-A	Method Blank	50	55	52	54	59	61
MB 180-140746/1-A	Method Blank	51	57	54	57	61	65

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43250-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Dissolved**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(28-109)	(20-105)	(30-118)	(27-114)	(25-105)	(20-118)
180-43250-31	SRM	64	58	58	72	73	72

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: SET, Dissolved **Prep Type: Dissolved**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(60-111)	(60-111)	(45-122)	(45-122)
180-43250-16	TS-1-SET	166 X	120 X	86	84
180-43250-16 - RA	TS-1-SET	112 X	110	83	85
180-43250-17	TS-2ST-SET	165 X	108 p	94	92
180-43250-17 - RA	TS-2ST-SET	131 X	111	94	97
180-43250-18	TS-2SB-SET	180 X	122 X	88	87
180-43250-18 - RA	TS-2SB-SET	127 X	111	91	90
180-43250-19	TS-2MT-SET	148 X	106	91	91
180-43250-19 - RA	TS-2MT-SET	115 X	105	93	94
180-43250-20	TS-2NT-SET	141 X	99	89	85
180-43250-20 - RA	TS-2NT-SET	111	101	86	88
180-43250-21	TS-2NB-SET	134 X	101	90	87
180-43250-21 - RA	TS-2NB-SET	101	100	88	90
180-43250-21MS	TS-2NB-SET	181 X	119 p X	82	82
180-43250-21MS - RA	TS-2NB-SET	134 X	110	87	89
180-43250-21MSD	TS-2NB-SET	134 X	94	87	84
180-43250-21MSD - RA	TS-2NB-SET	109	100	84	88
180-43250-22	TS-3ST-SET	128 X	95	82	81
180-43250-22 - RA	TS-3ST-SET	103	93	84	84
180-43250-23	TS-3SB-SET	198 X	137 X	102	97
180-43250-23 - RA	TS-3SB-SET	139 X	124 X	83	86
180-43250-24	TS-3NT-SET	150 X	116 X	98	93
180-43250-24 - RA	TS-3NT-SET	118 X	112 X	90	85
180-43250-25	TS-3NB-SET	166 X	117 X	90	86
180-43250-25 - RA	TS-3NB-SET	122 X	106	82	86
180-43250-26	TS-4ST-SET	148 X	107	87	81
180-43250-26 - RA	TS-4ST-SET	118 X	104	85	85
180-43250-27	TS-4SB-SET	124 X	99	98	92
180-43250-27 - RA	TS-4SB-SET	102	96	85	88
180-43250-28	TS-4MT-SET	210 X	151 X	84	83
180-43250-28 - RA	TS-4MT-SET	144 X	126 X	83	87
180-43250-29	TS-4NT-SET	142 X	107	80	78
180-43250-29 - RA	TS-4NT-SET	104	99	81	84
180-43250-30	TS-4NB-SET	172 X	114 p X	84	81

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Matrix: SET, Dissolved — **Prep Type: Dissolved**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(60-111)	(60-111)	(45-122)	(45-122)
180-43250-30 - RA	TS-4NB-SET	120 X	103	87	88

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(60-111)	(60-111)	(45-122)	(45-122)
LCS 180-140077/2-A	Lab Control Sample	93	91	86	87
LCS 180-140314/2-A	Lab Control Sample	96	92	91	87
LCSD 180-140314/3-A	Lab Control Sample Dup	96	92	97	90
MB 180-140077/1-A	Method Blank	81	80	78	75
MB 180-140314/1-A	Method Blank	94	93	105	98

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Water — **Prep Type: Dissolved**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(60-111)	(60-111)	(45-122)	(45-122)
180-43250-31	SRM	89	89	88	89
180-43250-31 - RA	SRM	95	97	90	92

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: SET, Dissolved — **Prep Type: Dissolved**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
180-43250-16	TS-1-SET	101	107	106	130
180-43250-17	TS-2ST-SET	101	102	100	127
180-43250-18	TS-2SB-SET	142 X	101	96	116
180-43250-19	TS-2MT-SET	104	98	109	113
180-43250-20	TS-2NT-SET	237 X	102 p	111	116
180-43250-21	TS-2NB-SET	116	110	93	121
180-43250-21MS	TS-2NB-SET	294 X	109 p	99	113
180-43250-21MSD	TS-2NB-SET	117	98	97	142 X
180-43250-22	TS-3ST-SET	89	93	97	111

Method: 8082A - PCB Congeners (GC) (Continued)

Matrix: SET, Dissolved — **Prep Type: Dissolved**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
180-43250-23	TS-3SB-SET	81	82	84	85
180-43250-24	TS-3NT-SET	82	90	95	95
180-43250-25	TS-3NB-SET	89	95	96	96
180-43250-26	TS-4ST-SET	88	90	87	88
180-43250-27	TS-4SB-SET	84	91	92	92
180-43250-28	TS-4MT-SET	92	94	93	94
180-43250-29	TS-4NT-SET	69	84	83	88
180-43250-30	TS-4NB-SET	90	95	91	95

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
LCS 180-140075/2-A	Lab Control Sample	86	87	88	100
LCS 180-140315/2-A	Lab Control Sample	80	80	87	84
LCSD 180-140315/3-A	Lab Control Sample Dup	77	76	87	82
MB 180-140075/1-A	Method Blank	79	79	82	98
MB 180-140315/1-A	Method Blank	74	75	81	80

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: Water — **Prep Type: Dissolved**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
180-43250-31	SRM	103	98	104	115

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Matrix: SET, Dissolved — **Prep Type: Dissolved**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(49-122)	(49-122)	(45-145)	(45-145)
180-43250-16	TS-1-SET	94	90	98	100
180-43250-17	TS-2ST-SET	96	92	97	101

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43250-1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Matrix: SET, Dissolved **Prep Type: Dissolved**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(49-122)	(49-122)	(45-145)	(45-145)
180-43250-18	TS-2SB-SET	96	93	100	102
180-43250-19	TS-2MT-SET	94	91	97	101
180-43250-20	TS-2NT-SET	95	93	97	102
180-43250-21	TS-2NB-SET	95	92	96	102
180-43250-21MS	TS-2NB-SET	100	103	99	102
180-43250-21MSD	TS-2NB-SET	99	105	100	103
180-43250-22	TS-3ST-SET	94	91	98	101
180-43250-23	TS-3SB-SET	93	87	96	98
180-43250-24	TS-3NT-SET	88	82	93	94
180-43250-25	TS-3NB-SET	96	91	101	102
180-43250-26	TS-4ST-SET	94	88	99	99
180-43250-27	TS-4SB-SET	81	76	86	87
180-43250-28	TS-4MT-SET	84	80	87	91
180-43250-29	TS-4NT-SET	92	87	98	101
180-43250-30	TS-4NB-SET	84	78	86	89

Surrogate Legend

TBPH = Tributyl phosphate
TPP = Triphenylphosphate

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(49-122)	(49-122)	(45-145)	(45-145)
LCS 180-140074/2-A	Lab Control Sample	99	103	98	103
LCS 180-140316/2-A	Lab Control Sample	91	94	90	91
LCSD 180-140316/3-A	Lab Control Sample Dup	89	93	90	90
MB 180-140074/1-A	Method Blank	90	88	92	97
MB 180-140316/1-A	Method Blank	90	82	93	95

Surrogate Legend

TBPH = Tributyl phosphate
TPP = Triphenylphosphate

Method: Organotins/GC - Organotins (GC/FPD)

Matrix: SET, Dissolved **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TPT1	TPT2
Lab Sample ID	Client Sample ID	(15-150)	(15-150)
180-43250-16	TS-1-SET	75	80
180-43250-17	TS-2ST-SET	58	51
180-43250-18	TS-2SB-SET	68	63
180-43250-19	TS-2MT-SET	61	60
180-43250-20	TS-2NT-SET	60	56

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43250-1

Method: Organotins/GC - Organotins (GC/FPD) (Continued)

Matrix: SET, Dissolved **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	TPT1 (15-150)	TPT2 (15-150)
180-43250-21	TS-2NB-SET	76	76
180-43250-21MS	TS-2NB-SET	65	65
180-43250-21MSD	TS-2NB-SET	54	71
180-43250-22	TS-3ST-SET	71	81
180-43250-23	TS-3SB-SET	59	71
180-43250-24	TS-3NT-SET	75	79
180-43250-25	TS-3NB-SET	72	72
180-43250-26	TS-4ST-SET	72	75
180-43250-27	TS-4SB-SET	87	74
180-43250-28	TS-4MT-SET	68	82
180-43250-29	TS-4NT-SET	65	78
180-43250-30	TS-4NB-SET	84	78

Surrogate Legend

TPT = Tripentyltin

Method: Organotins/GC - Organotins (GC/FPD)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	TPT1 (15-150)	TPT2 (15-150)
LCS 200-87725/2-A	Lab Control Sample	63	50
LCS 200-88087/2-A	Lab Control Sample	73	80
MB 200-87725/1-A	Method Blank	49	61
MB 200-88087/1-A	Method Blank	66	68

Surrogate Legend

TPT = Tripentyltin

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-140501/1-A
Matrix: Water
Analysis Batch: 141122

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140501

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		20	4.7	ug/L		05/04/15 11:59	05/11/15 09:28	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		05/04/15 11:59	05/11/15 09:28	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		05/04/15 11:59	05/11/15 09:28	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		05/04/15 11:59	05/11/15 09:28	1
Benzoic acid	ND		5.0	1.6	ug/L		05/04/15 11:59	05/11/15 09:28	1
Bis(2-chloroethyl)ether	ND		1.0	0.032	ug/L		05/04/15 11:59	05/11/15 09:28	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		05/04/15 11:59	05/11/15 09:28	1
Bis(2-ethylhexyl) phthalate	ND		2.0	0.44	ug/L		05/04/15 11:59	05/11/15 09:28	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		05/04/15 11:59	05/11/15 09:28	1
Butyl benzyl phthalate	ND		1.0	0.21	ug/L		05/04/15 11:59	05/11/15 09:28	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		05/04/15 11:59	05/11/15 09:28	1
2-Chloronaphthalene	ND		0.20	0.031	ug/L		05/04/15 11:59	05/11/15 09:28	1
2-Chlorophenol	ND		1.0	0.23	ug/L		05/04/15 11:59	05/11/15 09:28	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		05/04/15 11:59	05/11/15 09:28	1
Di-n-butyl phthalate	ND		1.0	0.24	ug/L		05/04/15 11:59	05/11/15 09:28	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		05/04/15 11:59	05/11/15 09:28	1
2,4-Dichlorophenol	ND		1.0	0.067	ug/L		05/04/15 11:59	05/11/15 09:28	1
Diethyl phthalate	ND		1.0	0.30	ug/L		05/04/15 11:59	05/11/15 09:28	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		05/04/15 11:59	05/11/15 09:28	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		05/04/15 11:59	05/11/15 09:28	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		05/04/15 11:59	05/11/15 09:28	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		05/04/15 11:59	05/11/15 09:28	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		05/04/15 11:59	05/11/15 09:28	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		05/04/15 11:59	05/11/15 09:28	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.12	ug/L		05/04/15 11:59	05/11/15 09:28	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		05/04/15 11:59	05/11/15 09:28	1
Hexachlorobenzene	ND		1.0	0.061	ug/L		05/04/15 11:59	05/11/15 09:28	1
Hexachlorobutadiene	ND		1.0	0.094	ug/L		05/04/15 11:59	05/11/15 09:28	1
Hexachloroethane	ND		1.0	0.14	ug/L		05/04/15 11:59	05/11/15 09:28	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		05/04/15 11:59	05/11/15 09:28	1
Isophorone	ND		1.0	0.074	ug/L		05/04/15 11:59	05/11/15 09:28	1
2-Methylphenol	ND		1.0	0.19	ug/L		05/04/15 11:59	05/11/15 09:28	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		05/04/15 11:59	05/11/15 09:28	1
Nitrobenzene	ND		2.0	0.15	ug/L		05/04/15 11:59	05/11/15 09:28	1
2-Nitrophenol	ND		1.0	0.11	ug/L		05/04/15 11:59	05/11/15 09:28	1
4-Nitrophenol	ND		5.0	0.80	ug/L		05/04/15 11:59	05/11/15 09:28	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		05/04/15 11:59	05/11/15 09:28	1
N-Nitrosodimethylamine	ND		1.0	0.12	ug/L		05/04/15 11:59	05/11/15 09:28	1
N-Nitrosodi-n-propylamine	ND		1.0	0.050	ug/L		05/04/15 11:59	05/11/15 09:28	1
2,2'-oxybis[1-chloropropane]	ND		1.0	0.024	ug/L		05/04/15 11:59	05/11/15 09:28	1
Pentachlorophenol	ND		1.0	0.50	ug/L		05/04/15 11:59	05/11/15 09:28	1
Phenol	ND		1.0	0.055	ug/L		05/04/15 11:59	05/11/15 09:28	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		05/04/15 11:59	05/11/15 09:28	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		05/04/15 11:59	05/11/15 09:28	1
2-Methylnaphthalene	ND		0.20	0.019	ug/L		05/04/15 11:59	05/11/15 09:28	1
1-Methylnaphthalene	ND		0.20	0.031	ug/L		05/04/15 11:59	05/11/15 09:28	1
Naphthalene	ND		0.20	0.023	ug/L		05/04/15 11:59	05/11/15 09:28	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-140501/1-A
Matrix: Water
Analysis Batch: 141122

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140501

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		0.20	0.022	ug/L		05/04/15 11:59	05/11/15 09:28	1
Acenaphthene	ND		0.20	0.029	ug/L		05/04/15 11:59	05/11/15 09:28	1
Fluorene	ND		0.20	0.024	ug/L		05/04/15 11:59	05/11/15 09:28	1
Phenanthrene	ND		0.20	0.042	ug/L		05/04/15 11:59	05/11/15 09:28	1
Anthracene	ND		0.20	0.019	ug/L		05/04/15 11:59	05/11/15 09:28	1
Fluoranthene	ND		0.20	0.021	ug/L		05/04/15 11:59	05/11/15 09:28	1
Pyrene	ND		0.20	0.023	ug/L		05/04/15 11:59	05/11/15 09:28	1
Benzo[a]anthracene	ND		0.20	0.037	ug/L		05/04/15 11:59	05/11/15 09:28	1
Chrysene	ND		0.20	0.031	ug/L		05/04/15 11:59	05/11/15 09:28	1
Benzo[b]fluoranthene	ND		0.20	0.049	ug/L		05/04/15 11:59	05/11/15 09:28	1
Benzo[k]fluoranthene	ND		0.20	0.030	ug/L		05/04/15 11:59	05/11/15 09:28	1
Benzo[a]pyrene	ND		0.20	0.028	ug/L		05/04/15 11:59	05/11/15 09:28	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.043	ug/L		05/04/15 11:59	05/11/15 09:28	1
Dibenz(a,h)anthracene	ND		0.20	0.027	ug/L		05/04/15 11:59	05/11/15 09:28	1
Benzo[g,h,i]perylene	ND		0.20	0.029	ug/L		05/04/15 11:59	05/11/15 09:28	1
Benzyl alcohol	ND		1.0	0.20	ug/L		05/04/15 11:59	05/11/15 09:28	1
Dibenzofuran	ND		1.0	0.097	ug/L		05/04/15 11:59	05/11/15 09:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*50*		*28 - 109*	*05/04/15 11:59*	*05/11/15 09:28*	*1*
2-Fluorophenol (Surr)	*55*		*20 - 105*	*05/04/15 11:59*	*05/11/15 09:28*	*1*
2,4,6-Tribromophenol (Surr)	*52*		*30 - 118*	*05/04/15 11:59*	*05/11/15 09:28*	*1*
Nitrobenzene-d5 (Surr)	*54*		*27 - 114*	*05/04/15 11:59*	*05/11/15 09:28*	*1*
Phenol-d5 (Surr)	*59*		*25 - 105*	*05/04/15 11:59*	*05/11/15 09:28*	*1*
Terphenyl-d14 (Surr)	*61*		*20 - 118*	*05/04/15 11:59*	*05/11/15 09:28*	*1*

Lab Sample ID: LCS 180-140501/2-A
Matrix: Water
Analysis Batch: 141122

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140501

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	20.0	6.47	J	ug/L		32	10 - 100
1,2-Dichlorobenzene	20.0	12.1		ug/L		61	40 - 100
1,3-Dichlorobenzene	20.0	11.8		ug/L		59	38 - 100
1,4-Dichlorobenzene	20.0	11.8		ug/L		59	39 - 100
Benzoic acid	20.0	13.4		ug/L		67	14 - 117
Bis(2-chloroethyl)ether	20.0	12.3		ug/L		61	42 - 100
Bis(2-chloroethoxy)methane	20.0	12.2		ug/L		61	45 - 100
Bis(2-ethylhexyl) phthalate	20.0	15.0		ug/L		75	35 - 118
4-Bromophenyl phenyl ether	20.0	12.4		ug/L		62	46 - 100
Butyl benzyl phthalate	20.0	14.8		ug/L		74	45 - 105
4-Chloro-3-methylphenol	20.0	14.5		ug/L		73	47 - 100
2-Chloronaphthalene	20.0	11.0		ug/L		55	42 - 100
2-Chlorophenol	20.0	12.7		ug/L		63	41 - 100
4-Chlorophenyl phenyl ether	20.0	12.6		ug/L		63	48 - 100
Di-n-butyl phthalate	20.0	14.0		ug/L		70	49 - 101
3,3'-Dichlorobenzidine	20.0	12.4		ug/L		62	41 - 100
2,4-Dichlorophenol	20.0	12.8		ug/L		64	45 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-140501/2-A
Matrix: Water
Analysis Batch: 141122

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140501

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diethyl phthalate	20.0	11.9		ug/L		59	48 - 100
4,6-Dinitro-2-methylphenol	40.0	27.4		ug/L		69	46 - 100
2,4-Dimethylphenol	20.0	12.9		ug/L		65	45 - 100
Dimethyl phthalate	20.0	12.8		ug/L		64	49 - 100
2,4-Dinitrophenol	40.0	23.4		ug/L		59	36 - 100
2,4-Dinitrotoluene	20.0	14.7		ug/L		73	49 - 100
2,6-Dinitrotoluene	20.0	13.7		ug/L		69	50 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	12.9		ug/L		64	49 - 100
Di-n-octyl phthalate	20.0	16.9		ug/L		85	40 - 105
Hexachlorobenzene	20.0	12.3		ug/L		61	45 - 100
Hexachlorobutadiene	20.0	11.5		ug/L		58	42 - 100
Hexachloroethane	20.0	13.0		ug/L		65	39 - 100
Hexachlorocyclopentadiene	20.0	11.1		ug/L		56	37 - 109
Isophorone	20.0	13.0		ug/L		65	48 - 100
2-Methylphenol	20.0	13.4		ug/L		67	43 - 100
Methylphenol, 3 & 4	20.0	13.1		ug/L		65	41 - 100
Nitrobenzene	20.0	12.2		ug/L		61	47 - 100
2-Nitrophenol	20.0	12.7		ug/L		63	45 - 100
4-Nitrophenol	40.0	29.4		ug/L		74	44 - 129
N-Nitrosodiphenylamine	40.0	23.0		ug/L		58	48 - 100
N-Nitrosodimethylamine	20.0	11.7		ug/L		58	41 - 100
N-Nitrosodi-n-propylamine	20.0	13.0		ug/L		65	42 - 100
2,2'-oxybis[1-chloropropane]	20.0	12.4		ug/L		62	38 - 100
Pentachlorophenol	40.0	21.7		ug/L		54	36 - 105
Phenol	20.0	12.4		ug/L		62	43 - 100
1,2,4-Trichlorobenzene	20.0	11.8		ug/L		59	43 - 100
2,4,6-Trichlorophenol	20.0	12.5		ug/L		63	47 - 101
2-Methylnaphthalene	20.0	13.6		ug/L		68	44 - 100
1-Methylnaphthalene	20.0	13.2		ug/L		66	43 - 100
Naphthalene	20.0	12.2		ug/L		61	44 - 100
Acenaphthylene	20.0	12.7		ug/L		63	47 - 100
Acenaphthene	20.0	11.4		ug/L		57	47 - 100
Fluorene	20.0	13.0		ug/L		65	48 - 100
Phenanthrene	20.0	13.4		ug/L		67	48 - 100
Anthracene	20.0	13.3		ug/L		67	49 - 100
Fluoranthene	20.0	13.9		ug/L		70	48 - 100
Pyrene	20.0	14.5		ug/L		73	44 - 100
Benzo[a]anthracene	20.0	14.2		ug/L		71	50 - 100
Chrysene	20.0	14.0		ug/L		70	49 - 100
Benzo[b]fluoranthene	20.0	13.7		ug/L		68	43 - 100
Benzo[k]fluoranthene	20.0	15.9		ug/L		80	47 - 100
Benzo[a]pyrene	20.0	15.0		ug/L		75	47 - 100
Indeno[1,2,3-cd]pyrene	20.0	13.9		ug/L		70	47 - 100
Dibenz(a,h)anthracene	20.0	14.0		ug/L		70	48 - 100
Benzo[g,h,i]perylene	20.0	13.8		ug/L		69	48 - 100
Benzyl alcohol	20.0	13.5		ug/L		68	41 - 100
Dibenzofuran	20.0	13.0		ug/L		65	47 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-140501/2-A
Matrix: Water
Analysis Batch: 141122

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140501

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	55		28 - 109
2-Fluorophenol (Surr)	55		20 - 105
2,4,6-Tribromophenol (Surr)	61		30 - 118
Nitrobenzene-d5 (Surr)	59		27 - 114
Phenol-d5 (Surr)	62		25 - 105
Terphenyl-d14 (Surr)	62		20 - 118

Lab Sample ID: MB 180-140746/1-A
Matrix: Water
Analysis Batch: 141231

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140746

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		20	4.7	ug/L		05/06/15 12:13	05/12/15 09:06	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		05/06/15 12:13	05/12/15 09:06	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		05/06/15 12:13	05/12/15 09:06	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		05/06/15 12:13	05/12/15 09:06	1
Benzoic acid	ND		5.0	1.6	ug/L		05/06/15 12:13	05/12/15 09:06	1
Bis(2-chloroethyl)ether	ND		1.0	0.032	ug/L		05/06/15 12:13	05/12/15 09:06	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		05/06/15 12:13	05/12/15 09:06	1
Bis(2-ethylhexyl) phthalate	ND		2.0	0.44	ug/L		05/06/15 12:13	05/12/15 09:06	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		05/06/15 12:13	05/12/15 09:06	1
Butyl benzyl phthalate	ND		1.0	0.21	ug/L		05/06/15 12:13	05/12/15 09:06	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		05/06/15 12:13	05/12/15 09:06	1
2-Chloronaphthalene	ND		0.20	0.031	ug/L		05/06/15 12:13	05/12/15 09:06	1
2-Chlorophenol	ND		1.0	0.23	ug/L		05/06/15 12:13	05/12/15 09:06	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		05/06/15 12:13	05/12/15 09:06	1
Di-n-butyl phthalate	ND		1.0	0.24	ug/L		05/06/15 12:13	05/12/15 09:06	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		05/06/15 12:13	05/12/15 09:06	1
2,4-Dichlorophenol	ND		1.0	0.067	ug/L		05/06/15 12:13	05/12/15 09:06	1
Diethyl phthalate	ND		1.0	0.30	ug/L		05/06/15 12:13	05/12/15 09:06	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		05/06/15 12:13	05/12/15 09:06	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		05/06/15 12:13	05/12/15 09:06	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		05/06/15 12:13	05/12/15 09:06	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		05/06/15 12:13	05/12/15 09:06	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		05/06/15 12:13	05/12/15 09:06	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		05/06/15 12:13	05/12/15 09:06	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.12	ug/L		05/06/15 12:13	05/12/15 09:06	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		05/06/15 12:13	05/12/15 09:06	1
Hexachlorobenzene	ND		1.0	0.061	ug/L		05/06/15 12:13	05/12/15 09:06	1
Hexachlorobutadiene	ND		1.0	0.094	ug/L		05/06/15 12:13	05/12/15 09:06	1
Hexachloroethane	ND		1.0	0.14	ug/L		05/06/15 12:13	05/12/15 09:06	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		05/06/15 12:13	05/12/15 09:06	1
Isophorone	ND		1.0	0.074	ug/L		05/06/15 12:13	05/12/15 09:06	1
2-Methylphenol	ND		1.0	0.19	ug/L		05/06/15 12:13	05/12/15 09:06	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		05/06/15 12:13	05/12/15 09:06	1
Nitrobenzene	ND		2.0	0.15	ug/L		05/06/15 12:13	05/12/15 09:06	1
2-Nitrophenol	ND		1.0	0.11	ug/L		05/06/15 12:13	05/12/15 09:06	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-140746/1-A
Matrix: Water
Analysis Batch: 141231

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140746

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	ND		5.0	0.80	ug/L		05/06/15 12:13	05/12/15 09:06	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		05/06/15 12:13	05/12/15 09:06	1
N-Nitrosodimethylamine	ND		1.0	0.12	ug/L		05/06/15 12:13	05/12/15 09:06	1
N-Nitrosodi-n-propylamine	ND		1.0	0.050	ug/L		05/06/15 12:13	05/12/15 09:06	1
2,2'-oxybis[1-chloropropane]	ND		1.0	0.024	ug/L		05/06/15 12:13	05/12/15 09:06	1
Pentachlorophenol	ND		1.0	0.50	ug/L		05/06/15 12:13	05/12/15 09:06	1
Phenol	ND		1.0	0.055	ug/L		05/06/15 12:13	05/12/15 09:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		05/06/15 12:13	05/12/15 09:06	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		05/06/15 12:13	05/12/15 09:06	1
2-Methylnaphthalene	ND		0.20	0.019	ug/L		05/06/15 12:13	05/12/15 09:06	1
1-Methylnaphthalene	ND		0.20	0.031	ug/L		05/06/15 12:13	05/12/15 09:06	1
Naphthalene	ND		0.20	0.023	ug/L		05/06/15 12:13	05/12/15 09:06	1
Acenaphthylene	ND		0.20	0.022	ug/L		05/06/15 12:13	05/12/15 09:06	1
Acenaphthene	ND		0.20	0.029	ug/L		05/06/15 12:13	05/12/15 09:06	1
Fluorene	ND		0.20	0.024	ug/L		05/06/15 12:13	05/12/15 09:06	1
Phenanthrene	ND		0.20	0.042	ug/L		05/06/15 12:13	05/12/15 09:06	1
Anthracene	ND		0.20	0.019	ug/L		05/06/15 12:13	05/12/15 09:06	1
Fluoranthene	ND		0.20	0.021	ug/L		05/06/15 12:13	05/12/15 09:06	1
Pyrene	ND		0.20	0.023	ug/L		05/06/15 12:13	05/12/15 09:06	1
Benzo[a]anthracene	ND		0.20	0.037	ug/L		05/06/15 12:13	05/12/15 09:06	1
Chrysene	ND		0.20	0.031	ug/L		05/06/15 12:13	05/12/15 09:06	1
Benzo[b]fluoranthene	ND		0.20	0.049	ug/L		05/06/15 12:13	05/12/15 09:06	1
Benzo[k]fluoranthene	ND		0.20	0.030	ug/L		05/06/15 12:13	05/12/15 09:06	1
Benzo[a]pyrene	ND		0.20	0.028	ug/L		05/06/15 12:13	05/12/15 09:06	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.043	ug/L		05/06/15 12:13	05/12/15 09:06	1
Dibenz(a,h)anthracene	ND		0.20	0.027	ug/L		05/06/15 12:13	05/12/15 09:06	1
Benzo[g,h,i]perylene	ND		0.20	0.029	ug/L		05/06/15 12:13	05/12/15 09:06	1
Benzyl alcohol	ND		1.0	0.20	ug/L		05/06/15 12:13	05/12/15 09:06	1
Dibenzofuran	ND		1.0	0.097	ug/L		05/06/15 12:13	05/12/15 09:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*51*		*28 - 109*	*05/06/15 12:13*	*05/12/15 09:06*	*1*
2-Fluorophenol (Surr)	*57*		*20 - 105*	*05/06/15 12:13*	*05/12/15 09:06*	*1*
2,4,6-Tribromophenol (Surr)	*54*		*30 - 118*	*05/06/15 12:13*	*05/12/15 09:06*	*1*
Nitrobenzene-d5 (Surr)	*57*		*27 - 114*	*05/06/15 12:13*	*05/12/15 09:06*	*1*
Phenol-d5 (Surr)	*61*		*25 - 105*	*05/06/15 12:13*	*05/12/15 09:06*	*1*
Terphenyl-d14 (Surr)	*65*		*20 - 118*	*05/06/15 12:13*	*05/12/15 09:06*	*1*

Lab Sample ID: LCS 180-140746/2-A
Matrix: Water
Analysis Batch: 141231

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140746

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	20.0	7.11	J	ug/L		36	10 - 100
1,2-Dichlorobenzene	20.0	11.6		ug/L		58	40 - 100
1,3-Dichlorobenzene	20.0	11.2		ug/L		56	38 - 100
1,4-Dichlorobenzene	20.0	11.2		ug/L		56	39 - 100
Benzoic acid	20.0	12.1		ug/L		61	14 - 117

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-140746/2-A
Matrix: Water
Analysis Batch: 141231

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140746

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethyl)ether	20.0	11.6		ug/L		58	42 - 100
Bis(2-chloroethoxy)methane	20.0	11.6		ug/L		58	45 - 100
Bis(2-ethylhexyl) phthalate	20.0	14.1		ug/L		70	35 - 118
4-Bromophenyl phenyl ether	20.0	12.2		ug/L		61	46 - 100
Butyl benzyl phthalate	20.0	14.0		ug/L		70	45 - 105
4-Chloro-3-methylphenol	20.0	12.9		ug/L		64	47 - 100
2-Chloronaphthalene	20.0	10.7		ug/L		54	42 - 100
2-Chlorophenol	20.0	12.0		ug/L		60	41 - 100
4-Chlorophenyl phenyl ether	20.0	12.1		ug/L		60	48 - 100
Di-n-butyl phthalate	20.0	12.8		ug/L		64	49 - 101
3,3'-Dichlorobenzidine	20.0	12.4		ug/L		62	41 - 100
2,4-Dichlorophenol	20.0	12.1		ug/L		61	45 - 100
Diethyl phthalate	20.0	11.4		ug/L		57	48 - 100
4,6-Dinitro-2-methylphenol	40.0	25.2		ug/L		63	46 - 100
2,4-Dimethylphenol	20.0	12.1		ug/L		60	45 - 100
Dimethyl phthalate	20.0	12.0		ug/L		60	49 - 100
2,4-Dinitrophenol	40.0	20.6		ug/L		51	36 - 100
2,4-Dinitrotoluene	20.0	13.4		ug/L		67	49 - 100
2,6-Dinitrotoluene	20.0	12.8		ug/L		64	50 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	12.1		ug/L		60	49 - 100
Di-n-octyl phthalate	20.0	14.1		ug/L		70	40 - 105
Hexachlorobenzene	20.0	11.9		ug/L		60	45 - 100
Hexachlorobutadiene	20.0	11.4		ug/L		57	42 - 100
Hexachloroethane	20.0	12.1		ug/L		60	39 - 100
Hexachlorocyclopentadiene	20.0	11.4		ug/L		57	37 - 109
Isophorone	20.0	11.9		ug/L		60	48 - 100
2-Methylphenol	20.0	12.3		ug/L		62	43 - 100
Methylphenol, 3 & 4	20.0	11.5		ug/L		57	41 - 100
Nitrobenzene	20.0	11.6		ug/L		58	47 - 100
2-Nitrophenol	20.0	12.1		ug/L		61	45 - 100
4-Nitrophenol	40.0	25.6		ug/L		64	44 - 129
N-Nitrosodiphenylamine	40.0	22.3		ug/L		56	48 - 100
N-Nitrosodimethylamine	20.0	10.7		ug/L		54	41 - 100
N-Nitrosodi-n-propylamine	20.0	11.6		ug/L		58	42 - 100
2,2'-oxybis[1-chloropropane]	20.0	10.8		ug/L		54	38 - 100
Pentachlorophenol	40.0	20.2		ug/L		50	36 - 105
Phenol	20.0	11.7		ug/L		58	43 - 100
1,2,4-Trichlorobenzene	20.0	11.4		ug/L		57	43 - 100
2,4,6-Trichlorophenol	20.0	11.7		ug/L		58	47 - 101
2-Methylnaphthalene	20.0	12.7		ug/L		64	44 - 100
1-Methylnaphthalene	20.0	12.1		ug/L		61	43 - 100
Naphthalene	20.0	11.5		ug/L		58	44 - 100
Acenaphthylene	20.0	12.2		ug/L		61	47 - 100
Acenaphthene	20.0	11.1		ug/L		56	47 - 100
Fluorene	20.0	12.4		ug/L		62	48 - 100
Phenanthrene	20.0	12.7		ug/L		64	48 - 100
Anthracene	20.0	12.6		ug/L		63	49 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-140746/2-A
Matrix: Water
Analysis Batch: 141231

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140746

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoranthene	20.0	12.7		ug/L		64	48 - 100
Pyrene	20.0	14.3		ug/L		72	44 - 100
Benzo[a]anthracene	20.0	13.6		ug/L		68	50 - 100
Chrysene	20.0	13.4		ug/L		67	49 - 100
Benzo[b]fluoranthene	20.0	12.8		ug/L		64	43 - 100
Benzo[k]fluoranthene	20.0	13.6		ug/L		68	47 - 100
Benzo[a]pyrene	20.0	13.9		ug/L		69	47 - 100
Indeno[1,2,3-cd]pyrene	20.0	14.4		ug/L		72	47 - 100
Dibenz(a,h)anthracene	20.0	14.6		ug/L		73	48 - 100
Benzo[g,h,i]perylene	20.0	14.8		ug/L		74	48 - 100
Benzyl alcohol	20.0	11.8		ug/L		59	41 - 100
Dibenzofuran	20.0	12.4		ug/L		62	47 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*53*		*28 - 109*
2-Fluorophenol (Surr)	*52*		*20 - 105*
2,4,6-Tribromophenol (Surr)	*58*		*30 - 118*
Nitrobenzene-d5 (Surr)	*55*		*27 - 114*
Phenol-d5 (Surr)	*57*		*25 - 105*
Terphenyl-d14 (Surr)	*60*		*20 - 118*

Lab Sample ID: LCSD 180-140746/3-A
Matrix: Water
Analysis Batch: 141231

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140746

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzidine	20.0	7.09	J	ug/L		35	10 - 100	0	35
1,2-Dichlorobenzene	20.0	11.5		ug/L		58	40 - 100	0	20
1,3-Dichlorobenzene	20.0	11.2		ug/L		56	38 - 100	0	17
1,4-Dichlorobenzene	20.0	11.4		ug/L		57	39 - 100	2	18
Benzoic acid	20.0	12.2		ug/L		61	14 - 117	0	20
Bis(2-chloroethyl)ether	20.0	11.4		ug/L		57	42 - 100	1	28
Bis(2-chloroethoxy)methane	20.0	11.4		ug/L		57	45 - 100	2	28
Bis(2-ethylhexyl) phthalate	20.0	13.8		ug/L		69	35 - 118	2	35
4-Bromophenyl phenyl ether	20.0	12.0		ug/L		60	46 - 100	1	22
Butyl benzyl phthalate	20.0	13.8		ug/L		69	45 - 105	1	23
4-Chloro-3-methylphenol	20.0	12.8		ug/L		64	47 - 100	1	27
2-Chloronaphthalene	20.0	10.6		ug/L		53	42 - 100	1	26
2-Chlorophenol	20.0	12.1		ug/L		60	41 - 100	1	28
4-Chlorophenyl phenyl ether	20.0	11.8		ug/L		59	48 - 100	2	25
Di-n-butyl phthalate	20.0	12.8		ug/L		64	49 - 101	0	21
3,3'-Dichlorobenzidine	20.0	12.3		ug/L		62	41 - 100	1	28
2,4-Dichlorophenol	20.0	12.0		ug/L		60	45 - 100	1	29
Diethyl phthalate	20.0	10.8		ug/L		54	48 - 100	5	20
4,6-Dinitro-2-methylphenol	40.0	24.9		ug/L		62	46 - 100	1	19
2,4-Dimethylphenol	20.0	12.0		ug/L		60	45 - 100	1	25
Dimethyl phthalate	20.0	11.7		ug/L		59	49 - 100	2	24
2,4-Dinitrophenol	40.0	21.1		ug/L		53	36 - 100	3	18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 180-140746/3-A
Matrix: Water
Analysis Batch: 141231

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140746

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-Dinitrotoluene			20.0	13.2		ug/L		66	49 - 100	2	21
2,6-Dinitrotoluene			20.0	12.7		ug/L		63	50 - 100	1	23
1,2-Diphenylhydrazine(as Azobenzene)			20.0	11.8		ug/L		59	49 - 100	3	22
Di-n-octyl phthalate			20.0	13.9		ug/L		69	40 - 105	1	23
Hexachlorobenzene			20.0	11.7		ug/L		59	45 - 100	2	19
Hexachlorobutadiene			20.0	11.3		ug/L		56	42 - 100	1	18
Hexachloroethane			20.0	12.2		ug/L		61	39 - 100	1	16
Hexachlorocyclopentadiene			20.0	11.2		ug/L		56	37 - 109	2	16
Isophorone			20.0	11.5		ug/L		57	48 - 100	4	30
2-Methylphenol			20.0	12.3		ug/L		62	43 - 100	0	28
Methylphenol, 3 & 4			20.0	11.8		ug/L		59	41 - 100	3	28
Nitrobenzene			20.0	11.4		ug/L		57	47 - 100	1	27
2-Nitrophenol			20.0	12.0		ug/L		60	45 - 100	1	31
4-Nitrophenol			40.0	25.5		ug/L		64	44 - 129	0	21
N-Nitrosodiphenylamine			40.0	21.7		ug/L		54	48 - 100	2	21
N-Nitrosodimethylamine			20.0	11.6		ug/L		58	41 - 100	8	30
N-Nitrosodi-n-propylamine			20.0	11.6		ug/L		58	42 - 100	0	27
2,2'-oxybis[1-chloropropane]			20.0	10.9		ug/L		55	38 - 100	1	28
Pentachlorophenol			40.0	20.4		ug/L		51	36 - 105	1	15
Phenol			20.0	11.5		ug/L		57	43 - 100	2	25
1,2,4-Trichlorobenzene			20.0	11.3		ug/L		57	43 - 100	1	22
2,4,6-Trichlorophenol			20.0	11.5		ug/L		57	47 - 101	2	28
2-Methylnaphthalene			20.0	12.8		ug/L		64	44 - 100	0	27
1-Methylnaphthalene			20.0	12.1		ug/L		61	43 - 100	0	27
Naphthalene			20.0	11.4		ug/L		57	44 - 100	1	25
Acenaphthylene			20.0	11.9		ug/L		59	47 - 100	2	26
Acenaphthene			20.0	10.8		ug/L		54	47 - 100	2	25
Fluorene			20.0	12.0		ug/L		60	48 - 100	3	22
Phenanthrene			20.0	12.6		ug/L		63	48 - 100	1	20
Anthracene			20.0	12.4		ug/L		62	49 - 100	1	20
Fluoranthene			20.0	12.5		ug/L		62	48 - 100	2	20
Pyrene			20.0	14.0		ug/L		70	44 - 100	2	20
Benzo[a]anthracene			20.0	13.2		ug/L		66	50 - 100	3	20
Chrysene			20.0	13.5		ug/L		67	49 - 100	0	20
Benzo[b]fluoranthene			20.0	12.4		ug/L		62	43 - 100	3	22
Benzo[k]fluoranthene			20.0	13.4		ug/L		67	47 - 100	1	24
Benzo[a]pyrene			20.0	13.5		ug/L		68	47 - 100	2	22
Indeno[1,2,3-cd]pyrene			20.0	14.1		ug/L		70	47 - 100	2	21
Dibenz(a,h)anthracene			20.0	13.9		ug/L		70	48 - 100	5	21
Benzo[g,h,i]perylene			20.0	14.1		ug/L		70	48 - 100	5	21
Benzyl alcohol			20.0	11.9		ug/L		59	41 - 100	1	32
Dibenzofuran			20.0	12.0		ug/L		60	47 - 100	3	24

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*53*		*28 - 109*
2-Fluorophenol (Surr)	*53*		*20 - 105*
2,4,6-Tribromophenol (Surr)	*57*		*30 - 118*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 180-140746/3-A
Matrix: Water
Analysis Batch: 141231

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140746

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Nitrobenzene-d5 (Surr)	55		27 - 114
Phenol-d5 (Surr)	57		25 - 105
Terphenyl-d14 (Surr)	59		20 - 118

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 141122

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140501

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	ND	F1	19.2	ND	F1	ug/L		0	10 - 100
1,2-Dichlorobenzene	ND		19.2	13.5		ug/L		70	40 - 100
1,3-Dichlorobenzene	ND		19.2	13.0		ug/L		67	38 - 100
1,4-Dichlorobenzene	ND		19.2	13.0		ug/L		68	39 - 100
Benzoic acid	ND		19.2	9.91		ug/L		52	14 - 117
Bis(2-chloroethyl)ether	ND		19.2	13.7		ug/L		71	42 - 100
Bis(2-chloroethoxy)methane	ND		19.2	13.5		ug/L		70	45 - 100
Bis(2-ethylhexyl) phthalate	ND		19.2	18.9		ug/L		98	35 - 118
4-Bromophenyl phenyl ether	ND		19.2	14.6		ug/L		76	46 - 100
Butyl benzyl phthalate	0.42	J	19.2	18.5		ug/L		94	45 - 105
4-Chloro-3-methylphenol	ND		19.2	16.5		ug/L		86	47 - 100
2-Chloronaphthalene	ND		19.2	12.3		ug/L		64	42 - 100
2-Chlorophenol	ND		19.2	14.1		ug/L		73	41 - 100
4-Chlorophenyl phenyl ether	ND		19.2	14.2		ug/L		74	48 - 100
Di-n-butyl phthalate	ND		19.2	16.2		ug/L		84	49 - 101
3,3'-Dichlorobenzidine	ND		19.2	12.0		ug/L		62	41 - 100
2,4-Dichlorophenol	ND		19.2	14.1		ug/L		73	45 - 100
Diethyl phthalate	ND		19.2	13.2		ug/L		69	48 - 100
4,6-Dinitro-2-methylphenol	ND		38.5	29.5		ug/L		77	46 - 100
2,4-Dimethylphenol	ND		19.2	12.4		ug/L		64	45 - 100
Dimethyl phthalate	ND		19.2	14.6		ug/L		76	49 - 100
2,4-Dinitrophenol	ND		38.5	21.4		ug/L		56	36 - 100
2,4-Dinitrotoluene	ND		19.2	16.6		ug/L		86	49 - 100
2,6-Dinitrotoluene	ND		19.2	15.8		ug/L		82	50 - 100
1,2-Diphenylhydrazine(as Azobenzene)	ND		19.2	14.8		ug/L		77	49 - 100
Di-n-octyl phthalate	ND	F1	19.2	20.5	F1	ug/L		106	40 - 105
Hexachlorobenzene	ND		19.2	14.2		ug/L		74	45 - 100
Hexachlorobutadiene	ND		19.2	12.7		ug/L		66	42 - 100
Hexachloroethane	ND		19.2	14.0		ug/L		73	39 - 100
Hexachlorocyclopentadiene	ND		19.2	9.40		ug/L		49	37 - 109
Isophorone	ND		19.2	14.2		ug/L		74	48 - 100
2-Methylphenol	ND		19.2	14.5		ug/L		76	43 - 100
Methylphenol, 3 & 4	ND		19.2	14.4		ug/L		75	41 - 100
Nitrobenzene	ND		19.2	15.3		ug/L		80	47 - 100
2-Nitrophenol	ND		19.2	14.1		ug/L		73	45 - 100
4-Nitrophenol	ND		38.5	32.3		ug/L		84	44 - 129
N-Nitrosodiphenylamine	ND		38.5	25.8		ug/L		67	48 - 100
N-Nitrosodimethylamine	ND		19.2	13.5		ug/L		70	41 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 141122

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140501

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Nitrosodi-n-propylamine	ND		19.2	14.6		ug/L		76	42 - 100
2,2'-oxybis[1-chloropropane]	ND		19.2	12.9		ug/L		67	38 - 100
Pentachlorophenol	ND		38.5	21.1		ug/L		55	36 - 105
Phenol	ND		19.2	14.1		ug/L		73	43 - 100
1,2,4-Trichlorobenzene	ND		19.2	13.0		ug/L		68	43 - 100
2,4,6-Trichlorophenol	ND		19.2	13.4		ug/L		70	47 - 101
2-Methylnaphthalene	ND		19.2	14.7		ug/L		76	44 - 100
1-Methylnaphthalene	ND		19.2	14.2		ug/L		74	43 - 100
Naphthalene	ND		19.2	13.2		ug/L		68	44 - 100
Acenaphthylene	ND		19.2	14.4		ug/L		75	47 - 100
Acenaphthene	ND		19.2	12.7		ug/L		66	47 - 100
Fluorene	ND		19.2	14.4		ug/L		75	48 - 100
Phenanthrene	ND		19.2	15.7		ug/L		81	48 - 100
Anthracene	ND		19.2	15.3		ug/L		80	49 - 100
Fluoranthene	ND		19.2	16.0		ug/L		83	48 - 100
Pyrene	ND		19.2	17.7		ug/L		92	44 - 100
Benzo[a]anthracene	ND		19.2	17.0		ug/L		88	50 - 100
Chrysene	ND		19.2	17.0		ug/L		88	49 - 100
Benzo[b]fluoranthene	ND		19.2	16.9		ug/L		88	43 - 100
Benzo[k]fluoranthene	ND		19.2	17.6		ug/L		92	47 - 100
Benzo[a]pyrene	ND		19.2	17.6		ug/L		91	47 - 100
Indeno[1,2,3-cd]pyrene	ND		19.2	16.5		ug/L		86	47 - 100
Dibenz(a,h)anthracene	ND		19.2	16.7		ug/L		87	48 - 100
Benzo[g,h,i]perylene	ND		19.2	16.6		ug/L		86	48 - 100
Benzyl alcohol	ND		19.2	15.3		ug/L		80	41 - 100
Dibenzofuran	ND		19.2	14.7		ug/L		76	47 - 100

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*61*		*28 - 109*
2-Fluorophenol (Surr)	*58*		*20 - 105*
2,4,6-Tribromophenol (Surr)	*70*		*30 - 118*
Nitrobenzene-d5 (Surr)	*64*		*27 - 114*
Phenol-d5 (Surr)	*68*		*25 - 105*
Terphenyl-d14 (Surr)	*71*		*20 - 118*

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 141122

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140501

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzidine	ND	F1	20.0	ND	F1	ug/L		0	10 - 100	NC	35
1,2-Dichlorobenzene	ND		20.0	14.6		ug/L		73	40 - 100	8	20
1,3-Dichlorobenzene	ND		20.0	14.1		ug/L		71	38 - 100	8	17
1,4-Dichlorobenzene	ND		20.0	14.1		ug/L		71	39 - 100	8	18
Benzoic acid	ND		20.0	10.8		ug/L		54	14 - 117	9	20
Bis(2-chloroethyl)ether	ND		20.0	14.9		ug/L		75	42 - 100	8	28
Bis(2-chloroethoxy)methane	ND		20.0	14.7		ug/L		73	45 - 100	8	28
Bis(2-ethylhexyl) phthalate	ND		20.0	20.6		ug/L		103	35 - 118	9	35

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 141122

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140501

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Bromophenyl phenyl ether	ND		20.0	16.0		ug/L		80	46 - 100	9	22
Butyl benzyl phthalate	0.42	J	20.0	20.3		ug/L		99	45 - 105	9	23
4-Chloro-3-methylphenol	ND		20.0	18.1		ug/L		91	47 - 100	9	27
2-Chloronaphthalene	ND		20.0	13.3		ug/L		67	42 - 100	8	26
2-Chlorophenol	ND		20.0	15.5		ug/L		78	41 - 100	10	28
4-Chlorophenyl phenyl ether	ND		20.0	15.6		ug/L		78	48 - 100	9	25
Di-n-butyl phthalate	ND		20.0	17.7		ug/L		89	49 - 101	9	21
3,3'-Dichlorobenzidine	ND		20.0	12.7		ug/L		63	41 - 100	5	28
2,4-Dichlorophenol	ND		20.0	15.4		ug/L		77	45 - 100	9	29
Diethyl phthalate	ND		20.0	14.3		ug/L		71	48 - 100	7	20
4,6-Dinitro-2-methylphenol	ND		40.0	32.2		ug/L		81	46 - 100	9	19
2,4-Dimethylphenol	ND		20.0	13.2		ug/L		66	45 - 100	6	25
Dimethyl phthalate	ND		20.0	16.0		ug/L		80	49 - 100	9	24
2,4-Dinitrophenol	ND		40.0	23.7		ug/L		59	36 - 100	10	18
2,4-Dinitrotoluene	ND		20.0	18.6		ug/L		93	49 - 100	12	21
2,6-Dinitrotoluene	ND		20.0	17.8		ug/L		89	50 - 100	12	23
1,2-Diphenylhydrazine(as Azobenzene)	ND		20.0	16.1		ug/L		81	49 - 100	8	22
Di-n-octyl phthalate	ND	F1	20.0	22.0	F1	ug/L		110	40 - 105	7	23
Hexachlorobenzene	ND		20.0	15.7		ug/L		78	45 - 100	10	19
Hexachlorobutadiene	ND		20.0	13.5		ug/L		67	42 - 100	6	18
Hexachloroethane	ND		20.0	15.1		ug/L		76	39 - 100	8	16
Hexachlorocyclopentadiene	ND		20.0	9.64		ug/L		48	37 - 109	3	16
Isophorone	ND		20.0	15.7		ug/L		78	48 - 100	10	30
2-Methylphenol	ND		20.0	16.2		ug/L		81	43 - 100	11	28
Methylphenol, 3 & 4	ND		20.0	15.9		ug/L		79	41 - 100	10	28
Nitrobenzene	ND		20.0	16.9		ug/L		84	47 - 100	10	27
2-Nitrophenol	ND		20.0	15.2		ug/L		76	45 - 100	8	31
4-Nitrophenol	ND		40.0	35.3		ug/L		88	44 - 129	9	21
N-Nitrosodiphenylamine	ND		40.0	28.0		ug/L		70	48 - 100	8	21
N-Nitrosodimethylamine	ND		20.0	14.9		ug/L		74	41 - 100	9	30
N-Nitrosodi-n-propylamine	ND		20.0	16.2		ug/L		81	42 - 100	11	27
2,2'-oxybis[1-chloropropane]	ND		20.0	13.9		ug/L		69	38 - 100	7	28
Pentachlorophenol	ND		40.0	22.9		ug/L		57	36 - 105	8	15
Phenol	ND		20.0	15.6		ug/L		78	43 - 100	10	25
1,2,4-Trichlorobenzene	ND		20.0	14.0		ug/L		70	43 - 100	7	22
2,4,6-Trichlorophenol	ND		20.0	14.5		ug/L		73	47 - 101	8	28
2-Methylnaphthalene	ND		20.0	16.2		ug/L		81	44 - 100	9	27
1-Methylnaphthalene	ND		20.0	15.7		ug/L		78	43 - 100	10	27
Naphthalene	ND		20.0	14.4		ug/L		72	44 - 100	9	25
Acenaphthylene	ND		20.0	15.6		ug/L		78	47 - 100	8	26
Acenaphthene	ND		20.0	13.8		ug/L		69	47 - 100	9	25
Fluorene	ND		20.0	15.7		ug/L		78	48 - 100	9	22
Phenanthrene	ND		20.0	17.3		ug/L		86	48 - 100	10	20
Anthracene	ND		20.0	16.8		ug/L		84	49 - 100	9	20
Fluoranthene	ND		20.0	17.6		ug/L		88	48 - 100	10	20
Pyrene	ND		20.0	19.9		ug/L		99	44 - 100	12	20
Benzo[a]anthracene	ND		20.0	18.4		ug/L		92	50 - 100	8	20

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 141122

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140501

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chrysene	ND		20.0	18.5		ug/L		93	49 - 100	9	20
Benzo[b]fluoranthene	ND		20.0	17.7		ug/L		89	43 - 100	5	22
Benzo[k]fluoranthene	ND		20.0	19.1		ug/L		95	47 - 100	8	24
Benzo[a]pyrene	ND		20.0	18.6		ug/L		93	47 - 100	6	22
Indeno[1,2,3-cd]pyrene	ND		20.0	18.0		ug/L		90	47 - 100	9	21
Dibenz(a,h)anthracene	ND		20.0	18.2		ug/L		91	48 - 100	8	21
Benzo[g,h,i]perylene	ND		20.0	18.2		ug/L		91	48 - 100	9	21
Benzyl alcohol	ND		20.0	16.7		ug/L		84	41 - 100	9	32
Dibenzofuran	ND		20.0	16.1		ug/L		80	47 - 100	9	24

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*28 - 109*
2-Fluorophenol (Surr)	*61*		*20 - 105*
2,4,6-Tribromophenol (Surr)	*75*		*30 - 118*
Nitrobenzene-d5 (Surr)	*67*		*27 - 114*
Phenol-d5 (Surr)	*72*		*25 - 105*
Terphenyl-d14 (Surr)	*76*		*20 - 118*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-140077/1-A
Matrix: Water
Analysis Batch: 140438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140077

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00083	ug/L		04/29/15 16:40	05/04/15 16:52	1
alpha-BHC	ND		0.0013	0.00066	ug/L		04/29/15 16:40	05/04/15 16:52	1
beta-BHC	ND		0.0013	0.0010	ug/L		04/29/15 16:40	05/04/15 16:52	1
delta-BHC	ND		0.0013	0.00038	ug/L		04/29/15 16:40	05/04/15 16:52	1
gamma-BHC (Lindane)	ND		0.0013	0.00080	ug/L		04/29/15 16:40	05/04/15 16:52	1
Chlordane (technical)	ND		0.013	0.0017	ug/L		04/29/15 16:40	05/04/15 16:52	1
Chlorobenside	ND		0.0032	0.0015	ug/L		04/29/15 16:40	05/04/15 16:52	1
DCPA	ND		0.0025	0.00034	ug/L		04/29/15 16:40	05/04/15 16:52	1
4,4'-DDD	ND		0.0013	0.00067	ug/L		04/29/15 16:40	05/04/15 16:52	1
4,4'-DDE	ND		0.0013	0.00079	ug/L		04/29/15 16:40	05/04/15 16:52	1
4,4'-DDT	ND		0.0013	0.00074	ug/L		04/29/15 16:40	05/04/15 16:52	1
Dieldrin	ND		0.0013	0.00082	ug/L		04/29/15 16:40	05/04/15 16:52	1
Endosulfan I	ND		0.0013	0.00094	ug/L		04/29/15 16:40	05/04/15 16:52	1
2,4'-DDD	ND		0.0013	0.00016	ug/L		04/29/15 16:40	05/04/15 16:52	1
Endosulfan II	ND		0.0013	0.00098	ug/L		04/29/15 16:40	05/04/15 16:52	1
Endosulfan sulfate	ND		0.0013	0.00057	ug/L		04/29/15 16:40	05/04/15 16:52	1
2,4'-DDE	ND		0.0013	0.00015	ug/L		04/29/15 16:40	05/04/15 16:52	1
Endrin	ND		0.0013	0.00096	ug/L		04/29/15 16:40	05/04/15 16:52	1
Endrin aldehyde	ND		0.0013	0.00090	ug/L		04/29/15 16:40	05/04/15 16:52	1
2,4'-DDT	ND		0.0013	0.00022	ug/L		04/29/15 16:40	05/04/15 16:52	1
Heptachlor	ND		0.0013	0.00099	ug/L		04/29/15 16:40	05/04/15 16:52	1
Heptachlor epoxide	ND		0.0013	0.00097	ug/L		04/29/15 16:40	05/04/15 16:52	1
Methoxychlor	ND		0.0025	0.00091	ug/L		04/29/15 16:40	05/04/15 16:52	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 180-140077/1-A
Matrix: Water
Analysis Batch: 140438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140077

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mirex	ND		0.0013	0.00048	ug/L		04/29/15 16:40	05/04/15 16:52	1
Toxaphene	ND		0.10	0.019	ug/L		04/29/15 16:40	05/04/15 16:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*81*		*60 - 111*	*04/29/15 16:40*	*05/04/15 16:52*	*1*
Tetrachloro-m-xylene	*80*		*60 - 111*	*04/29/15 16:40*	*05/04/15 16:52*	*1*
DCB Decachlorobiphenyl (Surr)	*78*		*45 - 122*	*04/29/15 16:40*	*05/04/15 16:52*	*1*
DCB Decachlorobiphenyl (Surr)	*75*		*45 - 122*	*04/29/15 16:40*	*05/04/15 16:52*	*1*

Lab Sample ID: LCS 180-140077/2-A
Matrix: Water
Analysis Batch: 140438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140077

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0250	0.0207		ug/L		83	62 - 113
alpha-BHC	0.0250	0.0188		ug/L		75	58 - 114
beta-BHC	0.0250	0.0162		ug/L		65	37 - 133
delta-BHC	0.0250	0.0130		ug/L		52	20 - 137
gamma-BHC (Lindane)	0.0250	0.0189		ug/L		76	57 - 120
4,4'-DDD	0.0250	0.0191		ug/L		76	48 - 120
4,4'-DDE	0.0250	0.0197		ug/L		79	47 - 120
4,4'-DDT	0.0250	0.0140		ug/L		56	39 - 131
Dieldrin	0.0250	0.0198		ug/L		79	51 - 121
Endosulfan I	0.0250	0.0196		ug/L		79	53 - 117
Endosulfan II	0.0250	0.0176		ug/L		71	44 - 122
Endosulfan sulfate	0.0250	0.0155		ug/L		62	42 - 122
Endrin	0.0250	0.0195		ug/L		78	31 - 138
Endrin aldehyde	0.0250	0.0173		ug/L		69	41 - 116
Heptachlor	0.0250	0.0222		ug/L		89	63 - 120
Heptachlor epoxide	0.0250	0.0201		ug/L		80	60 - 120
Methoxychlor	0.0250	0.0137		ug/L		55	35 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*93*		*60 - 111*
Tetrachloro-m-xylene	*91*		*60 - 111*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 122*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 122*

Lab Sample ID: MB 180-140314/1-A
Matrix: Water
Analysis Batch: 140438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140314

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00083	ug/L		05/01/15 14:20	05/04/15 13:00	1
alpha-BHC	ND		0.0013	0.00066	ug/L		05/01/15 14:20	05/04/15 13:00	1
beta-BHC	ND		0.0013	0.0010	ug/L		05/01/15 14:20	05/04/15 13:00	1
delta-BHC	ND		0.0013	0.00038	ug/L		05/01/15 14:20	05/04/15 13:00	1
gamma-BHC (Lindane)	ND		0.0013	0.00080	ug/L		05/01/15 14:20	05/04/15 13:00	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 180-140314/1-A
Matrix: Water
Analysis Batch: 140438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140314

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.013	0.0017	ug/L		05/01/15 14:20	05/04/15 13:00	1
Chlorobenside	ND		0.0032	0.0015	ug/L		05/01/15 14:20	05/04/15 13:00	1
DCPA	ND		0.0025	0.00034	ug/L		05/01/15 14:20	05/04/15 13:00	1
4,4'-DDD	ND		0.0013	0.00067	ug/L		05/01/15 14:20	05/04/15 13:00	1
4,4'-DDE	ND		0.0013	0.00079	ug/L		05/01/15 14:20	05/04/15 13:00	1
4,4'-DDT	ND		0.0013	0.00074	ug/L		05/01/15 14:20	05/04/15 13:00	1
Dieldrin	ND		0.0013	0.00082	ug/L		05/01/15 14:20	05/04/15 13:00	1
Endosulfan I	ND		0.0013	0.00094	ug/L		05/01/15 14:20	05/04/15 13:00	1
2,4'-DDD	ND		0.0013	0.00016	ug/L		05/01/15 14:20	05/04/15 13:00	1
Endosulfan II	ND		0.0013	0.00098	ug/L		05/01/15 14:20	05/04/15 13:00	1
Endosulfan sulfate	ND		0.0013	0.00057	ug/L		05/01/15 14:20	05/04/15 13:00	1
2,4'-DDE	ND		0.0013	0.00015	ug/L		05/01/15 14:20	05/04/15 13:00	1
Endrin	ND		0.0013	0.00096	ug/L		05/01/15 14:20	05/04/15 13:00	1
Endrin aldehyde	ND		0.0013	0.00090	ug/L		05/01/15 14:20	05/04/15 13:00	1
2,4'-DDT	ND		0.0013	0.00022	ug/L		05/01/15 14:20	05/04/15 13:00	1
Heptachlor	ND		0.0013	0.00099	ug/L		05/01/15 14:20	05/04/15 13:00	1
Heptachlor epoxide	ND		0.0013	0.00097	ug/L		05/01/15 14:20	05/04/15 13:00	1
Methoxychlor	ND		0.0025	0.00091	ug/L		05/01/15 14:20	05/04/15 13:00	1
Mirex	ND		0.0013	0.00048	ug/L		05/01/15 14:20	05/04/15 13:00	1
Toxaphene	ND		0.10	0.019	ug/L		05/01/15 14:20	05/04/15 13:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*94*		*60 - 111*	*05/01/15 14:20*	*05/04/15 13:00*	*1*
Tetrachloro-m-xylene	*93*		*60 - 111*	*05/01/15 14:20*	*05/04/15 13:00*	*1*
DCB Decachlorobiphenyl (Surr)	*105*		*45 - 122*	*05/01/15 14:20*	*05/04/15 13:00*	*1*
DCB Decachlorobiphenyl (Surr)	*98*		*45 - 122*	*05/01/15 14:20*	*05/04/15 13:00*	*1*

Lab Sample ID: LCS 180-140314/2-A
Matrix: Water
Analysis Batch: 140438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140314

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0250	0.0212		ug/L		85	62 - 113
alpha-BHC	0.0250	0.0184		ug/L		74	58 - 114
beta-BHC	0.0250	0.0141		ug/L		57	37 - 133
delta-BHC	0.0250	0.0118		ug/L		47	20 - 137
gamma-BHC (Lindane)	0.0250	0.0181		ug/L		72	57 - 120
4,4'-DDD	0.0250	0.0183		ug/L		73	48 - 120
4,4'-DDE	0.0250	0.0214		ug/L		86	47 - 120
4,4'-DDT	0.0250	0.0174		ug/L		70	39 - 131
Dieldrin	0.0250	0.0202		ug/L		81	51 - 121
Endosulfan I	0.0250	0.0206		ug/L		82	53 - 117
Endosulfan II	0.0250	0.0172		ug/L		69	44 - 122
Endosulfan sulfate	0.0250	0.0131		ug/L		52	42 - 122
Endrin	0.0250	0.0196		ug/L		79	31 - 138
Endrin aldehyde	0.0250	0.0150		ug/L		60	41 - 116
Heptachlor	0.0250	0.0233		ug/L		93	63 - 120
Heptachlor epoxide	0.0250	0.0208		ug/L		83	60 - 120

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-140314/2-A
Matrix: Water
Analysis Batch: 140438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140314

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methoxychlor			0.0250	0.0175		ug/L		70	35 - 137		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*96*		*60 - 111*
Tetrachloro-m-xylene	*92*		*60 - 111*
DCB Decachlorobiphenyl (Surr)	*91*		*45 - 122*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 122*

Lab Sample ID: LCSD 180-140314/3-A
Matrix: Water
Analysis Batch: 140438

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140314

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin			0.0250	0.0234		ug/L		94	62 - 113	10	22
alpha-BHC			0.0250	0.0192		ug/L		77	58 - 114	4	20
beta-BHC			0.0250	0.0134		ug/L		54	37 - 133	5	24
delta-BHC			0.0250	0.0113		ug/L		45	20 - 137	4	26
gamma-BHC (Lindane)			0.0250	0.0189		ug/L		76	57 - 120	4	21
4,4'-DDD			0.0250	0.0205		ug/L		82	48 - 120	11	24
4,4'-DDE			0.0250	0.0233		ug/L		93	47 - 120	9	20
4,4'-DDT			0.0250	0.0161		ug/L		64	39 - 131	8	24
Dieldrin			0.0250	0.0223		ug/L		89	51 - 121	10	20
Endosulfan I			0.0250	0.0225		ug/L		90	53 - 117	9	22
Endosulfan II			0.0250	0.0181		ug/L		72	44 - 122	5	21
Endosulfan sulfate			0.0250	0.0126		ug/L		50	42 - 122	4	21
Endrin			0.0250	0.0220		ug/L		88	31 - 138	11	24
Endrin aldehyde			0.0250	0.0145		ug/L		58	41 - 116	3	25
Heptachlor			0.0250	0.0244		ug/L		98	63 - 120	5	25
Heptachlor epoxide			0.0250	0.0220		ug/L		88	60 - 120	6	20
Methoxychlor			0.0250	0.0147		ug/L		59	35 - 137	17	27

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*96*		*60 - 111*
Tetrachloro-m-xylene	*92*		*60 - 111*
DCB Decachlorobiphenyl (Surr)	*97*		*45 - 122*
DCB Decachlorobiphenyl (Surr)	*90*		*45 - 122*

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 140438

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140077

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aldrin	ND		0.0240	0.0194		ug/L		81	62 - 113		
alpha-BHC	0.0023		0.0240	0.0195		ug/L		72	58 - 114		
beta-BHC	ND		0.0240	0.0175		ug/L		73	37 - 133		
delta-BHC	0.00065	J p	0.0240	0.0194		ug/L		78	20 - 137		
gamma-BHC (Lindane)	ND		0.0240	0.0176		ug/L		73	57 - 120		
4,4'-DDD	ND		0.0240	0.0190		ug/L		79	48 - 120		

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 140438

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140077

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDE	ND		0.0240	0.0202		ug/L		84	47 - 120
Dieldrin	ND		0.0240	0.0192		ug/L		80	51 - 121
Endosulfan I	ND		0.0240	0.0191		ug/L		79	53 - 117
Endosulfan II	ND		0.0240	0.0203		ug/L		84	44 - 122
Endosulfan sulfate	ND		0.0240	0.0184		ug/L		77	42 - 122
Endrin	ND		0.0240	0.0196		ug/L		81	31 - 138
Endrin aldehyde	ND		0.0240	0.0187		ug/L		78	41 - 116
Heptachlor	ND		0.0240	0.0227	p	ug/L		95	63 - 120
Heptachlor epoxide	ND		0.0240	0.0211		ug/L		88	60 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene	*181*	*X*	*60 - 111*
Tetrachloro-m-xylene	*119*	*p X*	*60 - 111*
DCB Decachlorobiphenyl (Surr)	*82*		*45 - 122*
DCB Decachlorobiphenyl (Surr)	*82*		*45 - 122*

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 140438

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140077

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin	ND		0.0240	0.0205		ug/L		85	62 - 113	5	22
alpha-BHC	0.0023		0.0240	0.0200		ug/L		74	58 - 114	3	20
beta-BHC	ND		0.0240	0.0188		ug/L		78	37 - 133	7	24
delta-BHC	0.00065	J p	0.0240	0.0192		ug/L		77	20 - 137	1	26
gamma-BHC (Lindane)	ND		0.0240	0.0184		ug/L		77	57 - 120	4	21
4,4'-DDD	ND		0.0240	0.0192		ug/L		80	48 - 120	1	24
4,4'-DDE	ND		0.0240	0.0207		ug/L		86	47 - 120	2	20
Dieldrin	ND		0.0240	0.0196		ug/L		82	51 - 121	2	20
Endosulfan I	ND		0.0240	0.0199		ug/L		83	53 - 117	4	22
Endosulfan II	ND		0.0240	0.0208		ug/L		86	44 - 122	2	21
Endosulfan sulfate	ND		0.0240	0.0190		ug/L		79	42 - 122	3	21
Endrin	ND		0.0240	0.0201		ug/L		84	31 - 138	3	24
Endrin aldehyde	ND		0.0240	0.0197		ug/L		82	41 - 116	5	25
Heptachlor	ND		0.0240	0.0240	p	ug/L		100	63 - 120	6	25
Heptachlor epoxide	ND		0.0240	0.0212		ug/L		88	60 - 120	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*134*	*X*	*60 - 111*
Tetrachloro-m-xylene	*94*		*60 - 111*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 122*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 122*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 140626

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140077

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDT - RA	ND		0.0240	0.0237		ug/L		98	39 - 131
Methoxychlor - RA	ND		0.0240	0.0301		ug/L		125	35 - 137

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene - RA	*134*	*X*	*60 - 111*
Tetrachloro-m-xylene - RA	*110*		*60 - 111*
DCB Decachlorobiphenyl (Surr) - RA	*87*		*45 - 122*
DCB Decachlorobiphenyl (Surr) - RA	*89*		*45 - 122*

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 140626

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140077

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDT - RA	ND		0.0240	0.0245		ug/L		102	39 - 131	4	24
Methoxychlor - RA	ND		0.0240	0.0292		ug/L		121	35 - 137	3	27

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene - RA	*109*		*60 - 111*
Tetrachloro-m-xylene - RA	*100*		*60 - 111*
DCB Decachlorobiphenyl (Surr) - RA	*84*		*45 - 122*
DCB Decachlorobiphenyl (Surr) - RA	*88*		*45 - 122*

Method: 8082A - PCB Congeners (GC)

Lab Sample ID: MB 180-140075/1-A
Matrix: Water
Analysis Batch: 140217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140075

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		1.0	0.32	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-18	ND		1.0	0.19	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-28	ND		1.0	0.23	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-44	ND		1.0	0.077	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-49	ND		1.0	0.15	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-52	ND		1.0	0.15	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-66	ND		1.0	0.13	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-77	ND		1.0	0.16	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-87	ND		1.0	0.079	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-101	ND		1.0	0.15	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-105	ND		1.0	0.079	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-118	ND		1.0	0.12	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-126	ND		1.0	0.32	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-128	ND		1.0	0.085	ng/L		04/29/15 15:40	05/01/15 06:25	1

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: MB 180-140075/1-A
Matrix: Water
Analysis Batch: 140217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140075

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-138	ND		1.0	0.15	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-153	ND		1.0	0.12	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-156	ND		1.0	0.078	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-169	ND		1.0	0.22	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-170	ND		1.0	0.11	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-180	ND		1.0	0.080	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-183	ND		1.0	0.27	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-184	ND		1.0	0.14	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-187	ND		1.0	0.40	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-195	ND		1.0	0.10	ng/L		04/29/15 15:40	05/01/15 06:25	1
PCB-206	ND		1.0	0.17	ng/L		04/29/15 15:40	05/01/15 06:25	1
DCB Decachlorobiphenyl	ND		1.0	0.11	ng/L		04/29/15 15:40	05/01/15 06:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*79*		*35 - 140*	*04/29/15 15:40*	*05/01/15 06:25*	*1*
Tetrachloro-m-xylene (Surr)	*79*		*35 - 140*	*04/29/15 15:40*	*05/01/15 06:25*	*1*
PCB-205 (Surr)	*82*		*35 - 140*	*04/29/15 15:40*	*05/01/15 06:25*	*1*
PCB-205 (Surr)	*98*		*35 - 140*	*04/29/15 15:40*	*05/01/15 06:25*	*1*

Lab Sample ID: LCS 180-140075/2-A
Matrix: Water
Analysis Batch: 140217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140075

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	20.0	21.8		ng/L		109	40 - 140
PCB-18	20.0	19.6		ng/L		98	40 - 140
PCB-28	20.0	20.0		ng/L		100	40 - 140
PCB-44	20.0	17.9		ng/L		89	40 - 140
PCB-49	20.0	17.8		ng/L		89	40 - 140
PCB-52	20.0	18.5		ng/L		92	40 - 140
PCB-66	20.0	21.9		ng/L		110	40 - 140
PCB-77	20.0	22.5		ng/L		113	40 - 140
PCB-87	20.0	21.8		ng/L		109	40 - 140
PCB-101	20.0	19.2		ng/L		96	40 - 140
PCB-105	20.0	20.5		ng/L		103	40 - 140
PCB-118	20.0	20.5		ng/L		102	40 - 140
PCB-126	20.0	16.9		ng/L		84	40 - 140
PCB-128	20.0	18.3		ng/L		91	40 - 140
PCB-138	20.0	18.8		ng/L		94	40 - 140
PCB-153	20.0	17.1		ng/L		85	40 - 140
PCB-156	20.0	19.3		ng/L		97	40 - 140
PCB-169	20.0	16.8		ng/L		84	40 - 140
PCB-170	20.0	17.3		ng/L		86	40 - 140
PCB-180	20.0	18.4		ng/L		92	40 - 140
PCB-183	20.0	16.7		ng/L		83	40 - 140
PCB-184	20.0	20.4		ng/L		102	40 - 140
PCB-187	20.0	17.7		ng/L		88	40 - 140
PCB-195	20.0	17.6		ng/L		88	40 - 140

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: LCS 180-140075/2-A
Matrix: Water
Analysis Batch: 140217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140075

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-206	20.0	15.9		ng/L		80	40 - 140
DCB Decachlorobiphenyl	20.0	17.3		ng/L		86	40 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*86*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*87*		*35 - 140*
PCB-205 (Surr)	*88*		*35 - 140*
PCB-205 (Surr)	*100*		*35 - 140*

Lab Sample ID: MB 180-140315/1-A
Matrix: Water
Analysis Batch: 140914

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140315

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		1.0	0.32	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-18	ND		1.0	0.19	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-28	ND		1.0	0.23	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-44	ND		1.0	0.077	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-49	ND		1.0	0.15	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-52	ND		1.0	0.15	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-66	ND		1.0	0.13	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-77	ND		1.0	0.16	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-87	ND		1.0	0.079	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-101	ND		1.0	0.15	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-105	ND		1.0	0.079	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-118	ND		1.0	0.12	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-126	ND		1.0	0.32	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-128	ND		1.0	0.085	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-138	ND		1.0	0.15	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-153	ND		1.0	0.12	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-156	ND		1.0	0.078	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-169	ND		1.0	0.22	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-170	ND		1.0	0.11	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-180	ND		1.0	0.080	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-183	ND		1.0	0.27	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-184	ND		1.0	0.14	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-187	ND		1.0	0.40	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-195	ND		1.0	0.10	ng/L		05/01/15 15:20	05/07/15 21:45	1
PCB-206	ND		1.0	0.17	ng/L		05/01/15 15:20	05/07/15 21:45	1
DCB Decachlorobiphenyl	ND		1.0	0.11	ng/L		05/01/15 15:20	05/07/15 21:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*74*		*35 - 140*	*05/01/15 15:20*	*05/07/15 21:45*	*1*
Tetrachloro-m-xylene (Surr)	*75*		*35 - 140*	*05/01/15 15:20*	*05/07/15 21:45*	*1*
PCB-205 (Surr)	*81*		*35 - 140*	*05/01/15 15:20*	*05/07/15 21:45*	*1*
PCB-205 (Surr)	*80*		*35 - 140*	*05/01/15 15:20*	*05/07/15 21:45*	*1*

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: LCS 180-140315/2-A
Matrix: Water
Analysis Batch: 140914

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140315

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
PCB-8			20.0	16.7		ng/L		84	40 - 140		
PCB-18			20.0	16.6		ng/L		83	40 - 140		
PCB-28			20.0	15.8		ng/L		79	40 - 140		
PCB-44			20.0	16.2		ng/L		81	40 - 140		
PCB-49			20.0	15.3		ng/L		76	40 - 140		
PCB-52			20.0	14.5		ng/L		72	40 - 140		
PCB-66			20.0	17.3		ng/L		86	40 - 140		
PCB-77			20.0	16.3		ng/L		81	40 - 140		
PCB-87			20.0	19.4		ng/L		97	40 - 140		
PCB-101			20.0	15.7		ng/L		78	40 - 140		
PCB-105			20.0	16.1		ng/L		80	40 - 140		
PCB-118			20.0	15.3		ng/L		77	40 - 140		
PCB-126			20.0	13.7		ng/L		69	40 - 140		
PCB-128			20.0	15.7		ng/L		79	40 - 140		
PCB-138			20.0	15.4		ng/L		77	40 - 140		
PCB-153			20.0	15.8		ng/L		79	40 - 140		
PCB-156			20.0	15.9		ng/L		80	40 - 140		
PCB-169			20.0	15.6		ng/L		78	40 - 140		
PCB-170			20.0	15.9		ng/L		79	40 - 140		
PCB-180			20.0	16.8		ng/L		84	40 - 140		
PCB-183			20.0	15.4		ng/L		77	40 - 140		
PCB-184			20.0	15.7		ng/L		79	40 - 140		
PCB-187			20.0	16.1		ng/L		80	40 - 140		
PCB-195			20.0	16.6		ng/L		83	40 - 140		
PCB-206			20.0	14.6		ng/L		73	40 - 140		
DCB Decachlorobiphenyl			20.0	15.9		ng/L		79	40 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*80*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*80*		*35 - 140*
PCB-205 (Surr)	*87*		*35 - 140*
PCB-205 (Surr)	*84*		*35 - 140*

Lab Sample ID: LCSD 180-140315/3-A
Matrix: Water
Analysis Batch: 140914

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140315

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-8			20.0	16.4		ng/L		82	40 - 140	2	35
PCB-18			20.0	16.4		ng/L		82	40 - 140	1	35
PCB-28			20.0	15.3		ng/L		77	40 - 140	3	35
PCB-44			20.0	16.0		ng/L		80	40 - 140	1	35
PCB-49			20.0	15.6		ng/L		78	40 - 140	2	35
PCB-52			20.0	14.7		ng/L		73	40 - 140	1	35
PCB-66			20.0	17.1		ng/L		85	40 - 140	1	35
PCB-77			20.0	16.1		ng/L		80	40 - 140	1	35
PCB-87			20.0	18.9		ng/L		94	40 - 140	3	35
PCB-101			20.0	15.5		ng/L		78	40 - 140	1	35

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: LCSD 180-140315/3-A
Matrix: Water
Analysis Batch: 140914

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140315

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-105			20.0	16.0		ng/L		80	40 - 140	1	35
PCB-118			20.0	15.6		ng/L		78	40 - 140	2	35
PCB-126			20.0	15.4		ng/L		77	40 - 140	11	35
PCB-128			20.0	15.5		ng/L		78	40 - 140	1	35
PCB-138			20.0	15.3		ng/L		76	40 - 140	1	35
PCB-153			20.0	15.7		ng/L		78	40 - 140	1	35
PCB-156			20.0	15.8		ng/L		79	40 - 140	1	35
PCB-169			20.0	14.9		ng/L		74	40 - 140	5	35
PCB-170			20.0	15.9		ng/L		79	40 - 140	0	35
PCB-180			20.0	16.1		ng/L		80	40 - 140	4	35
PCB-183			20.0	15.4		ng/L		77	40 - 140	0	35
PCB-184			20.0	15.8		ng/L		79	40 - 140	0	35
PCB-187			20.0	15.5		ng/L		77	40 - 140	4	35
PCB-195			20.0	16.5		ng/L		83	40 - 140	0	35
PCB-206			20.0	14.2		ng/L		71	40 - 140	3	35
DCB Decachlorobiphenyl			20.0	15.4		ng/L		77	40 - 140	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*77*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*76*		*35 - 140*
PCB-205 (Surr)	*87*		*35 - 140*
PCB-205 (Surr)	*82*		*35 - 140*

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 140217

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140075

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	ND	F1 F2	19.2	65.4	E F1	ng/L		340	40 - 140
PCB-18	ND		19.2	23.0		ng/L		120	40 - 140
PCB-28	ND	F1	19.2	30.7	p F1	ng/L		159	40 - 140
PCB-44	ND		19.2	22.0		ng/L		114	40 - 140
PCB-49	ND	F1	19.2	23.6	p	ng/L		123	40 - 140
PCB-52	ND		19.2	23.2		ng/L		121	40 - 140
PCB-66	2.3	p F1	19.2	35.0	p F1	ng/L		170	40 - 140
PCB-77	ND	F1	19.2	28.2	F1	ng/L		147	40 - 140
PCB-87	ND		19.2	25.0		ng/L		130	40 - 140
PCB-101	ND		19.2	23.6		ng/L		123	40 - 140
PCB-105	ND		19.2	25.8		ng/L		134	40 - 140
PCB-118	ND		19.2	18.4		ng/L		96	40 - 140
PCB-126	ND		19.2	24.1		ng/L		125	40 - 140
PCB-128	ND		19.2	18.4		ng/L		95	40 - 140
PCB-138	ND		19.2	20.8		ng/L		108	40 - 140
PCB-153	ND		19.2	18.7		ng/L		97	40 - 140
PCB-156	0.080	J p	19.2	23.5		ng/L		122	40 - 140
PCB-169	ND		19.2	20.1		ng/L		105	40 - 140
PCB-170	ND		19.2	19.1		ng/L		99	40 - 140
PCB-180	ND		19.2	20.4		ng/L		106	40 - 140

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 140217

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140075

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-183	ND		19.2	17.3		ng/L		90	40 - 140
PCB-184	ND		19.2	14.5	p	ng/L		76	40 - 140
PCB-187	ND		19.2	16.7		ng/L		87	40 - 140
PCB-195	ND		19.2	19.4		ng/L		101	40 - 140
PCB-206	ND		19.2	17.3		ng/L		90	40 - 140
DCB Decachlorobiphenyl	ND		19.2	18.3		ng/L		95	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*294*	*X*	*35 - 140*
Tetrachloro-m-xylene (Surr)	*109*	*p*	*35 - 140*
PCB-205 (Surr)	*99*		*35 - 140*
PCB-205 (Surr)	*113*		*35 - 140*

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 140217

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140075

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-8	ND	F1 F2	19.2	23.1	p F2	ng/L		120	40 - 140	95	35
PCB-18	ND		19.2	19.1		ng/L		100	40 - 140	18	35
PCB-28	ND	F1	19.2	26.3	p	ng/L		137	40 - 140	15	35
PCB-44	ND		19.2	18.7		ng/L		97	40 - 140	16	35
PCB-49	ND	F1	19.2	20.5	p	ng/L		106	40 - 140	14	35
PCB-52	ND		19.2	20.1		ng/L		104	40 - 140	14	35
PCB-66	2.3	p F1	19.2	30.7	p F1	ng/L		148	40 - 140	13	35
PCB-77	ND	F1	19.2	26.1		ng/L		136	40 - 140	8	35
PCB-87	ND		19.2	22.3		ng/L		116	40 - 140	11	35
PCB-101	ND		19.2	20.9		ng/L		109	40 - 140	12	35
PCB-105	ND		19.2	23.3		ng/L		121	40 - 140	10	35
PCB-118	ND		19.2	16.4		ng/L		85	40 - 140	11	35
PCB-126	ND		19.2	21.8		ng/L		114	40 - 140	10	35
PCB-128	ND		19.2	17.1		ng/L		89	40 - 140	7	35
PCB-138	ND		19.2	19.1		ng/L		99	40 - 140	9	35
PCB-153	ND		19.2	17.6		ng/L		92	40 - 140	6	35
PCB-156	0.080	J p	19.2	21.9		ng/L		113	40 - 140	7	35
PCB-169	ND		19.2	19.6		ng/L		102	40 - 140	3	35
PCB-170	ND		19.2	19.4		ng/L		101	40 - 140	2	35
PCB-180	ND		19.2	18.8		ng/L		98	40 - 140	8	35
PCB-183	ND		19.2	16.7		ng/L		87	40 - 140	3	35
PCB-184	ND		19.2	13.6	p	ng/L		71	40 - 140	7	35
PCB-187	ND		19.2	16.9		ng/L		88	40 - 140	1	35
PCB-195	ND		19.2	19.9		ng/L		103	40 - 140	2	35
PCB-206	ND		19.2	17.7		ng/L		92	40 - 140	2	35
DCB Decachlorobiphenyl	ND		19.2	18.7		ng/L		97	40 - 140	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*117*		*35 - 140*

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 140217

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140075

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*98*		*35 - 140*
PCB-205 (Surr)	*97*		*35 - 140*
PCB-205 (Surr)	*142*	*X*	*35 - 140*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Lab Sample ID: MB 180-140074/1-A
Matrix: Water
Analysis Batch: 140109

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140074

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		1.0	0.11	ug/L		04/29/15 14:35	04/30/15 10:58	1
Demeton, Total	ND		2.0	0.16	ug/L		04/29/15 14:35	04/30/15 10:58	1
Malathion	ND		1.0	0.11	ug/L		04/29/15 14:35	04/30/15 10:58	1
Methyl parathion	ND		1.0	0.11	ug/L		04/29/15 14:35	04/30/15 10:58	1
Parathion	ND		1.0	0.16	ug/L		04/29/15 14:35	04/30/15 10:58	1
Bolstar	ND		1.0	0.11	ug/L		04/29/15 14:35	04/30/15 10:58	1
Chlorpyrifos	ND		1.0	0.10	ug/L		04/29/15 14:35	04/30/15 10:58	1
Coumaphos	ND		1.0	0.15	ug/L		04/29/15 14:35	04/30/15 10:58	1
Diazinon	ND		1.0	0.094	ug/L		04/29/15 14:35	04/30/15 10:58	1
Dichlorvos	ND		1.0	0.085	ug/L		04/29/15 14:35	04/30/15 10:58	1
Dimethoate	ND		1.0	0.12	ug/L		04/29/15 14:35	04/30/15 10:58	1
Disulfoton	ND		1.0	0.10	ug/L		04/29/15 14:35	04/30/15 10:58	1
EPN	ND		1.0	0.12	ug/L		04/29/15 14:35	04/30/15 10:58	1
Mocap	ND		1.0	0.10	ug/L		04/29/15 14:35	04/30/15 10:58	1
Famphur	ND		1.0	0.12	ug/L		04/29/15 14:35	04/30/15 10:58	1
Fensulfothion	ND		1.0	0.17	ug/L		04/29/15 14:35	04/30/15 10:58	1
Fenthion	ND		1.0	0.085	ug/L		04/29/15 14:35	04/30/15 10:58	1
Mevinphos	ND		1.0	0.098	ug/L		04/29/15 14:35	04/30/15 10:58	1
Phorate	ND		1.0	0.092	ug/L		04/29/15 14:35	04/30/15 10:58	1
Ronnel	ND		1.0	0.10	ug/L		04/29/15 14:35	04/30/15 10:58	1
Stirophos	ND		1.0	0.096	ug/L		04/29/15 14:35	04/30/15 10:58	1
Sulfotepp	ND		1.0	0.095	ug/L		04/29/15 14:35	04/30/15 10:58	1
Thionazin	ND		1.0	0.10	ug/L		04/29/15 14:35	04/30/15 10:58	1
Tokuthion	ND		1.0	0.094	ug/L		04/29/15 14:35	04/30/15 10:58	1
Trichloronate	ND		1.0	0.099	ug/L		04/29/15 14:35	04/30/15 10:58	1
O,O,O-Triethyl phosphorothioate	ND		1.0	0.10	ug/L		04/29/15 14:35	04/30/15 10:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*90*		*49 - 122*	*04/29/15 14:35*	*04/30/15 10:58*	*1*
Tributyl phosphate	*88*		*49 - 122*	*04/29/15 14:35*	*04/30/15 10:58*	*1*
Triphenylphosphate	*92*		*45 - 145*	*04/29/15 14:35*	*04/30/15 10:58*	*1*
Triphenylphosphate	*97*		*45 - 145*	*04/29/15 14:35*	*04/30/15 10:58*	*1*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCS 180-140074/2-A
Matrix: Water
Analysis Batch: 140109

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140074

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	10.0	8.66		ug/L		87	40 - 150
Malathion	10.0	9.96		ug/L		100	50 - 150
Methyl parathion	10.0	9.26		ug/L		93	41 - 148
Parathion	10.0	9.67		ug/L		97	56 - 125
Bolstar	10.0	10.0		ug/L		100	50 - 150
Chlorpyrifos	10.0	9.93		ug/L		99	50 - 130
Coumaphos	10.0	9.47		ug/L		95	50 - 150
Diazinon	10.0	9.62		ug/L		96	50 - 150
Dichlorvos	10.0	9.28		ug/L		93	30 - 150
Dimethoate	10.0	10.4		ug/L		104	26 - 136
Disulfoton	10.0	9.78		ug/L		98	45 - 124
EPN	10.0	9.40		ug/L		94	50 - 150
Mocap	10.0	9.85		ug/L		99	40 - 150
Famphur	10.0	9.47		ug/L		95	52 - 131
Fensulfothion	10.0	10.6		ug/L		106	38 - 150
Fenthion	10.0	9.77		ug/L		98	10 - 150
Mevinphos	10.0	9.18		ug/L		92	30 - 150
Phorate	10.0	9.96		ug/L		100	41 - 135
Ronnel	10.0	9.40		ug/L		94	50 - 150
Stirophos	10.0	9.26		ug/L		93	50 - 150
Sulfotepp	10.0	9.90		ug/L		99	56 - 128
Thionazin	10.0	9.85		ug/L		98	44 - 128
Tokuthion	10.0	9.77		ug/L		98	50 - 150
Trichloronate	10.0	9.96		ug/L		100	10 - 150
O,O,O-Triethyl phosphorothioate	10.0	9.41		ug/L		94	31 - 131

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tributyl phosphate	*99*		*49 - 122*
Tributyl phosphate	*103*		*49 - 122*
Triphenylphosphate	*98*		*45 - 145*
Triphenylphosphate	*103*		*45 - 145*

Lab Sample ID: MB 180-140316/1-A
Matrix: Water
Analysis Batch: 140673

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140316

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		1.0	0.11	ug/L		05/01/15 16:20	05/06/15 09:27	1
Demeton, Total	ND		2.0	0.16	ug/L		05/01/15 16:20	05/06/15 09:27	1
Malathion	ND		1.0	0.11	ug/L		05/01/15 16:20	05/06/15 09:27	1
Methyl parathion	ND		1.0	0.11	ug/L		05/01/15 16:20	05/06/15 09:27	1
Parathion	ND		1.0	0.16	ug/L		05/01/15 16:20	05/06/15 09:27	1
Bolstar	ND		1.0	0.11	ug/L		05/01/15 16:20	05/06/15 09:27	1
Chlorpyrifos	ND		1.0	0.10	ug/L		05/01/15 16:20	05/06/15 09:27	1
Coumaphos	ND		1.0	0.15	ug/L		05/01/15 16:20	05/06/15 09:27	1
Diazinon	ND		1.0	0.094	ug/L		05/01/15 16:20	05/06/15 09:27	1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: MB 180-140316/1-A
Matrix: Water
Analysis Batch: 140673

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140316

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorvos	ND		1.0	0.085	ug/L		05/01/15 16:20	05/06/15 09:27	1
Dimethoate	ND		1.0	0.12	ug/L		05/01/15 16:20	05/06/15 09:27	1
Disulfoton	ND		1.0	0.10	ug/L		05/01/15 16:20	05/06/15 09:27	1
EPN	ND		1.0	0.12	ug/L		05/01/15 16:20	05/06/15 09:27	1
Mocap	ND		1.0	0.10	ug/L		05/01/15 16:20	05/06/15 09:27	1
Famphur	ND		1.0	0.12	ug/L		05/01/15 16:20	05/06/15 09:27	1
Fensulfothion	ND		1.0	0.17	ug/L		05/01/15 16:20	05/06/15 09:27	1
Fenthion	ND		1.0	0.085	ug/L		05/01/15 16:20	05/06/15 09:27	1
Mevinphos	ND		1.0	0.098	ug/L		05/01/15 16:20	05/06/15 09:27	1
Phorate	ND		1.0	0.092	ug/L		05/01/15 16:20	05/06/15 09:27	1
Ronnel	ND		1.0	0.10	ug/L		05/01/15 16:20	05/06/15 09:27	1
Stirophos	ND		1.0	0.096	ug/L		05/01/15 16:20	05/06/15 09:27	1
Sulfotepp	ND		1.0	0.095	ug/L		05/01/15 16:20	05/06/15 09:27	1
Thionazin	ND		1.0	0.10	ug/L		05/01/15 16:20	05/06/15 09:27	1
Tokuthion	ND		1.0	0.094	ug/L		05/01/15 16:20	05/06/15 09:27	1
Trichloronate	ND		1.0	0.099	ug/L		05/01/15 16:20	05/06/15 09:27	1
O,O,O-Triethyl phosphorothioate	ND		1.0	0.10	ug/L		05/01/15 16:20	05/06/15 09:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*90*		*49 - 122*	*05/01/15 16:20*	*05/06/15 09:27*	*1*
Tributyl phosphate	*82*		*49 - 122*	*05/01/15 16:20*	*05/06/15 09:27*	*1*
Triphenylphosphate	*93*		*45 - 145*	*05/01/15 16:20*	*05/06/15 09:27*	*1*
Triphenylphosphate	*95*		*45 - 145*	*05/01/15 16:20*	*05/06/15 09:27*	*1*

Lab Sample ID: LCS 180-140316/2-A
Matrix: Water
Analysis Batch: 140673

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140316

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	10.0	9.41		ug/L		94	40 - 150
Malathion	10.0	9.15		ug/L		91	50 - 150
Methyl parathion	10.0	8.67		ug/L		87	41 - 148
Parathion	10.0	8.91		ug/L		89	56 - 125
Bolstar	10.0	8.97		ug/L		90	50 - 150
Chlorpyrifos	10.0	9.09		ug/L		91	50 - 130
Coumaphos	10.0	8.79		ug/L		88	50 - 150
Diazinon	10.0	8.66		ug/L		87	50 - 150
Dichlorvos	10.0	6.88		ug/L		69	30 - 150
Dimethoate	10.0	10.2		ug/L		102	26 - 136
Disulfoton	10.0	8.26		ug/L		83	45 - 124
EPN	10.0	9.11		ug/L		91	50 - 150
Mocap	10.0	8.72		ug/L		87	40 - 150
Famphur	10.0	8.90		ug/L		89	52 - 131
Fensulfothion	10.0	9.83		ug/L		98	38 - 150
Fenthion	10.0	9.15		ug/L		91	10 - 150
Mevinphos	10.0	8.57		ug/L		86	30 - 150
Phorate	10.0	8.84		ug/L		88	41 - 135

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCS 180-140316/2-A
Matrix: Water
Analysis Batch: 140673

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140316

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ronnel	10.0	8.39		ug/L		84	50 - 150
Stirophos	10.0	9.06		ug/L		91	50 - 150
Sulfotepp	10.0	8.91		ug/L		89	56 - 128
Thionazin	10.0	8.93		ug/L		89	44 - 128
Tokuthion	10.0	8.80		ug/L		88	50 - 150
Trichloronate	10.0	9.07		ug/L		91	10 - 150
O,O,O-Triethyl phosphorothioate	10.0	8.50		ug/L		85	31 - 131

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tributyl phosphate	*91*		*49 - 122*
Tributyl phosphate	*94*		*49 - 122*
Triphenylphosphate	*90*		*45 - 145*
Triphenylphosphate	*91*		*45 - 145*

Lab Sample ID: LCSD 180-140316/3-A
Matrix: Water
Analysis Batch: 140673

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140316

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	10.0	9.56		ug/L		96	40 - 150	2	30
Malathion	10.0	9.30		ug/L		93	50 - 150	2	30
Methyl parathion	10.0	8.76		ug/L		88	41 - 148	1	30
Parathion	10.0	9.05		ug/L		91	56 - 125	2	21
Bolstar	10.0	9.08		ug/L		91	50 - 150	1	30
Chlorpyrifos	10.0	9.25		ug/L		93	50 - 130	2	25
Coumaphos	10.0	8.68		ug/L		87	50 - 150	1	30
Diazinon	10.0	8.83		ug/L		88	50 - 150	2	30
Dichlorvos	10.0	7.03		ug/L		70	30 - 150	2	30
Dimethoate	10.0	10.3		ug/L		103	26 - 136	2	22
Disulfoton	10.0	8.34		ug/L		83	45 - 124	1	30
EPN	10.0	9.32		ug/L		93	50 - 150	2	30
Mocap	10.0	8.75		ug/L		87	40 - 150	0	30
Famphur	10.0	9.05		ug/L		90	52 - 131	2	24
Fensulfothion	10.0	9.83		ug/L		98	38 - 150	0	30
Fenthion	10.0	9.24		ug/L		92	10 - 150	1	30
Mevinphos	10.0	8.64		ug/L		86	30 - 150	1	30
Phorate	10.0	8.95		ug/L		90	41 - 135	1	24
Ronnel	10.0	8.53		ug/L		85	50 - 150	2	30
Stirophos	10.0	9.24		ug/L		92	50 - 150	2	30
Sulfotepp	10.0	9.09		ug/L		91	56 - 128	2	23
Thionazin	10.0	8.99		ug/L		90	44 - 128	1	21
Tokuthion	10.0	8.94		ug/L		89	50 - 150	2	30
Trichloronate	10.0	9.17		ug/L		92	10 - 150	1	30
O,O,O-Triethyl phosphorothioate	10.0	8.60		ug/L		86	31 - 131	1	30

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCSD 180-140316/3-A
Matrix: Water
Analysis Batch: 140673

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140316

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tributyl phosphate	*89*		*49 - 122*
Tributyl phosphate	*93*		*49 - 122*
Triphenylphosphate	*90*		*45 - 145*
Triphenylphosphate	*90*		*45 - 145*

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 140109

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140074

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	ND		9.62	8.61		ug/L		90	40 - 150
Malathion	ND		9.62	9.74		ug/L		101	50 - 150
Methyl parathion	ND		9.62	9.12		ug/L		95	41 - 148
Parathion	ND		9.62	9.51		ug/L		99	56 - 125
Bolstar	ND		9.62	9.75		ug/L		101	50 - 150
Chlorpyrifos	ND		9.62	9.73		ug/L		101	50 - 130
Coumaphos	ND		9.62	9.31		ug/L		97	50 - 150
Diazinon	ND		9.62	9.42		ug/L		98	50 - 150
Dichlorvos	ND		9.62	8.96		ug/L		93	30 - 150
Dimethoate	ND		9.62	10.2		ug/L		106	26 - 136
Disulfoton	ND		9.62	9.55		ug/L		99	45 - 124
EPN	ND		9.62	9.49		ug/L		99	50 - 150
Mocap	ND		9.62	9.66		ug/L		100	40 - 150
Famphur	ND		9.62	9.41		ug/L		98	52 - 131
Fensulfothion	ND		9.62	10.6		ug/L		110	38 - 150
Fenthion	ND		9.62	9.65		ug/L		100	10 - 150
Mevinphos	ND		9.62	9.12		ug/L		95	30 - 150
Phorate	ND		9.62	9.69		ug/L		101	41 - 135
Ronnel	ND		9.62	9.22		ug/L		96	50 - 150
Stirophos	ND		9.62	9.24		ug/L		96	50 - 150
Sulfotepp	ND		9.62	9.70		ug/L		101	56 - 128
Thionazin	ND		9.62	9.68		ug/L		101	44 - 128
Tokuthion	ND		9.62	9.41		ug/L		98	50 - 150
Trichloronate	ND		9.62	9.74		ug/L		101	10 - 150
O,O,O-Triethyl phosphorothioate	ND		9.62	9.24		ug/L		96	31 - 131

Surrogate	MS %Recovery	MS Qualifier	Limits
Tributyl phosphate	*100*		*49 - 122*
Tributyl phosphate	*103*		*49 - 122*
Triphenylphosphate	*99*		*45 - 145*
Triphenylphosphate	*102*		*45 - 145*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 140109

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140074

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	ND		9.62	8.73		ug/L		91	40 - 150	5	30
Malathion	ND		9.62	9.94		ug/L		103	50 - 150	2	30
Methyl parathion	ND		9.62	9.25		ug/L		96	41 - 148	1	30
Parathion	ND		9.62	9.77		ug/L		102	56 - 125	3	21
Bolstar	ND		9.62	9.95		ug/L		103	50 - 150	2	30
Chlorpyrifos	ND		9.62	9.93		ug/L		103	50 - 130	2	25
Coumaphos	ND		9.62	9.51		ug/L		99	50 - 150	2	30
Diazinon	ND		9.62	9.69		ug/L		101	50 - 150	3	30
Dichlorvos	ND		9.62	9.14		ug/L		95	30 - 150	2	30
Dimethoate	ND		9.62	10.5		ug/L		109	26 - 136	3	22
Disulfoton	ND		9.62	9.87		ug/L		103	45 - 124	3	30
EPN	ND		9.62	9.60		ug/L		100	50 - 150	1	30
Mocap	ND		9.62	9.94		ug/L		103	40 - 150	3	30
Famphur	ND		9.62	9.61		ug/L		100	52 - 131	2	24
Fensulfothion	ND		9.62	10.6		ug/L		111	38 - 150	0	30
Fenthion	ND		9.62	9.90		ug/L		103	10 - 150	3	30
Mevinphos	ND		9.62	9.43		ug/L		98	30 - 150	3	30
Phorate	ND		9.62	9.83		ug/L		102	41 - 135	1	24
Ronnel	ND		9.62	9.52		ug/L		99	50 - 150	3	30
Stirophos	ND		9.62	9.37		ug/L		97	50 - 150	1	30
Sulfotepp	ND		9.62	9.95		ug/L		104	56 - 128	3	23
Thionazin	ND		9.62	9.87		ug/L		103	44 - 128	2	21
Tokuthion	ND		9.62	9.76		ug/L		101	50 - 150	4	30
Trichloronate	ND		9.62	9.92		ug/L		103	10 - 150	2	30
O,O,O-Triethyl phosphorothioate	ND		9.62	9.45		ug/L		98	31 - 131	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tributyl phosphate	*99*		*49 - 122*
Tributyl phosphate	*105*		*49 - 122*
Triphenylphosphate	*100*		*45 - 145*
Triphenylphosphate	*103*		*45 - 145*

Method: Organotins/GC - Organotins (GC/FPD)

Lab Sample ID: MB 200-87725/1-A
Matrix: Water
Analysis Batch: 87867

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87725

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.050	0.050	ug/L		05/01/15 09:02	05/05/15 15:26	1
Tributyltin	ND		0.045	0.045	ug/L		05/01/15 09:02	05/05/15 15:26	1
Dibutyltin	ND		0.039	0.039	ug/L		05/01/15 09:02	05/05/15 15:26	1
Monobutyltin	ND	cn	0.62	0.62	ug/L		05/01/15 09:02	05/05/15 15:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*49*		*15 - 150*	*05/01/15 09:02*	*05/05/15 15:26*	*1*

Method: Organotins/GC - Organotins (GC/FPD) (Continued)

Lab Sample ID: MB 200-87725/1-A
Matrix: Water
Analysis Batch: 87867

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87725

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tripentyltin	61		15 - 150	05/01/15 09:02	05/05/15 15:26	1

Lab Sample ID: LCS 200-87725/2-A
Matrix: Water
Analysis Batch: 87867

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87725

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrabutyltin	0.500	0.176	p	ug/L		35	30 - 150
Tributyltin	0.445	0.258		ug/L		58	30 - 150
Dibutyltin	0.385	0.170		ug/L		44	30 - 150
Monobutyltin	1.55	ND	* cn	ug/L		6	10 - 48

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tripentyltin	63		15 - 150
Tripentyltin	50		15 - 150

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 87867

Client Sample ID: TS-2NB-SET
Prep Type: Total/NA
Prep Batch: 87725

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrabutyltin	ND		0.488	0.218		ug/L		45	30 - 150
Tributyltin	ND		0.434	0.313		ug/L		72	30 - 150
Dibutyltin	ND		0.376	0.197		ug/L		52	30 - 150
Monobutyltin	ND	* F1 cn	1.51	ND	F1 cn	ug/L		0	10 - 48

Surrogate	MS %Recovery	MS Qualifier	Limits
Tripentyltin	65		15 - 150
Tripentyltin	65		15 - 150

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 87867

Client Sample ID: TS-2NB-SET
Prep Type: Total/NA
Prep Batch: 87725

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrabutyltin	ND		0.493	0.203		ug/L		41	30 - 150	7	30
Tributyltin	ND		0.438	0.257		ug/L		59	30 - 150	20	30
Dibutyltin	ND		0.379	0.167		ug/L		44	30 - 150	16	30
Monobutyltin	ND	* F1 cn	1.53	ND	F1 cn	ug/L		0	10 - 48	NC	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tripentyltin	54		15 - 150
Tripentyltin	71		15 - 150

Method: Organotins/GC - Organotins (GC/FPD) (Continued)

Lab Sample ID: MB 200-88087/1-A
Matrix: Water
Analysis Batch: 88196

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 88087

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.050	0.050	ug/L		05/11/15 09:25	05/12/15 14:22	1
Tributyltin	ND		0.045	0.045	ug/L		05/11/15 09:25	05/12/15 14:22	1
Dibutyltin	ND		0.039	0.039	ug/L		05/11/15 09:25	05/12/15 14:22	1
Monobutyltin	ND	cn	0.62	0.62	ug/L		05/11/15 09:25	05/12/15 14:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*66*		*15 - 150*	*05/11/15 09:25*	*05/12/15 14:22*	*1*
Tripentyltin	*68*		*15 - 150*	*05/11/15 09:25*	*05/12/15 14:22*	*1*

Lab Sample ID: LCS 200-88087/2-A
Matrix: Water
Analysis Batch: 88196

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88087

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrabutyltin	0.500	0.257		ug/L		51	30 - 150
Tributyltin	0.445	0.304		ug/L		68	30 - 150
Dibutyltin	0.385	0.189		ug/L		49	30 - 150
Monobutyltin	1.55	ND	* cn	ug/L		7	10 - 48

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tripentyltin	*73*		*15 - 150*
Tripentyltin	*80*		*15 - 150*

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-140278/1-A
Matrix: Water
Analysis Batch: 140554

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 140278

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	10.8	J	30	2.6	ug/L		05/01/15 10:11	05/04/15 13:46	1
Arsenic	ND		1.0	0.29	ug/L		05/01/15 10:11	05/04/15 13:46	1
Barium	ND		10	0.098	ug/L		05/01/15 10:11	05/04/15 13:46	1
Beryllium	ND		1.0	0.037	ug/L		05/01/15 10:11	05/04/15 13:46	1
Cadmium	ND		1.0	0.11	ug/L		05/01/15 10:11	05/04/15 13:46	1
Calcium	8.39	J	500	2.8	ug/L		05/01/15 10:11	05/04/15 13:46	1
Chromium	ND		2.0	0.54	ug/L		05/01/15 10:11	05/04/15 13:46	1
Cobalt	ND		0.50	0.026	ug/L		05/01/15 10:11	05/04/15 13:46	1
Copper	ND		2.0	0.24	ug/L		05/01/15 10:11	05/04/15 13:46	1
Iron	ND		50	6.1	ug/L		05/01/15 10:11	05/04/15 13:46	1
Silver	ND		1.0	0.036	ug/L		05/01/15 10:11	05/04/15 13:46	1
Potassium	ND		500	5.8	ug/L		05/01/15 10:11	05/04/15 13:46	1
Magnesium	ND		500	1.2	ug/L		05/01/15 10:11	05/04/15 13:46	1
Sodium	ND		500	3.8	ug/L		05/01/15 10:11	05/04/15 13:46	1
Nickel	ND		1.0	0.17	ug/L		05/01/15 10:11	05/04/15 13:46	1
Lead	0.0280	J	1.0	0.019	ug/L		05/01/15 10:11	05/04/15 13:46	1
Antimony	ND		2.0	0.019	ug/L		05/01/15 10:11	05/04/15 13:46	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-140278/1-A
Matrix: Water
Analysis Batch: 140554

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 140278

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		5.0	0.42	ug/L		05/01/15 10:11	05/04/15 13:46	1
Thallium	ND		1.0	0.015	ug/L		05/01/15 10:11	05/04/15 13:46	1
Vanadium	ND		1.0	0.082	ug/L		05/01/15 10:11	05/04/15 13:46	1
Zinc	ND		5.0	0.96	ug/L		05/01/15 10:11	05/04/15 13:46	1
Manganese	0.0490	J	5.0	0.039	ug/L		05/01/15 10:11	05/04/15 13:46	1

Lab Sample ID: LCS 180-140278/2-A
Matrix: Water
Analysis Batch: 140554

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 140278

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	1610		ug/L		81	80 - 120
Arsenic	40.0	34.0		ug/L		85	80 - 120
Barium	2000	1710		ug/L		86	80 - 120
Beryllium	50.0	42.4		ug/L		85	80 - 120
Cadmium	50.0	46.0		ug/L		92	80 - 120
Calcium	50000	49100		ug/L		98	80 - 120
Chromium	200	180		ug/L		90	80 - 120
Cobalt	500	426		ug/L		85	80 - 120
Copper	250	217		ug/L		87	80 - 120
Iron	1000	921		ug/L		92	80 - 120
Silver	50.0	45.4		ug/L		91	80 - 120
Potassium	50000	46000		ug/L		92	80 - 120
Magnesium	50000	41500		ug/L		83	80 - 120
Sodium	50000	41400		ug/L		83	80 - 120
Nickel	500	422		ug/L		84	80 - 120
Lead	20.0	19.4		ug/L		97	80 - 120
Antimony	500	440		ug/L		88	80 - 120
Selenium	10.0	9.28		ug/L		93	80 - 120
Thallium	50.0	47.8		ug/L		96	80 - 120
Vanadium	500	451		ug/L		90	80 - 120
Zinc	500	444		ug/L		89	80 - 120
Manganese	500	456		ug/L		91	80 - 120

Lab Sample ID: MB 180-140485/1-A
Matrix: Water
Analysis Batch: 141080

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 140485

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		30	2.6	ug/L		05/04/15 11:22	05/07/15 17:51	1
Arsenic	ND		1.0	0.29	ug/L		05/04/15 11:22	05/07/15 17:51	1
Barium	ND		10	0.098	ug/L		05/04/15 11:22	05/07/15 17:51	1
Beryllium	ND		1.0	0.037	ug/L		05/04/15 11:22	05/07/15 17:51	1
Cadmium	ND		1.0	0.11	ug/L		05/04/15 11:22	05/07/15 17:51	1
Calcium	ND		500	2.8	ug/L		05/04/15 11:22	05/07/15 17:51	1
Chromium	ND		2.0	0.54	ug/L		05/04/15 11:22	05/07/15 17:51	1
Cobalt	ND		0.50	0.026	ug/L		05/04/15 11:22	05/07/15 17:51	1
Copper	ND		2.0	0.24	ug/L		05/04/15 11:22	05/07/15 17:51	1
Iron	ND		50	6.1	ug/L		05/04/15 11:22	05/07/15 17:51	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-140485/1-A
Matrix: Water
Analysis Batch: 141080

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 140485

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.036	ug/L		05/04/15 11:22	05/07/15 17:51	1
Potassium	ND		500	5.8	ug/L		05/04/15 11:22	05/07/15 17:51	1
Magnesium	ND		500	1.2	ug/L		05/04/15 11:22	05/07/15 17:51	1
Sodium	4.58	J	500	3.8	ug/L		05/04/15 11:22	05/07/15 17:51	1
Nickel	ND		1.0	0.17	ug/L		05/04/15 11:22	05/07/15 17:51	1
Lead	ND		1.0	0.019	ug/L		05/04/15 11:22	05/07/15 17:51	1
Antimony	ND		2.0	0.019	ug/L		05/04/15 11:22	05/07/15 17:51	1
Selenium	ND		5.0	0.42	ug/L		05/04/15 11:22	05/07/15 17:51	1
Thallium	ND		1.0	0.015	ug/L		05/04/15 11:22	05/07/15 17:51	1
Vanadium	ND		1.0	0.082	ug/L		05/04/15 11:22	05/07/15 17:51	1
Zinc	ND		5.0	0.96	ug/L		05/04/15 11:22	05/07/15 17:51	1
Manganese	ND		5.0	0.039	ug/L		05/04/15 11:22	05/07/15 17:51	1

Lab Sample ID: LCS 180-140485/2-A
Matrix: Water
Analysis Batch: 141080

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 140485

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	40.0	37.9		ug/L		95	80 - 120
Barium	2000	1940		ug/L		97	80 - 120
Cadmium	50.0	47.9		ug/L		96	80 - 120
Chromium	200	193		ug/L		96	80 - 120
Cobalt	500	498		ug/L		100	80 - 120
Copper	250	244		ug/L		98	80 - 120
Iron	1000	978		ug/L		98	80 - 120
Silver	50.0	47.4		ug/L		95	80 - 120
Nickel	500	490		ug/L		98	80 - 120
Antimony	500	492		ug/L		98	80 - 120
Selenium	10.0	9.58		ug/L		96	80 - 120
Vanadium	500	499		ug/L		100	80 - 120
Zinc	500	481		ug/L		96	80 - 120
Manganese	500	483		ug/L		97	80 - 120

Lab Sample ID: LCS 180-140485/2-A
Matrix: Water
Analysis Batch: 141088

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 140485

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	2130		ug/L		106	80 - 120
Beryllium	50.0	45.3		ug/L		91	80 - 120
Calcium	50000	50100		ug/L		100	80 - 120
Potassium	50000	52500		ug/L		105	80 - 120
Magnesium	50000	54100		ug/L		108	80 - 120
Sodium	50000	56000		ug/L		112	80 - 120
Lead	20.0	21.4		ug/L		107	80 - 120
Thallium	50.0	52.5		ug/L		105	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 140554

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140278

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	100	J B	2000	1860		ug/L		88	75 - 125
Arsenic	15		40.0	48.1		ug/L		82	75 - 125
Barium	49	J	2000	1820		ug/L		89	75 - 125
Beryllium	ND		50.0	46.4		ug/L		93	75 - 125
Cadmium	ND		50.0	44.4		ug/L		89	75 - 125
Calcium	460000	B	50000	531000	4	ug/L		136	75 - 125
Chromium	ND		200	182		ug/L		91	75 - 125
Cobalt	8.4		500	440		ug/L		86	75 - 125
Copper	2.7	J	250	213		ug/L		84	75 - 125
Iron	ND		1000	992		ug/L		99	75 - 125
Silver	ND		50.0	42.1		ug/L		84	75 - 125
Potassium	230000		50000	287000	4	ug/L		109	75 - 125
Magnesium	730000		50000	787000	4	ug/L		122	75 - 125
Nickel	19		500	441		ug/L		84	75 - 125
Lead	0.37	J B	20.0	19.6		ug/L		96	75 - 125
Antimony	ND		500	467		ug/L		93	75 - 125
Selenium	60	F2	10.0	63.5	4	ug/L		39	75 - 125
Thallium	ND		50.0	46.4		ug/L		93	75 - 125
Vanadium	ND		500	458		ug/L		92	75 - 125
Zinc	28	J	500	429		ug/L		80	75 - 125
Manganese	290	B	500	766		ug/L		96	75 - 125

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 140681

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140278

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	6300000		50000	6600000	4	ug/L		530	75 - 125

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 140554

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140278

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	100	J B	2000	1900		ug/L		90	75 - 125	2	20
Arsenic	15		40.0	54.5		ug/L		98	75 - 125	13	20
Barium	49	J	2000	1830		ug/L		89	75 - 125	0	20
Beryllium	ND		50.0	44.6		ug/L		89	75 - 125	4	20
Cadmium	ND		50.0	44.2		ug/L		88	75 - 125	0	20
Calcium	460000	B	50000	540000	4	ug/L		154	75 - 125	2	20
Chromium	ND		200	183		ug/L		91	75 - 125	0	20
Cobalt	8.4		500	444		ug/L		87	75 - 125	1	20
Copper	2.7	J	250	214		ug/L		84	75 - 125	0	20
Iron	ND		1000	1010		ug/L		101	75 - 125	2	20
Silver	ND		50.0	41.7		ug/L		83	75 - 125	1	20
Potassium	230000		50000	295000	4	ug/L		124	75 - 125	3	20
Magnesium	730000		50000	801000	4	ug/L		151	75 - 125	2	20
Nickel	19		500	443		ug/L		85	75 - 125	0	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 140554

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140278

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	0.37	J B	20.0	20.5		ug/L		101	75 - 125	5	20
Antimony	ND		500	470		ug/L		94	75 - 125	1	20
Selenium	60	F2	10.0	84.0	4 F2	ug/L		244	75 - 125	28	20
Thallium	ND		50.0	48.0		ug/L		96	75 - 125	3	20
Vanadium	ND		500	462		ug/L		92	75 - 125	1	20
Zinc	28	J	500	430		ug/L		80	75 - 125	0	20
Manganese	290	B	500	778		ug/L		98	75 - 125	1	20

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 140681

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140278

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	6300000		50000	6590000	4	ug/L		510	75 - 125	0	20

Lab Sample ID: 180-43250-28 MS
Matrix: SET, Dissolved
Analysis Batch: 141080

Client Sample ID: TS-4MT-SET
Prep Type: Dissolved
Prep Batch: 140485

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	12		40.0	51.5		ug/L		99	75 - 125
Barium	24	J	2000	1870		ug/L		92	75 - 125
Cadmium	ND		50.0	47.4		ug/L		95	75 - 125
Chromium	ND		200	200		ug/L		100	75 - 125
Cobalt	0.79	J	500	488		ug/L		97	75 - 125
Copper	3.1	J	250	245		ug/L		97	75 - 125
Iron	170	J	1000	1130		ug/L		97	75 - 125
Silver	ND		50.0	44.6		ug/L		89	75 - 125
Nickel	4.0	J	500	506		ug/L		100	75 - 125
Antimony	2.3	J	500	476		ug/L		95	75 - 125
Selenium	9.2	J	10.0	18.4	J	ug/L		92	75 - 125
Vanadium	ND		500	509		ug/L		102	75 - 125
Zinc	32	J	500	466		ug/L		87	75 - 125
Manganese	130		500	595		ug/L		93	75 - 125

Lab Sample ID: 180-43250-28 MS
Matrix: SET, Dissolved
Analysis Batch: 141088

Client Sample ID: TS-4MT-SET
Prep Type: Dissolved
Prep Batch: 140485

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	80	J	2000	2020		ug/L		97	75 - 125
Beryllium	ND		50.0	43.9		ug/L		88	75 - 125
Calcium	360000		50000	396000	4	ug/L		73	75 - 125
Potassium	290000		50000	334000	4	ug/L		95	75 - 125
Magnesium	810000		50000	853000	4	ug/L		91	75 - 125
Lead	1.5	J	20.0	21.6		ug/L		101	75 - 125
Thallium	0.29	J	50.0	50.3		ug/L		100	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-43250-28 MS
Matrix: SET, Dissolved
Analysis Batch: 141088

Client Sample ID: TS-4MT-SET
Prep Type: Dissolved
Prep Batch: 140485

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sodium	7500000	B	50000	7500000	4	ug/L		-40	75 - 125		

Lab Sample ID: 180-43250-28 MSD
Matrix: SET, Dissolved
Analysis Batch: 141080

Client Sample ID: TS-4MT-SET
Prep Type: Dissolved
Prep Batch: 140485

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	12		40.0	53.0		ug/L		103	75 - 125	3	20
Barium	24	J	2000	1900		ug/L		94	75 - 125	1	20
Cadmium	ND		50.0	46.6		ug/L		93	75 - 125	2	20
Calcium	360000		50000	437000	4	ug/L		152	75 - 125	5	20
Chromium	ND		200	207		ug/L		104	75 - 125	4	20
Cobalt	0.79	J	500	495		ug/L		99	75 - 125	2	20
Copper	3.1	J	250	248		ug/L		98	75 - 125	1	20
Iron	170	J	1000	1180		ug/L		101	75 - 125	4	20
Silver	ND		50.0	45.0		ug/L		90	75 - 125	1	20
Nickel	4.0	J	500	515		ug/L		102	75 - 125	2	20
Antimony	2.3	J	500	482		ug/L		96	75 - 125	1	20
Selenium	9.2	J	10.0	20.8	J	ug/L		116	75 - 125	12	20
Vanadium	ND		500	525		ug/L		105	75 - 125	3	20
Zinc	32	J	500	475		ug/L		89	75 - 125	2	20
Manganese	130		500	612		ug/L		97	75 - 125	3	20

Lab Sample ID: 180-43250-28 MSD
Matrix: SET, Dissolved
Analysis Batch: 141088

Client Sample ID: TS-4MT-SET
Prep Type: Dissolved
Prep Batch: 140485

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	80	J	2000	1910		ug/L		92	75 - 125	5	20
Beryllium	ND		50.0	47.7		ug/L		95	75 - 125	8	20
Potassium	290000		50000	320000	4	ug/L		67	75 - 125	4	20
Magnesium	810000		50000	831000	4	ug/L		47	75 - 125	3	20
Lead	1.5	J	20.0	21.3		ug/L		99	75 - 125	1	20
Thallium	0.29	J	50.0	51.0		ug/L		101	75 - 125	1	20

Lab Sample ID: 180-43250-28 MSD
Matrix: SET, Dissolved
Analysis Batch: 141088

Client Sample ID: TS-4MT-SET
Prep Type: Dissolved
Prep Batch: 140485

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	7500000	B	50000	7470000	4	ug/L		-100	75 - 125	0	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-140556/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 140674 — **Prep Batch: 140556**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/05/15 07:48	05/05/15 14:55	1

Lab Sample ID: LCS 180-140556/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 140674 — **Prep Batch: 140556**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.36		ug/L		94	80 - 120

Lab Sample ID: MB 180-141138/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141247 — **Prep Batch: 141138**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/11/15 08:34	05/11/15 17:53	1

Lab Sample ID: LCS 180-141138/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141247 — **Prep Batch: 141138**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.63		ug/L		105	80 - 120

Lab Sample ID: 180-43250-21MS — **Client Sample ID: TS-2NB-SET**
Matrix: SET, Dissolved — **Prep Type: Dissolved**
Analysis Batch: 141247 — **Prep Batch: 141138**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		1.00	1.01		ug/L		101	75 - 125

Lab Sample ID: 180-43250-21MSD — **Client Sample ID: TS-2NB-SET**
Matrix: SET, Dissolved — **Prep Type: Dissolved**
Analysis Batch: 141247 — **Prep Batch: 141138**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		1.00	1.00		ug/L		100	75 - 125	1	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 180-141882/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 142003 — **Prep Batch: 141882**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		0.10	0.086	mg/L		05/18/15 12:15	05/18/15 15:31	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 180-141882/2-A
Matrix: Water
Analysis Batch: 142003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141882

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia, distilled			2.00	2.05		mg/L		103	90 - 110		

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 142003

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 141882

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia, distilled	2.2	F1	2.00	4.32		mg/L		105	90 - 110		

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 142003

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 141882

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia, distilled	2.2	F1	2.00	4.68	F1	mg/L		123	90 - 110	8	20

Lab Sample ID: 180-43250-I-26-B MS
Matrix: SET, Dissolved
Analysis Batch: 142003

Client Sample ID: 180-43250-I-26-B MS
Prep Type: Dissolved
Prep Batch: 141882

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia, distilled	0.73	F1	2.00	3.16	F1	mg/L		121	90 - 110		

Lab Sample ID: 180-43250-I-26-C MSD
Matrix: SET, Dissolved
Analysis Batch: 142003

Client Sample ID: 180-43250-I-26-C MSD
Prep Type: Dissolved
Prep Batch: 141882

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia, distilled	0.73	F1	2.00	2.89		mg/L		108	90 - 110	9	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 180-141289/16
Matrix: Water
Analysis Batch: 141289

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/12/15 09:24	1

Lab Sample ID: LCS 180-141289/15
Matrix: Water
Analysis Batch: 141289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N			4.00	3.85		mg/L		96	90 - 110		

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 141289

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	0.52		2.00	2.62		mg/L		105	90 - 110

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 141289

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.52		2.00	2.54		mg/L		101	90 - 110	3	20

Lab Sample ID: 180-43250-26 MS
Matrix: SET, Dissolved
Analysis Batch: 141289

Client Sample ID: TS-4ST-SET
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	ND		2.00	1.88		mg/L		94	90 - 110

Lab Sample ID: 180-43250-26 MSD
Matrix: SET, Dissolved
Analysis Batch: 141289

Client Sample ID: TS-4ST-SET
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND		2.00	1.90		mg/L		95	90 - 110	1	20

Method: 9014 - Cyanide

Lab Sample ID: MB 180-140839/4-A
Matrix: Water
Analysis Batch: 140911

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140839

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		10	2.5	ug/L		05/07/15 13:00	05/07/15 13:28	1

Lab Sample ID: HLCS 180-140839/2-A
Matrix: Water
Analysis Batch: 140911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140839

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	250	251		ug/L		100	90 - 110

Lab Sample ID: LCS 180-140839/3-A
Matrix: Water
Analysis Batch: 140911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140839

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	200	185		ug/L		93	85 - 115

Method: 9014 - Cyanide (Continued)

Lab Sample ID: LLCS 180-140839/1-A
Matrix: Water
Analysis Batch: 140911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140839

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	50.0	49.0		ug/L		98	90 - 110

Lab Sample ID: MB 180-141070/4-A
Matrix: Water
Analysis Batch: 141185

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141070

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		10	2.5	ug/L		05/11/15 08:00	05/11/15 10:43	1

Lab Sample ID: HLCS 180-141070/2-A
Matrix: Water
Analysis Batch: 141185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141070

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	250	258		ug/L		103	90 - 110

Lab Sample ID: LCS 180-141070/3-A
Matrix: Water
Analysis Batch: 141185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141070

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	200	205		ug/L		102	85 - 115

Lab Sample ID: LLCS 180-141070/1-A
Matrix: Water
Analysis Batch: 141185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141070

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	50.0	48.9		ug/L		98	90 - 110

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 141185

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 141070

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND		100	86.4		ug/L		86	75 - 125

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 141185

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 141070

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		100	86.7		ug/L		87	75 - 125	0	20

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-140295/1-A
Matrix: Water
Analysis Batch: 140487

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140295

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		3.0	0.59	mg/L		05/01/15 12:30	05/01/15 16:32	1

Lab Sample ID: LCS 180-140295/2-A
Matrix: Water
Analysis Batch: 140487

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140295

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	19.2	17.8		mg/L		93	85 - 115

Lab Sample ID: MB 180-140758/1-A
Matrix: Water
Analysis Batch: 140792

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140758

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		3.0	0.59	mg/L		05/06/15 12:30	05/06/15 17:57	1

Lab Sample ID: LCS 180-140758/2-A
Matrix: Water
Analysis Batch: 140792

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140758

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	19.2	17.6		mg/L		92	85 - 115

Lab Sample ID: LCSD 180-140758/3-A
Matrix: Water
Analysis Batch: 140792

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140758

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	19.2	18.1		mg/L		94	85 - 115	3	20

Lab Sample ID: MB 180-141035/1-A
Matrix: Water
Analysis Batch: 141045

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141035

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		3.0	0.59	mg/L		05/08/15 15:00	05/08/15 18:38	1

Lab Sample ID: LCS 180-141035/2-A
Matrix: Water
Analysis Batch: 141045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141035

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	19.2	18.8		mg/L		98	85 - 115

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 140487

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140295

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	0.78	J	19.2	18.7		mg/L		93	75 - 125

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 140487

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 140295

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	0.78	J	19.2	18.0		mg/L		89	75 - 125	4	20

Lab Sample ID: 180-43250-28 MS
Matrix: SET, Dissolved
Analysis Batch: 141045

Client Sample ID: TS-4MT-SET
Prep Type: Dissolved
Prep Batch: 141035

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	1.3	J	19.2	19.3		mg/L		94	75 - 125

Lab Sample ID: 180-43250-28 MSD
Matrix: SET, Dissolved
Analysis Batch: 141045

Client Sample ID: TS-4MT-SET
Prep Type: Dissolved
Prep Batch: 141035

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	1.3	J	19.2	19.9		mg/L		97	75 - 125	3	20

Method: SM 5310C - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 180-140817/6
Matrix: Water
Analysis Batch: 140817

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	ND		1.0	0.14	mg/L			05/06/15 11:44	1

Lab Sample ID: LCS 180-140817/4
Matrix: Water
Analysis Batch: 140817

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	20.0	19.9		mg/L		100	80 - 120
DOC Result 1	20.0	19.9		mg/L		100	80 - 120
DOC Result 2	20.0	19.9		mg/L		100	80 - 120

Lab Sample ID: LCSD 180-140817/5
Matrix: Water
Analysis Batch: 140817

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	20.0	19.9		mg/L		99	80 - 120	0	20
DOC Result 1	20.0	19.8		mg/L		99	80 - 120	0	20
DOC Result 2	20.0	20.0		mg/L		100	80 - 120	0	20

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 140817

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	1.3	F1	10.0	6.38	F1	mg/L		51	75 - 125

Method: SM 5310C - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 140817

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
DOC Result 1	1.2	F1	10.0	6.23	F1	mg/L		51	75 - 125
DOC Result 2	1.4	F1	10.0	6.53	F1	mg/L		52	75 - 125

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 140817

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	1.3	F1	10.0	6.35	F1	mg/L		51	75 - 125	0	20
DOC Result 1	1.2	F1	10.0	6.21	F1	mg/L		50	75 - 125	0	20
DOC Result 2	1.4	F1	10.0	6.49	F1	mg/L		51	75 - 125	1	20

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-179660/10-A
Matrix: Water
Analysis Batch: 179800

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 179660

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/07/15 04:47	05/07/15 12:51	1

Lab Sample ID: LCS 240-179660/11-A
Matrix: Water
Analysis Batch: 179800

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 179660

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	1.69	1.67		mg/L		99	53 - 134

Lab Sample ID: MB 240-179850/10-A
Matrix: Water
Analysis Batch: 179971

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 179850

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/08/15 05:03	05/08/15 12:13	1

Lab Sample ID: LCS 240-179850/11-A
Matrix: Water
Analysis Batch: 179971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 179850

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	1.69	1.64		mg/L		97	53 - 134

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 179800

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 179660

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	ND		0.500	0.528		mg/L		106	10 - 199

Method: SM4500 P E-1999 - Phosphorus (Continued)

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 179800

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 179660

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Phosphorus as P	ND		0.500	0.518		mg/L		104	10 - 199	2	20

Lab Sample ID: 180-43250-25 MS
Matrix: SET, Dissolved
Analysis Batch: 179971

Client Sample ID: TS-3NB-SET
Prep Type: Dissolved
Prep Batch: 179850

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	ND		0.500	0.511		mg/L		102	10 - 199

Lab Sample ID: 180-43250-25 MSD
Matrix: SET, Dissolved
Analysis Batch: 179971

Client Sample ID: TS-3NB-SET
Prep Type: Dissolved
Prep Batch: 179850

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Phosphorus as P	ND		0.500	0.522		mg/L		104	10 - 199	2	20

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total

Lab Sample ID: MB 240-179212/1-A
Matrix: Water
Analysis Batch: 179419

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 179212

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		05/04/15 14:30	05/05/15 13:46	1

Lab Sample ID: LCS 240-179212/2-A
Matrix: Water
Analysis Batch: 179419

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 179212

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	7.77	6.59		mg/L		85	65 - 144

Lab Sample ID: MB 240-179626/1-A
Matrix: Water
Analysis Batch: 179815

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 179626

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		05/06/15 14:00	05/07/15 14:50	1

Lab Sample ID: LCS 240-179626/2-A
Matrix: Water
Analysis Batch: 179815

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 179626

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	7.77	6.59		mg/L		85	65 - 144

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total (Continued)

Lab Sample ID: 180-43250-21MS
Matrix: SET, Dissolved
Analysis Batch: 179419

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 179212

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Kjeldahl	2.2	J	20.0	20.9		mg/L		93	10 - 200		

Lab Sample ID: 180-43250-21MSD
Matrix: SET, Dissolved
Analysis Batch: 179419

Client Sample ID: TS-2NB-SET
Prep Type: Dissolved
Prep Batch: 179212

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	2.2	J	20.0	21.4		mg/L		96	10 - 200	3	20

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-43250-1

CBBT Thimble Shoal

Lot #: H5D300408

Carrie Gamber

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.

Bruce Wagner
Project Manager

May 8, 2015

ANALYTICAL METHODS SUMMARY

H5D300408

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

SAMPLE SUMMARY

H5D300408

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M6P4F	001	TS-1-SET	04/28/15	10:00
M6P4G	002	TS-2ST-SET	04/28/15	10:30
M6P4H	003	TS-2SB-SET	04/28/15	11:00
M6P4J	004	TS-2MT-SET	04/28/15	11:30
M6P4K	005	TS-2NT-SET	04/28/15	11:45
M6P4L	006	TS-2NB-SET	04/28/15	12:15
M6P4M	007	TS-3ST-SET	04/28/15	12:45

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H5D300408

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

All 2378-TCDF results which met all qualitative requirements and were reported from the Rtx-5 column are qualified with an "X". This was done to indicate that the Rtx-5 column is not isomer specific for 2378-TCDF.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

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Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

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Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration

PROJECT NARRATIVE
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W = amount of sample extracted (grams or liters)
S = percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: TS-1-SET

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D300408 - 001	**Work Order #....:**	M6P4F1AA	**Matrix.....:**	WS
Date Sampled....:	04/28/15	**Date Received....:**	04/30/15	**Units....:**	pg/L
Prep Date....:	05/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5121013				
Initial Wgt/Vol :	1068 mL	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	5/6/15	1	ND	9.4	0.0057	1.0	0.0057
1,2,3,7,8-PeCDD	**5/6/15**	**1**	**0.15 Q J**	**47**	**0.054**	**0.5**	**0.075**
1,2,3,4,7,8-HxCDD	5/6/15	1	ND	47	0.029	0.1	0.0029
1,2,3,6,7,8-HxCDD	5/6/15	1	ND	47	0.032	0.1	0.0032
1,2,3,7,8,9-HxCDD	**5/6/15**	**1**	**0.064 Q B J**	**47**	**0.029**	**0.1**	**0.0064**
1,2,3,4,6,7,8-HpCDD	**5/6/15**	**1**	**1.2 Q B J**	**47**	**0.053**	**0.01**	**0.012**
OCDD	**5/6/15**	**1**	**12 B J**	**94**	**0.040**	**0.001**	**0.012**
2,3,7,8-TCDF	5/6/15	1	ND	9.4	0.0053	0.1	0.00053
1,2,3,7,8-PeCDF	5/6/15	1	ND	47	0.0095	0.05	0.00047
2,3,4,7,8-PeCDF	5/6/15	1	ND	47	0.0091	0.5	0.0046
1,2,3,4,7,8-HxCDF	**5/6/15**	**1**	**0.11 Q J**	**47**	**0.029**	**0.1**	**0.011**
1,2,3,6,7,8-HxCDF	**5/6/15**	**1**	**0.096 Q J**	**47**	**0.029**	**0.1**	**0.0096**
2,3,4,6,7,8-HxCDF	5/6/15	1	ND	47	0.030	0.1	0.0030
1,2,3,7,8,9-HxCDF	**5/6/15**	**1**	**0.047 Q J**	**47**	**0.034**	**0.1**	**0.0047**
1,2,3,4,6,7,8-HpCDF	5/6/15	1	ND	47	0.033	0.01	0.00033
1,2,3,4,7,8,9-HpCDF	**5/6/15**	**1**	**0.29 Q B J**	**47**	**0.042**	**0.01**	**0.0029**
OCDF	**5/6/15**	**1**	**1.2 Q B J**	**94**	**0.023**	**0.001**	**0.0012**
Total TEQ Concentration							**0.16**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	89	(25 - 164)
13C-1,2,3,7,8-PeCDD	104	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	89	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	84	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	100	(23 - 140)
13C-OCDD	85	(17 - 157)
13C-2,3,7,8-TCDF	92	(24 - 169)
13C-1,2,3,7,8-PeCDF	93	(24 - 185)
13C-2,3,4,7,8-PeCDF	95	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	87	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	81	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	86	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	88	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	86	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	90	(26 - 138)
13C-OCDF	77	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-1-SET

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	110	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-2ST-SET

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D300408 - 002	**Work Order #....:**	M6P4G1AA	**Matrix.....:**	WS
Date Sampled....:	04/28/15	**Date Received....:**	04/30/15	**Units....:**	pg/L
Prep Date....:	05/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5121013				
Initial Wgt/Vol :	1066 mL	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	5/6/15	1	ND	9.4	0.011	1.0	0.011
1,2,3,7,8-PeCDD	**5/6/15**	**1**	**0.099 Q J**	**47**	**0.063**	**0.5**	**0.050**
1,2,3,4,7,8-HxCDD	**5/6/15**	**1**	**0.25 Q J**	**47**	**0.061**	**0.1**	**0.025**
1,2,3,6,7,8-HxCDD	5/6/15	1	ND	47	0.061	0.1	0.0061
1,2,3,7,8,9-HxCDD	**5/6/15**	**1**	**0.28 Q B J**	**47**	**0.058**	**0.1**	**0.028**
1,2,3,4,6,7,8-HpCDD	**5/6/15**	**1**	**0.53 Q B J**	**47**	**0.047**	**0.01**	**0.0053**
OCDD	**5/6/15**	**1**	**4.3 Q B J**	**94**	**0.043**	**0.001**	**0.0043**
2,3,7,8-TCDF	5/6/15	1	ND	9.4	0.0064	0.1	0.00064
1,2,3,7,8-PeCDF	5/6/15	1	ND	47	0.0092	0.05	0.00046
2,3,4,7,8-PeCDF	**5/6/15**	**1**	**0.041 Q J**	**47**	**0.0081**	**0.5**	**0.020**
1,2,3,4,7,8-HxCDF	**5/6/15**	**1**	**0.28 Q J**	**47**	**0.041**	**0.1**	**0.028**
1,2,3,6,7,8-HxCDF	5/6/15	1	ND	47	0.042	0.1	0.0042
2,3,4,6,7,8-HxCDF	5/6/15	1	ND	47	0.042	0.1	0.0042
1,2,3,7,8,9-HxCDF	**5/6/15**	**1**	**0.17 Q J**	**47**	**0.049**	**0.1**	**0.017**
1,2,3,4,6,7,8-HpCDF	**5/6/15**	**1**	**0.066 Q B J**	**47**	**0.029**	**0.01**	**0.00066**
1,2,3,4,7,8,9-HpCDF	5/6/15	1	ND	47	0.035	0.01	0.00035
OCDF	**5/6/15**	**1**	**0.59 Q B J**	**94**	**0.025**	**0.001**	**0.00059**
Total TEQ Concentration							**0.21**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	87	(25 - 164)
13C-1,2,3,7,8-PeCDD	103	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	84	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	78	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	92	(23 - 140)
13C-OCDD	82	(17 - 157)
13C-2,3,7,8-TCDF	89	(24 - 169)
13C-1,2,3,7,8-PeCDF	93	(24 - 185)
13C-2,3,4,7,8-PeCDF	96	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	83	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	78	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	83	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	84	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	82	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	87	(26 - 138)
13C-OCDF	76	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-2ST-SET

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	113	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-2SB-SET

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D300408 - 003	**Work Order #....:**	M6P4H1AA	**Matrix.....:**	WS
Date Sampled....:	04/28/15	**Date Received....:**	04/30/15	**Units....:**	pg/L
Prep Date....:	05/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5121013				
Initial Wgt/Vol :	1060 mL	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	5/6/15	1	ND	9.4	0.010	1.0	0.010
1,2,3,7,8-PeCDD	**5/6/15**	**1**	**0.12 Q J**	**47**	**0.038**	**0.5**	**0.060**
1,2,3,4,7,8-HxCDD	5/6/15	1	ND	47	0.066	0.1	0.0066
1,2,3,6,7,8-HxCDD	5/6/15	1	ND	47	0.071	0.1	0.0071
1,2,3,7,8,9-HxCDD	5/6/15	1	ND	47	0.065	0.1	0.0065
1,2,3,4,6,7,8-HpCDD	**5/6/15**	**1**	**0.63 Q B J**	**47**	**0.055**	**0.01**	**0.0063**
OCDD	**5/6/15**	**1**	**8.9 B J**	**94**	**0.027**	**0.001**	**0.0089**
2,3,7,8-TCDF	5/6/15	1	ND	9.4	0.012	0.1	0.0012
1,2,3,7,8-PeCDF	5/6/15	1	ND	47	0.011	0.05	0.00055
2,3,4,7,8-PeCDF	5/6/15	1	ND	47	0.012	0.5	0.0060
1,2,3,4,7,8-HxCDF	5/6/15	1	ND	47	0.042	0.1	0.0042
1,2,3,6,7,8-HxCDF	5/6/15	1	ND	47	0.039	0.1	0.0039
2,3,4,6,7,8-HxCDF	**5/6/15**	**1**	**0.22 Q B J**	**47**	**0.041**	**0.1**	**0.022**
1,2,3,7,8,9-HxCDF	**5/6/15**	**1**	**0.046 Q J**	**47**	**0.046**	**0.1**	**0.0046**
1,2,3,4,6,7,8-HpCDF	**5/6/15**	**1**	**0.21 Q B J**	**47**	**0.021**	**0.01**	**0.0021**
1,2,3,4,7,8,9-HpCDF	**5/6/15**	**1**	**0.26 Q B J**	**47**	**0.026**	**0.01**	**0.0026**
OCDF	**5/6/15**	**1**	**0.97 Q B J**	**94**	**0.018**	**0.001**	**0.00097**
Total TEQ Concentration							**0.15**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	89	(25 - 164)
13C-1,2,3,7,8-PeCDD	103	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	83	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	77	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	93	(23 - 140)
13C-OCDD	87	(17 - 157)
13C-2,3,7,8-TCDF	91	(24 - 169)
13C-1,2,3,7,8-PeCDF	96	(24 - 185)
13C-2,3,4,7,8-PeCDF	88	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	78	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	75	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	85	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	84	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	82	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	87	(26 - 138)
13C-OCDF	78	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-2SB-SET

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	110	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-2MT-SET

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D300408 - 004	**Work Order #....:**	M6P4J1AA	**Matrix.....:**	WS
Date Sampled....:	04/28/15	**Date Received....:**	04/30/15	**Units....:**	pg/L
Prep Date....:	05/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5121013				
Initial Wgt/Vol :	1066 mL	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	5/6/15	1	ND	9.4	0.012	1.0	0.012
1,2,3,7,8-PeCDD	5/6/15	1	ND	47	0.043	0.5	0.021
1,2,3,4,7,8-HxCDD	5/6/15	1	ND	47	0.032	0.1	0.0032
1,2,3,6,7,8-HxCDD	5/6/15	1	ND	47	0.034	0.1	0.0034
1,2,3,7,8,9-HxCDD	**5/6/15**	**1**	**0.12 Q B J**	**47**	**0.031**	**0.1**	**0.012**
1,2,3,4,6,7,8-HpCDD	**5/6/15**	**1**	**0.21 Q B J**	**47**	**0.040**	**0.01**	**0.0021**
OCDD	**5/6/15**	**1**	**2.4 Q B J**	**94**	**0.018**	**0.001**	**0.0024**
2,3,7,8-TCDF	5/6/15	1	ND	9.4	0.0061	0.1	0.00061
1,2,3,7,8-PeCDF	5/6/15	1	ND	47	0.010	0.05	0.00050
2,3,4,7,8-PeCDF	5/6/15	1	ND	47	0.010	0.5	0.0050
1,2,3,4,7,8-HxCDF	5/6/15	1	ND	47	0.037	0.1	0.0037
1,2,3,6,7,8-HxCDF	5/6/15	1	ND	47	0.034	0.1	0.0034
2,3,4,6,7,8-HxCDF	5/6/15	1	ND	47	0.037	0.1	0.0037
1,2,3,7,8,9-HxCDF	5/6/15	1	ND	47	0.039	0.1	0.0039
1,2,3,4,6,7,8-HpCDF	5/6/15	1	ND	47	0.020	0.01	0.00020
1,2,3,4,7,8,9-HpCDF	**5/6/15**	**1**	**0.16 B J**	**47**	**0.024**	**0.01**	**0.0016**
OCDF	**5/6/15**	**1**	**0.14 Q B J**	**94**	**0.021**	**0.001**	**0.00014**
Total TEQ Concentration							**0.079**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	84	(25 - 164)
13C-1,2,3,7,8-PeCDD	94	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	85	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	80	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	92	(23 - 140)
13C-OCDD	82	(17 - 157)
13C-2,3,7,8-TCDF	85	(24 - 169)
13C-1,2,3,7,8-PeCDF	87	(24 - 185)
13C-2,3,4,7,8-PeCDF	86	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	83	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	77	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	82	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	87	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	77	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	86	(26 - 138)
13C-OCDF	76	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-2MT-SET

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	108	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-2NT-SET

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D300408 - 005	**Work Order #....:**	M6P4K1AA	**Matrix.....:**	WS
Date Sampled....:	04/28/15	**Date Received....:**	04/30/15	**Units....:**	pg/L
Prep Date....:	05/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5121013				
Initial Wgt/Vol :	1065 mL	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	5/6/15	1	ND	9.4	0.0094	1.0	0.0094
1,2,3,7,8-PeCDD	5/6/15	1	ND	47	0.060	0.5	0.030
1,2,3,4,7,8-HxCDD	5/6/15	1	ND	47	0.044	0.1	0.0044
1,2,3,6,7,8-HxCDD	5/6/15	1	ND	47	0.048	0.1	0.0048
1,2,3,7,8,9-HxCDD	5/6/15	1	ND	47	0.043	0.1	0.0043
1,2,3,4,6,7,8-HpCDD	**5/6/15**	**1**	**0.39 B J**	**47**	**0.047**	**0.01**	**0.0039**
OCDD	**5/6/15**	**1**	**4.0 Q B J**	**94**	**0.043**	**0.001**	**0.0040**
2,3,7,8-TCDF	5/6/15	1	ND	9.4	0.0095	0.1	0.00095
1,2,3,7,8-PeCDF	**5/6/15**	**1**	**0.039 Q J**	**47**	**0.0093**	**0.05**	**0.0019**
2,3,4,7,8-PeCDF	5/6/15	1	ND	47	0.0089	0.5	0.0044
1,2,3,4,7,8-HxCDF	5/6/15	1	ND	47	0.032	0.1	0.0032
1,2,3,6,7,8-HxCDF	5/6/15	1	ND	47	0.030	0.1	0.0030
2,3,4,6,7,8-HxCDF	5/6/15	1	ND	47	0.030	0.1	0.0030
1,2,3,7,8,9-HxCDF	5/6/15	1	ND	47	0.036	0.1	0.0036
1,2,3,4,6,7,8-HpCDF	5/6/15	1	ND	47	0.018	0.01	0.00018
1,2,3,4,7,8,9-HpCDF	5/6/15	1	ND	47	0.023	0.01	0.00023
OCDF	**5/6/15**	**1**	**0.035 Q B J**	**94**	**0.012**	**0.001**	**0.000035**
Total TEQ Concentration							**0.081**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(25 - 164)
13C-1,2,3,7,8-PeCDD	97	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	82	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	75	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	92	(23 - 140)
13C-OCDD	83	(17 - 157)
13C-2,3,7,8-TCDF	90	(24 - 169)
13C-1,2,3,7,8-PeCDF	91	(24 - 185)
13C-2,3,4,7,8-PeCDF	91	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	79	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	74	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	81	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	84	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	77	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	84	(26 - 138)
13C-OCDF	76	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-2NT-SET

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	111	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-2NB-SET

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D300408 - 006	**Work Order #....:**	M6P4L1AA	**Matrix.....:**	WS
Date Sampled....:	04/28/15	**Date Received....:**	04/30/15	**Units....:**	pg/L
Prep Date....:	05/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5121013				
Initial Wgt/Vol :	1043 mL	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	5/6/15	1	ND	9.6	0.012	1.0	0.012
1,2,3,7,8-PeCDD	5/6/15	1	ND	48	0.049	0.5	0.024
1,2,3,4,7,8-HxCDD	**5/6/15**	**1**	**0.27 Q J**	**48**	**0.045**	**0.1**	**0.027**
1,2,3,6,7,8-HxCDD	5/6/15	1	ND	48	0.047	0.1	0.0047
1,2,3,7,8,9-HxCDD	5/6/15	1	ND	48	0.043	0.1	0.0043
1,2,3,4,6,7,8-HpCDD	**5/6/15**	**1**	**0.16 Q B J**	**48**	**0.054**	**0.01**	**0.0016**
OCDD	**5/6/15**	**1**	**5.4 B J**	**96**	**0.054**	**0.001**	**0.0054**
2,3,7,8-TCDF	5/6/15	1	ND	9.6	0.0079	0.1	0.00079
1,2,3,7,8-PeCDF	5/6/15	1	ND	48	0.019	0.05	0.00095
2,3,4,7,8-PeCDF	**5/6/15**	**1**	**0.10 J**	**48**	**0.017**	**0.5**	**0.050**
1,2,3,4,7,8-HxCDF	5/6/15	1	ND	48	0.048	0.1	0.0048
1,2,3,6,7,8-HxCDF	**5/6/15**	**1**	**0.25 J**	**48**	**0.046**	**0.1**	**0.025**
2,3,4,6,7,8-HxCDF	5/6/15	1	ND	48	0.049	0.1	0.0049
1,2,3,7,8,9-HxCDF	**5/6/15**	**1**	**0.067 Q J**	**48**	**0.059**	**0.1**	**0.0067**
1,2,3,4,6,7,8-HpCDF	**5/6/15**	**1**	**0.16 Q B J**	**48**	**0.023**	**0.01**	**0.0016**
1,2,3,4,7,8,9-HpCDF	**5/6/15**	**1**	**0.13 Q B J**	**48**	**0.026**	**0.01**	**0.0013**
OCDF	**5/6/15**	**1**	**0.039 Q B J**	**96**	**0.013**	**0.001**	**0.000039**
Total TEQ Concentration							**0.18**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	93	(25 - 164)
13C-1,2,3,7,8-PeCDD	103	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	79	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	76	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	96	(23 - 140)
13C-OCDD	82	(17 - 157)
13C-2,3,7,8-TCDF	90	(24 - 169)
13C-1,2,3,7,8-PeCDF	98	(24 - 185)
13C-2,3,4,7,8-PeCDF	101	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	81	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	75	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	82	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	79	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	76	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	88	(26 - 138)
13C-OCDF	77	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-2NB-SET

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	124	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: TS-3ST-SET

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5D300408 - 007	**Work Order #....:**	M6P4M1AA	**Matrix.....:**	WS
Date Sampled....:	04/28/15	**Date Received....:**	04/30/15	**Units....:**	pg/L
Prep Date....:	05/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5121013				
Initial Wgt/Vol :	1078 mL	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	5/6/15	1	ND	9.3	0.021	1.0	0.021
1,2,3,7,8-PeCDD	5/6/15	1	ND	46	0.011	0.5	0.0055
1,2,3,4,7,8-HxCDD	5/6/15	1	ND	46	0.048	0.1	0.0048
1,2,3,6,7,8-HxCDD	5/6/15	1	ND	46	0.055	0.1	0.0055
1,2,3,7,8,9-HxCDD	**5/6/15**	**1**	**0.32 Q B J**	**46**	**0.048**	**0.1**	**0.032**
1,2,3,4,6,7,8-HpCDD	**5/6/15**	**1**	**2.5 B J**	**46**	**0.059**	**0.01**	**0.025**
OCDD	**5/6/15**	**1**	**34 B J**	**93**	**0.026**	**0.001**	**0.034**
2,3,7,8-TCDF	5/6/15	1	ND	9.3	0.0081	0.1	0.00081
1,2,3,7,8-PeCDF	**5/6/15**	**1**	**0.13 Q J**	**46**	**0.020**	**0.05**	**0.0065**
2,3,4,7,8-PeCDF	**5/6/15**	**1**	**0.047 Q J**	**46**	**0.021**	**0.5**	**0.024**
1,2,3,4,7,8-HxCDF	5/6/15	1	ND	46	0.034	0.1	0.0034
1,2,3,6,7,8-HxCDF	**5/6/15**	**1**	**0.13 Q J**	**46**	**0.032**	**0.1**	**0.013**
2,3,4,6,7,8-HxCDF	**5/6/15**	**1**	**0.17 Q B J**	**46**	**0.034**	**0.1**	**0.017**
1,2,3,7,8,9-HxCDF	**5/6/15**	**1**	**0.044 Q J**	**46**	**0.040**	**0.1**	**0.0044**
1,2,3,4,6,7,8-HpCDF	**5/6/15**	**1**	**0.47 Q B J**	**46**	**0.018**	**0.01**	**0.0047**
1,2,3,4,7,8,9-HpCDF	5/6/15	1	ND	46	0.023	0.01	0.00023
OCDF	**5/6/15**	**1**	**1.6 B J**	**93**	**0.021**	**0.001**	**0.0016**
Total TEQ Concentration							**0.20**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	86	(25 - 164)
13C-1,2,3,7,8-PeCDD	95	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	83	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	76	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	91	(23 - 140)
13C-OCDD	87	(17 - 157)
13C-2,3,7,8-TCDF	87	(24 - 169)
13C-1,2,3,7,8-PeCDF	88	(24 - 185)
13C-2,3,4,7,8-PeCDF	86	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	77	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	72	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	81	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	81	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	77	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	82	(26 - 138)
13C-OCDF	73	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: TS-3ST-SET

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	105	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H5E010000 - 013B **Work Order #....:** M6P9T1AA **Matrix....:** WATER
Dilution Factor: 1
Prep Date....: 05/01/15 **Analysis Date....:** 05/07/15
Prep Batch # ....: 5121013
Initial Wgt/Vol : 1000 mL **Instrument ID....:** D2A **Method:** EPA-5 1613B
Analyst ID....: Melissa A. Davidson

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	0.045	pg/L
1,2,3,7,8-PeCDD	ND		50	0.055	pg/L
1,2,3,4,7,8-HxCDD	ND		50	0.13	pg/L
1,2,3,6,7,8-HxCDD	ND		50	0.14	pg/L
1,2,3,7,8,9-HxCDD	**0.60**	**Q J**	**50**	**0.13**	**pg/L**
1,2,3,4,6,7,8-HpCDD	**1.3**	**J**	**50**	**0.26**	**pg/L**
OCDD	**9.7**	**Q J**	**100**	**0.12**	**pg/L**
2,3,7,8-TCDF	ND		10	0.083	pg/L
1,2,3,7,8-PeCDF	ND		50	0.11	pg/L
2,3,4,7,8-PeCDF	ND		50	0.11	pg/L
1,2,3,4,7,8-HxCDF	ND		50	0.13	pg/L
1,2,3,6,7,8-HxCDF	ND		50	0.11	pg/L
2,3,4,6,7,8-HxCDF	**0.82**	**Q J**	**50**	**0.12**	**pg/L**
1,2,3,7,8,9-HxCDF	ND		50	0.14	pg/L
1,2,3,4,6,7,8-HpCDF	**1.0**	**Q J**	**50**	**0.059**	**pg/L**
1,2,3,4,7,8,9-HpCDF	**0.22**	**Q J**	**50**	**0.083**	**pg/L**
OCDF	**4.3**	**Q J**	**100**	**0.067**	**pg/L**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	89	25 - 164
13C-1,2,3,7,8-PeCDD	99	25 - 181
13C-1,2,3,4,7,8-HxCDD	82	32 - 141
13C-1,2,3,6,7,8-HxCDD	80	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	87	23 - 140
13C-OCDD	73	17 - 157
13C-2,3,7,8-TCDF	83	24 - 169
13C-1,2,3,7,8-PeCDF	102	24 - 185
13C-2,3,4,7,8-PeCDF	94	21 - 178
13C-1,2,3,4,7,8-HxCDF	76	26 - 152
13C-1,2,3,6,7,8-HxCDF	78	26 - 123
13C-2,3,4,6,7,8-HxCDF	82	28 - 136
13C-1,2,3,7,8,9-HxCDF	84	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	77	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	77	26 - 138
13C-OCDF	67	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5E010000 - 013B	**Work Order #....:**	M6P9T1AA	**Matrix....:**	WATER
Dilution Factor:	1				
Prep Date....:	05/01/15	**Analysis Date....:**	05/07/15		
Prep Batch # ....:	5121013				
Initial Wgt/Vol :	1000 mL	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	115	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H5D300408 **Work Order # ...:** M6P9T1AC-LCS **Matrix .....:** WATER
LCS Lot-Sample# : H5E010000 - 013
Prep Date .....: 05/01/15 **Analysis Date ..:** 05/05/15
Prep Batch # ...: 5121013
Dilution Factor : 1
Analyst ID.....: Melissa A. Davidson **Instrument ID..:** D2A **Method.....:** EPA-5 1613B
Initial Wgt/Vol: 1000 mL

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**200**	**219**	**pg/L**	**110**		**(67 - 158)**
1,2,3,7,8-PeCDD	**1000**	**1080**	**pg/L**	**108**		**(70 - 142)**
1,2,3,4,7,8-HxCDD	**1000**	**1060**	**pg/L**	**106**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**1000**	**1060**	**pg/L**	**106**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**1000**	**1210**	**pg/L**	**121**	**B**	**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**1000**	**1010**	**pg/L**	**101**	**B**	**(70 - 140)**
OCDD	**2000**	**2000**	**pg/L**	**100**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**200**	**218**	**pg/L**	**109**		**(75 - 158)**
1,2,3,7,8-PeCDF	**1000**	**983**	**pg/L**	**98**		**(80 - 134)**
2,3,4,7,8-PeCDF	**1000**	**1040**	**pg/L**	**104**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**1000**	**1020**	**pg/L**	**102**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**1000**	**1050**	**pg/L**	**105**		**(84 - 130)**
2,3,4,6,7,8-HxCDF	**1000**	**1040**	**pg/L**	**104**	**B**	**(70 - 156)**
1,2,3,7,8,9-HxCDF	**1000**	**1010**	**pg/L**	**101**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**1000**	**1010**	**pg/L**	**101**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**1000**	**1060**	**pg/L**	**106**	**B**	**(78 - 138)**
OCDF	**2000**	**2020**	**pg/L**	**101**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	85	(20 - 175)
13C-1,2,3,7,8-PeCDD	99	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	84	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	76	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	93	(26 - 166)
13C-OCDD	83	(13 - 199)
13C-2,3,7,8-TCDF	78	(22 - 152)
13C-1,2,3,7,8-PeCDF	101	(21 - 192)
13C-2,3,4,7,8-PeCDF	98	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	83	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	76	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	85	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	86	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	76	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	86	(20 - 186)
13C-OCDF	76	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	114	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D300408	**Work Order # ...:**	M6P4L1AC-MS	**Matrix .....:**	WATER
OS Lot-Sample# :	H5D300408 - 006		M6P4L1AD-MSD		
Prep Date .....:	05/01/15	**Analysis Date ..:**	05/06/15		
Prep Batch # ...:	5121013				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	1043 mL				

PARAMETER	SAMPLE AMOUNT	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	ND	192	199	pg/L	104	(67 - 158)		
	ND	192	197	pg/L	103	(67 - 158)	0.84	(0 - 25)
1,2,3,7,8-PeCDD	ND	961	980	pg/L	102	(70 - 142)		
	ND	961	1030	pg/L	107	(70 - 142)	4.5	(0 - 25)
1,2,3,4,7,8-HxCDD	0.27	961	1010	pg/L	105	(70 - 164)		
	0.27	961	1020	pg/L	107	(70 - 164)	1.1	(0 - 25)
1,2,3,6,7,8-HxCDD	ND	961	947	pg/L	99	(76 - 134)		
	ND	961	930	pg/L	97	(76 - 134)	1.8	(0 - 25)
1,2,3,7,8,9-HxCDD	ND	961	1150	pg/L	119 B	(64 - 162)		
	ND	961	1180	pg/L	123 B	(64 - 162)	3.0	(0 - 25)
1,2,3,4,6,7,8-HpCDD	0.16	961	954	pg/L	99 B	(70 - 140)		
	0.16	961	954	pg/L	99 B	(70 - 140)	0.010	(0 - 25)
OCDD	5.4	1920	1780	pg/L	93 B	(78 - 144)		
	5.4	1920	1810	pg/L	94 B	(78 - 144)	1.6	(0 - 25)
2,3,7,8-TCDF	ND	192	202	pg/L	105 X	(75 - 158)		
	ND	192	210	pg/L	109 X	(75 - 158)	3.7	(0 - 25)
1,2,3,7,8-PeCDF	ND	961	940	pg/L	98	(80 - 134)		
	ND	961	909	pg/L	95	(80 - 134)	3.3	(0 - 25)
2,3,4,7,8-PeCDF	0.10	961	976	pg/L	102	(68 - 160)		
	0.10	961	1020	pg/L	106	(68 - 160)	4.3	(0 - 25)
1,2,3,4,7,8-HxCDF	ND	961	958	pg/L	100	(72 - 134)		
	ND	961	1020	pg/L	106	(72 - 134)	5.9	(0 - 25)
1,2,3,6,7,8-HxCDF	0.25	961	967	pg/L	101	(84 - 130)		
	0.25	961	977	pg/L	102	(84 - 130)	1.1	(0 - 25)
2,3,4,6,7,8-HxCDF	ND	961	993	pg/L	103 B	(70 - 156)		
	ND	961	991	pg/L	103 B	(70 - 156)	0.23	(0 - 25)
1,2,3,7,8,9-HxCDF	0.067	961	966	pg/L	101	(78 - 130)		
	0.067	961	987	pg/L	103	(78 - 130)	2.1	(0 - 25)
1,2,3,4,6,7,8-HpCDF	0.16	961	946	pg/L	98 B	(82 - 122)		
	0.16	961	958	pg/L	100 B	(82 - 122)	1.3	(0 - 25)
1,2,3,4,7,8,9-HpCDF	0.13	961	1040	pg/L	108 B	(78 - 138)		
	0.13	961	1000	pg/L	105 B	(78 - 138)	3.5	(0 - 25)
OCDF	0.039	1920	1860	pg/L	97 B	(63 - 170)		
	0.039	1920	1940	pg/L	101 B	(63 - 170)	3.8	(0 - 25)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D300408	**Work Order # ...:**	M6P4L1AC-MS	**Matrix .....:**	WATER
OS Lot-Sample# :	H5D300408 - 006		M6P4L1AD-MSD		
Prep Date .....:	05/01/15	**Analysis Date ..:**	05/06/15		
Prep Batch # ...:	5121013				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	1043 mL				

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	85	(25 - 164)
	87	(25 - 164)
13C-1,2,3,7,8-PeCDD	100	(25 - 181)
	94	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	79	(32 - 141)
	75	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	75	(28 - 130)
	76	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	90	(23 - 140)
	93	(23 - 140)
13C-OCDD	82	(17 - 157)
	82	(17 - 157)
13C-2,3,7,8-TCDF	85	(24 - 169)
	83	(24 - 169)
13C-1,2,3,7,8-PeCDF	91	(24 - 185)
	92	(24 - 185)
13C-2,3,4,7,8-PeCDF	92	(21 - 178)
	87	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	79	(26 - 152)
	74	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	72	(26 - 123)
	72	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	79	(28 - 136)
	80	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	82	(29 - 147)
	80	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	79	(28 - 143)
	77	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	80	(26 - 138)
	85	(26 - 138)
13C-OCDF	76	(17 - 157)
	72	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	107	(35 - 197)
	105	(35 - 197)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5D300408	**Work Order # ...:**	M6P4L1AC-MS	**Matrix .....:**	WATER
OS Lot-Sample# :	H5D300408 - 006		M6P4L1AD-MSD		
Prep Date .....:	05/01/15	**Analysis Date ..:**	05/06/15		
Prep Batch # ...:	5121013				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	1043 mL				

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

X See project narrative.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSD300408

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-197390.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43250-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/12/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri		Total Number of containers	Special Instructions/Note:
			Preservation Code:							
TS-1-SET (180-43250-16)	4/28/15	10:00 Eastern		Water			X	RE/ND PH7	1	
TS-2ST-SET (180-43250-17)	4/28/15	10:30 Eastern		Water			X		1	
TS-2SB-SET (180-43250-18)	4/28/15	11:00 Eastern		Water			X		1	RT CT
TS-2MT-SET (180-43250-19)	4/28/15	11:30 Eastern		Water			X		1	REC. @ 0.6°C 0.6°
TS-2NT-SET (180-43250-20)	4/28/15	11:45 Eastern		Water			X		1	0.5° 0.5°
TS-2NB-SET (180-43250-21)	4/28/15	12:15 Eastern		Water			X		1	0.7° 0.7°
TS-2NB-SET (180-43250-21MS)	4/28/15	12:15 Eastern	MS	Water			X		1	CUSTODY TAPE INTACT
TS-2NB-SET (180-43250-21MSD)	4/28/15	12:15 Eastern	MSD	Water			X		1	3 COOLERS RH 4-30-15
TS-3ST-SET (180-43250-22)	4/28/15	12:45 Eastern		Water			X		1	FED Ex#568237256870

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4/29/15 [signature]		Ryan Henry	4/30/15 1015	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSD3107108

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC57 Correction factor: 0.0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?	✓		✓	☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: 4252 2017/07	✓			☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?	✓			If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		✓		☐ **19a** Other

Comments/Actions Taken

Labeling Verified by: _____ **Date:** _____

pH test strip lot number: HC432684

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: _____

Sample Receiving Associate: _____ Date: 4-30-15

QA026R29.doc, 041115

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): 15204.01, 0007

Page 1 of 3

Date	Time	Water	Sediment	Sediment Samples: Sample Identification	No. of Containers	Standard Elutriate Prep	Semivolatiles and PAHs SW846 8270C	Metals (ICP/MS) SW846 6010B/7471A	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Butyl Tins Unger Method	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon	Remarks
4/6/2015	1400		X	TS-1-SED	3	X																SEE PROJECT SPECIFIC ANALYTE LIST
4/17/2015	1000	X		TS-WAT	1	X																
				TS-1-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/6/2015	1600		X	TS-2ST-SED	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-2ST-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/8/2015	1145		X	TS-2SB-SED	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-2SB-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/7/2015	1045		X	TS-2MT-SED	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-2MT-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/7/2015	1400		X	TS-2NT-SED	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-2NT-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/9/2015	1130		X	TS-2NB-SED	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-2NB-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

180-43250 Chain of Custody

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	4/18/15 1600			OCEAN SETs Parallel Thimble Shoal Tunnel
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	4/20/15 1400		4/20/15 1400	

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick**
	Phone: **410-584-7000**
225 Schilling Circle	Field Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: 860-287-0745

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): 15204.01, 0007

Page 2 of 3

Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Standard Elutriate Prep	Semivolatiles and PAHs SW846 8270C	Metals (ICP/MS) SW846 6010B/7471A	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Butyl Tins Unger Method	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon	Remarks
4/9/2015	1140		X	TS-2NB-SED-MS	3	X																SEE PROJECT SPECIFIC ANALYTE LIST
4/17/2015	1000	X		TS-WAT	1	X																
				TS-2NB-SET-MS			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/9/2015	1145		X	TS-2NB-SED-MSD	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-2NB-SET-MSD			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/7/2015	1600		X	TS-3ST-SED	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-3ST-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/10/2015	1330		X	TS-3SB-SED	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-3SB-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/8/2015	1500		X	TS-3NT-SED	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-3NT-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/14/2015	1130		X	TS-3NB-SED	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-3NB-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	OCEAN SETs Parallel Thimble Shoal Tunnel
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	4/20/15 1400		4/20/15 1408	

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick** Phone: **410-584-7000**
225 Schilling Circle **Hunt Valley, MD 21031**	Field Contact: **Morgan Gelinas** **Phone: 860-287-0745**

Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement

Billing (Project #, phase): 15204.01, 0007

Page 3 of 3

Sediment Samples

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Standard Elutriate Prep	Semivolatiles and PAHs SW846 8270C	Metals (ICP/MS) SW846 6010B/7471A	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Butyl Tins Unger Method	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon	Remarks
4/13/2015	1530		X	TS-4ST-SED	3	X																**SEE PROJECT SPECIFIC ANALYTE LIST**
4/17/2015	1000	X		TS-WAT	1	X																
				TS-4ST-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/13/2015	1130		X	TS-4SB-SED	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-4SB-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/10/2015	1600		X	TS-4MT-SED	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-4MT-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/9/2015	1445		X	TS-4NT-SED	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-4NT-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/13/2015	1350		X	TS-4NB-SED	3	X																
4/17/2015	1000	X		TS-WAT	1	X																
				TS-4NB-SET			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4/17/2015	1000	X		TS-WAT	2	X																**Extra volume collected in case needed**

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	**OCEAN SETs Parallel Thimble Shoal Tunnel**
	4/18/15 1600			
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	4/20/15 1400		4/20/15 1400	

Temps

5.8
5.6
5.8
5.6
5.2
5.1
5.3
5.4
5.7
5.0
5.3
5.7

C.f. = 0.0 = 5.8, 5.6, 5.8, 5.6, 5.2, 5.1, 5.3
5.4, 5.7, 5.0, 5.3, 5.7

Thermo #6

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43250-1

Login Number: 43250
List Number: 1
Creator: Lonzo, Michael A

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43250-1

Login Number: 43250
List Number: 2
Creator: Callahan, Christopher G

List Source: TestAmerica Burlington
List Creation: 04/30/15 04:17 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	No numbers
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0, 3.8 & 1.6º
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43250-1

Login Number: 43250
List Number: 5
Creator: Atherton, Joel E

List Source: TestAmerica Burlington
List Creation: 05/02/15 03:02 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	TAMPER EVIDENT TAPE
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.4ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43250-1

Login Number: 43250
List Number: 6
Creator: Goodrich, Kenneth L

List Source: TestAmerica Burlington
List Creation: 05/04/15 10:05 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	No NUMBERS
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	15.0ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Not requested on COC.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-197389.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43250-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 5/12/2015			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_GC/3510C_14d Organotins (GC/FPD) dissolved	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
TS-1-SET (180-43250-16)	4/28/15	10:00 Eastern		Water			X	1	
TS-2ST-SET (180-43250-17)	4/28/15	10:30 Eastern		Water			X	1	
TS-2SB-SET (180-43250-18)	4/28/15	11:00 Eastern		Water			X	1	
TS-2MT-SET (180-43250-19)	4/28/15	11:30 Eastern		Water			X	1	
TS-2NT-SET (180-43250-20)	4/28/15	11:45 Eastern		Water			X	1	
TS-2NB-SET (180-43250-21)	4/28/15	12:15 Eastern		Water			X	1	
TS-2NB-SET (180-43250-21MS)	4/28/15	12:15 Eastern	MS	Water			X	1	
TS-2NB-SET (180-43250-21MSD)	4/28/15	12:15 Eastern	MSD	Water			X	1	
TS-3ST-SET (180-43250-22)	4/28/15	12:45 Eastern		Water			X	1	

180-43250 Chain of Custody

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/29/15			4/30/15 1040	TABTV
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

ORIGIN ID:AGCA (412) 963-7058
SAMPLE RECEIVING
TEST AMERICA LABORATORIES INC
301 ALPHA DR

PITTSBURGH, PA 152381330
UNITED STATES US

SHIP DATE: 29APR15
ACTWGT: 23.0 LB MAN
CAD: 741733/CAFE2807

BILL RECIPIENT

SHIPPING/RECEIVING
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: S180-23871

FedEx Express

J141214073001uv

3 of 3
MPS# 0263 5682 3725 6940
Mstr# 5682 3725 6928

THU - 30 APR 10:30A
PRIORITY OVERNIGHT

0201

XH BTVA

05403
VT-US BTV

ORIGIN ID:AGCA (412) 963-7058
SAMPLE RECEIVING
TEST AMERICA LABORATORIES INC
301 ALPHA DR

PITTSBURGH, PA 152381330
UNITED STATES US

SHIP DATE: 29APR15
ACTWGT: 54.0 LB MAN
CAD: 741733/CAFE2807

BILL RECIPIENT

TO **SHIPPING/RECEIVING**
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: S180-23871

FedEx Express

J141214073001uv

3 of 3
TRK# 0201 5682 3725 6928
MASTER

THU - 30 APR 10:30A
PRIORITY OVERNIGHT

XH BTVA

05403
VT-US BTV

2 of 3
MPS# 0263 5682 3725 6939
Mstr# 5682 3725 6928

THU - 30 APR 10:30A
PRIORITY OVERNIGHT

0201

XH BTVA

05403
VT-US BTV

FedEx Express

J141214073001uv

ORIGIN ID:AGCA (412) 963-7058
SAMPLE RECEIVING
TEST AMERICA LABORATORIES INC
301 ALPHA DR

PITTSBURGH, PA 152381330
UNITED STATES US

SHIP DATE: 29APR15
ACTWGT: 54.0 LB MAN
CAD: 741733/CAFE2807

BILL RECIPIENT

TO **SHIPPING/RECEIVING**
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: S180-23871

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Part # 159469-434 Rit 02/15 ***

RT 716
FL 717

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

180-43250 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	COC No: 180-197696.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.			Job #: 180-43250-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 5/12/2015		
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email:	WO #:		
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_GC/3510C_14d Organotins (GC/FPD) dissolved	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
TS-4MT-SET (180-43250-28)	5/1/15	09:30 Eastern		Water			X	1	
TS-4NT-SET (180-43250-29)	5/1/15	10:00 Eastern		Water			X	1	
TS-4NB-SET (180-43250-30)	5/1/15	10:30 Eastern		Water			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: 1700	Date/Time: 5/1/15	Company TAP	Received by:	Date/Time: 5/2/15 0940	Company TAL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Part # 159469-434 RIT 02/15
ORIGIN ID:AGCA (412) 963-7058
SAMPLE RECEIVING
TEST AMERICA LABORATORIES INC
301 ALPHA DR
PITTSBURGH, PA 152381330
UNITED STATES US
SHIP DATE: 01MAY15
ACTWGT: 30.6 LB MAN
CAD: 741733/CAFE2807
BILL RECIPIENT
TO SHIPPING/RECEIVING
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: S180-23945
FedEx
Express
TRK# 0201 5682 3725 7659
SATURDAY 12:00P
PRIORITY OVERNIGHT
XO BTVA
05403
VT-US BTV

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-197579.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43250-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 5/12/2015			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_GC/3510C_14d Organotins (GC/FPD) dissolved	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
TS-3SB-SET (180-43250-23)	4/30/15	10:30 Eastern		Water			X	1	
TS-3NT-SET (180-43250-24)	4/30/15	11:00 Eastern		Water			X	1	
TS-3NB-SET (180-43250-25)	4/30/15	11:30 Eastern		Water			X	1	
TS-4ST-SET (180-43250-26)	4/30/15	12:00 Eastern		Water			X	1	
TS-4SB-SET (180-43250-27)	4/30/15	12:30 Eastern		Water			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature] MCO	4/30/15	TAP	[signature]	5/4/15 0820	TAPUR
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Part # 158469-434 RIT 02/15
ORIGIN ID:AGCA (412) 963-7058
SAMPLE RECEIVING
TEST AMERICA LABORATORIES INC
301 ALPHA DR
PITTSBURGH, PA 152381330
UNITED STATES US
SHIP DATE: 30
ACTWGT: 23.1
CAD: 741733/
BILL RECIPIEN
TO SHIPPING/RECEIVING
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: S180-23913
dEx
Express
FRI - 01 MAY
PRIORITY OVE
TRK# 0201 5682 3725 7626
XH BTVA
5403
BTV
IT - US

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-197392.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43250-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 5/12/2015			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_P_E/Filtration_AC Total Phosphorus as P dissolved	SM4500Norg_C/Filtration_AC Nitrogen-Total Kjeldahl dissolved	CB39	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
TS-1-SET (180-43250-16)	4/28/15	10:00 Eastern		Water			X	X	250	1	
TS-2ST-SET (180-43250-17)	4/28/15	10:30 Eastern		Water			X	X		1	
TS-2SB-SET (180-43250-18)	4/28/15	11:00 Eastern		Water			X	X		1	
TS-2MT-SET (180-43250-19)	4/28/15	11:30 Eastern		Water			X	X		1	
TS-2NT-SET (180-43250-20)	4/28/15	11:45 Eastern		Water			X	X		1	
TS-2NB-SET (180-43250-21)	4/28/15	12:15 Eastern		Water			X	X		1	
TS-2NB-SET (180-43250-21MS)	4/28/15	12:15 Eastern	MS	Water			X	X	3x250	1	
TS-2NB-SET (180-43250-21MSD)	4/28/15	12:15 Eastern	MSD	Water			X	X		1	
TS-3ST-SET (180-43250-22)	4/28/15	12:45 Eastern		Water			X	X	250	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4/28/15			4/30/15 1030	TA Can
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 180-43250

Client TA PitT Site Name

Cooler unpacked by: Terry Burns

Cooler Received on 4/30/15 Opened on 4/30/15

FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # Foam Box Client Cooler Box Other Multiple

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

~~IR GUN# A (CF +4.0 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C ☒ See Multiple Cooler Form

~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity Yes (No)
   -Were custody seals on the outside of the cooler(s) signed & dated? Yes No (NA)
   -Were custody seals on the bottle(s)? Yes (No)
3. Shippers' packing slip attached to the cooler(s)? (Yes) No TB
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the sampler(s) clearly identified on the COC? Yes (No)
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels be reconciled with the COC? (Yes) No
9. Were correct bottle(s) used for the test(s) indicated? (Yes) No
10. Sufficient quantity received to perform indicated analyses? (Yes) No
11. Were sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# HC432654
12. Were VOAs on the COC? Yes (No)
13. Were air bubbles >6 mm in any VOA vials? Yes No (NA)
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # Yes (No)

Contacted PM Date by via Verbal Voice Mail Other

Concerning

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: TB

15. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

TestAmerica Multiple Cooler Receipt Form/Narrative Login # : 180-43250
Canton Facility

Cooler #	IR Gun #	Observed Temp °C	Corrected Temp °C	Coolant
Client	4	2.4	2.9	ICE
↓	↓	2.2	2.7	↓

C:\Users\livengoodc\AppData\Local\Microsoft\Windows\Temporary Internet Files\OLKD16\WI-NC-099-031813 Cooler Receipt Form_page 2 - Multiple Coolers.doc
Revision 3, 3/18/13 rls

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

2.2 | C2.7
2.6 | C3.1

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-197580.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-43250-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 5/12/2015			Preservation Codes:
City: North Canton	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify) Other:
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_P_E/Filtration_AC Total Phosphorus as P dissolved	SM4500Norg_C/Filtration_AC Nitrogen-Total Kjeldahl dissolved	Total Number of containers	Special Instructions/Note:
			Preservation Code:							C131
TS-3SB-SET (180-43250-23)	4/30/15	10:30 Eastern		Water			X	X	1	
TS-3NT-SET (180-43250-24)	4/30/15	11:00 Eastern		Water			X	X	1	
TS-3NB-SET (180-43250-25)	4/30/15	11:30 Eastern		Water			X	X	1	
TS-4ST-SET (180-43250-26)	4/30/15	12:00 Eastern		Water			X	X	1	
TS-4SB-SET (180-43250-27)	4/30/15	12:30 Eastern		Water			X	X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature] 1700	4/30/15	TAP	[signature]	5/1/15 930	TAP
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative Login # : _____
Canton Facility

Client TA P.H Site Name _____ Cooler unpacked by:

Cooler Received on 5/1/15 Opened on 5/1/15

FedEx: 1st Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box (Other) Mer

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

~~IR GUN# A (CF +4.0 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C~~

IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C ☒ See Multiple Cooler Form

~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C~~

IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1-each (Yes) No
   -Were custody seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   -Were custody seals on the bottle(s)? Yes (No)
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the sampler(s) clearly identified on the COC? Yes (No)
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels be reconciled with the COC? (Yes) No
9. Were correct bottle(s) used for the test(s) indicated? (Yes) No
10. Sufficient quantity received to perform indicated analyses? (Yes) No
11. Were sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# HC432654
12. Were VOAs on the COC? Yes (No)
13. Were air bubbles >6 mm in any VOA vials? Yes No (NA)
14. Was a trip blank present in the cooler(s)? Trip Blank Lot #_____ Yes (No)

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other
Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

15. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

TestAmerica Multiple Cooler Receipt Form/Narrative Login # :_____
Canton Facility

Cooler #	IR Gun #	Observed Temp °C	Corrected Temp °C	Coolant
Client	4	2.2	2.7	Ice
↓	↓	2.6	3.1	↓

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:

Log In #: 180-43250	Method: Organotins
Client: EA Engineering	LAB IDs: 180-43250 - 28-30

Samples associated with this log-in were placed into storage on 5/2/2015 (Date) 1500 (Time[2]) by: Joel Atherton

Sample Custodian Signature

Storage Location: WT3 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: ☒ Refrigeration ☐ Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
X		180-43250 28-30	5/11/15	0430	X					Lab
X		" "	"	"			X			WI
	X	" "	"	1500	X					Lab
	✓	"	5/12/15	12 ish		✓				GC lab
	✓	"	5/12/15	1300			✓			GC Storage

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:

Log In #: 180-43250	Method: ORGANOTINS_GC/3510_14D Organotins (GC/FPD) Dissolved
Client: EA ENGINEERING	LAB IDs: 180-43250-23 to 27

Samples associated with this log-in were placed into storage on 5/4/2015 (Date) 1035 (Time[2]) by:Ken Goodrich

Sample Custodian Signature

Storage Location: WK5 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: Refrigeration ☐ Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
x		180-43250 23-27	5/11/15	0930	x					Lab
x		" "	"	"			x			WI
	x	" "	"	1500	x					Lab
	✓	"	5/12/15	1220		✓				GC Lab
	✓	"	5/12/15	1300			✓			GC Lab

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:	
Log In #: 180-43250	Method: ORGANOTINS
Client: EA ENGINEERING	LAB IDs: 180-43250 16-22

Samples associated with this log-in were placed into storage on 4/30/15 1630 by: _____
(Date) *(Time[2])* *Sample Custodian Signature*

Storage Location: WBB1 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: ☒ Refrigeration ☐ Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
X		180-43250 16-22	5/1/15	0845	X					Lab
X		"	"	" 0845 5/1/15			X			WI
	X	"	"	1550	X		✓			~~Lab~~ Storage
	✓	"	5515	200		✓				GC (4)
	✓	"	5515	300			✓			G – Storage

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-43799-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/10/2015 4:41 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/10/2015
Revision: 1

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
H	Sample was prepped or analyzed beyond the specified holding time
X	Surrogate is outside control limits
*	LCS or LCSD is outside acceptance limits.
cn	Refer to Case Narrative for further detail

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-43799-1 REVISED

NOTE: This report has been revised to include Manganese per EA Engineering's request.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 05/06/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.2 C.

SEMIVOLATILES
Naphthalene was detected in method blank MB 180-141164/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

PESTICIDES
The following sample was prepared outside of preparation holding time due to and extraction error. The sample was extracted 1 day out of holding time: EQB-GRAB (180-43799-1). This sample had several surrogates recover outside QC limits. One surrogate recovered within QC limits. All data was reported.

PCB CONGENERS
The following sample was diluted to bring the concentration of target analytes within the calibration range: EQB-GRAB (180-43799-1). Elevated reporting limits (RLs) are provided.

The continuing calibration verification (CCV) associated with batch 141926 recovered above the upper control limit for several congener compounds. The samples associated with this CCV were non-detects or at estimated levels for the affected analytes; therefore, the data have been reported. The following samples are impacted: EQB-GRAB (180-43799-1), (LCS 180-140931/2-A), (LCSD 180-140931/3-A) and (MB 180-140931/1-A).

ORGANOPHOSPHORUS PESTICIDES
Sample EQB-GRAB (180-43799-1) was analyzed multiple times; each time Fensulfothion failed slightly low. The results were reported as is with this narration.

BUTYLTINS
The samples in this delivery group were analyzed for alkyltins. The samples were analyzed using an internal standard method of analysis with tetra-n-propyltin as the internal standard. Peak areas were used to measure the instrument response in performing calibration and quantification. The analytical report forms correctly list the alkyltin analytes as unsubstituted alkyltin compounds. The analysis of three of the compounds employed the use of alkyltin chlorides. The results from the alkyltin chlorides required conversion factors to reflect the concentrations of the unsubstituted forms. For instance, tributyltin chloride was converted to tributyltin using a conversion factor of 0.89. Dibutyltin dichloride was converted to dibutyltin using a factor of 0.77. Monobutyltin trichloride was converted to monobutyltin using a factor of 0.62 and the surrogate, tripentyltin chloride was converted to tripentyltin using a factor of 0.90.

Monobutyltin has poor extraction efficiency exhibiting a mean recovery of typically less than 5%. The low mean recovery is typical of routine implementation of this method. Although the laboratory has reported control limits of 10-48% for this analyte these control limits are not based on historical performance and do not indicate expected performance of this analyte by this method. The laboratory does not use the recovery or performance of this compound as a basis for acceptance of the analytical batch. All analytical results, both positive and non-detects are considered qualitative values and are flagged with a cn qualifier. EQB-GRAB (180-43799-1) and (LCS 200-88087/2-A)

Monobutyltin failed the recovery criteria low for LCS 200-88087/2-A.

METALS
Sodium was detected in method blank MB 180-140872/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

GENERAL CHEMISTRY
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SUBCONTRACT WORK
Method 1613 B Dioxins/Furans + TEQs (EA criteria): This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43799-1

Client Sample ID: EQB-GRAB

Lab Sample ID: 180-43799-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	8.5		1.9	0.41	ug/L	1		8270D LL	Total/NA
Butyl benzyl phthalate	0.32	J	0.93	0.20	ug/L	1		8270D LL	Total/NA
delta-BHC	0.0015	H p	0.0012	0.00036	ug/L	1		8081B_LL	Total/NA
2,4'-DDE	0.00020	J H p	0.0012	0.00014	ug/L	1		8081B_LL	Total/NA
PCB-28	0.62	J p	0.94	0.22	ng/L	1		8082A	Total/NA
PCB-44	0.081	J p	0.94	0.073	ng/L	1		8082A	Total/NA
PCB-101	0.91	J	0.94	0.14	ng/L	1		8082A	Total/NA
PCB-170	0.12	J p	0.94	0.11	ng/L	1		8082A	Total/NA
PCB-52 - DL	44		1.9	0.29	ng/L	2		8082A	Total/NA
Aluminum	92		30	2.6	ug/L	1		6020A	Total Recoverable
Barium	4.5	J	10	0.098	ug/L	1		6020A	Total Recoverable
Calcium	650		500	2.8	ug/L	1		6020A	Total Recoverable
Chromium	7.8		2.0	0.54	ug/L	1		6020A	Total Recoverable
Cobalt	0.31	J	0.50	0.026	ug/L	1		6020A	Total Recoverable
Copper	4.3		2.0	0.24	ug/L	1		6020A	Total Recoverable
Iron	310		50	6.1	ug/L	1		6020A	Total Recoverable
Potassium	70	J	500	5.8	ug/L	1		6020A	Total Recoverable
Magnesium	190	J	500	1.2	ug/L	1		6020A	Total Recoverable
Sodium	190	J B	500	3.8	ug/L	1		6020A	Total Recoverable
Nickel	7.5		1.0	0.17	ug/L	1		6020A	Total Recoverable
Lead	480		1.0	0.019	ug/L	1		6020A	Total Recoverable
Antimony	1.5	J	2.0	0.019	ug/L	1		6020A	Total Recoverable
Thallium	0.019	J	1.0	0.015	ug/L	1		6020A	Total Recoverable
Vanadium	0.55	J	1.0	0.082	ug/L	1		6020A	Total Recoverable
Zinc	20		5.0	0.96	ug/L	1		6020A	Total Recoverable
Manganese	26		5.0	0.039	ug/L	1		6020A	Total Recoverable
Nitrate Nitrite as N	0.41		0.10	0.022	mg/L	1		353.2	Total/NA
Sulfide	1.0	J	3.0	0.59	mg/L	1		9034	Total/NA
Total Organic Carbon - Duplicates	0.66	J	1.0	0.19	mg/L	1		SM 5310C	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: EQB-GRAB
Date Collected: 05/05/15 16:30
Date Received: 05/06/15 10:00

Lab Sample ID: 180-43799-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		19	4.4	ug/L		05/11/15 10:44	05/20/15 08:41	1
1,2-Dichlorobenzene	ND		0.93	0.10	ug/L		05/11/15 10:44	05/20/15 08:41	1
1,3-Dichlorobenzene	ND		0.93	0.070	ug/L		05/11/15 10:44	05/20/15 08:41	1
1,4-Dichlorobenzene	ND		0.93	0.15	ug/L		05/11/15 10:44	05/20/15 08:41	1
Benzoic acid	ND		4.6	1.5	ug/L		05/11/15 10:44	05/20/15 08:41	1
Bis(2-chloroethyl)ether	ND		0.93	0.029	ug/L		05/11/15 10:44	05/20/15 08:41	1
Bis(2-chloroethoxy)methane	ND		0.93	0.12	ug/L		05/11/15 10:44	05/20/15 08:41	1
Bis(2-ethylhexyl) phthalate	**8.5**		1.9	0.41	ug/L		05/11/15 10:44	05/20/15 08:41	1
4-Bromophenyl phenyl ether	ND		0.93	0.11	ug/L		05/11/15 10:44	05/20/15 08:41	1
Butyl benzyl phthalate	**0.32**	**J**	0.93	0.20	ug/L		05/11/15 10:44	05/20/15 08:41	1
4-Chloro-3-methylphenol	ND		0.93	0.16	ug/L		05/11/15 10:44	05/20/15 08:41	1
2-Chloronaphthalene	ND		0.19	0.028	ug/L		05/11/15 10:44	05/20/15 08:41	1
2-Chlorophenol	ND		0.93	0.21	ug/L		05/11/15 10:44	05/20/15 08:41	1
4-Chlorophenyl phenyl ether	ND		0.93	0.074	ug/L		05/11/15 10:44	05/20/15 08:41	1
Di-n-butyl phthalate	ND		0.93	0.22	ug/L		05/11/15 10:44	05/20/15 08:41	1
3,3'-Dichlorobenzidine	ND		0.93	0.14	ug/L		05/11/15 10:44	05/20/15 08:41	1
2,4-Dichlorophenol	ND		0.93	0.062	ug/L		05/11/15 10:44	05/20/15 08:41	1
Diethyl phthalate	ND		0.93	0.27	ug/L		05/11/15 10:44	05/20/15 08:41	1
4,6-Dinitro-2-methylphenol	ND		4.6	1.4	ug/L		05/11/15 10:44	05/20/15 08:41	1
2,4-Dimethylphenol	ND		0.93	0.16	ug/L		05/11/15 10:44	05/20/15 08:41	1
Dimethyl phthalate	ND		0.93	0.17	ug/L		05/11/15 10:44	05/20/15 08:41	1
2,4-Dinitrophenol	ND		4.6	2.3	ug/L		05/11/15 10:44	05/20/15 08:41	1
2,4-Dinitrotoluene	ND		0.93	0.20	ug/L		05/11/15 10:44	05/20/15 08:41	1
2,6-Dinitrotoluene	ND		0.93	0.13	ug/L		05/11/15 10:44	05/20/15 08:41	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.93	0.11	ug/L		05/11/15 10:44	05/20/15 08:41	1
Di-n-octyl phthalate	ND		0.93	0.19	ug/L		05/11/15 10:44	05/20/15 08:41	1
Hexachlorobenzene	ND		0.93	0.056	ug/L		05/11/15 10:44	05/20/15 08:41	1
Hexachlorobutadiene	ND		0.93	0.087	ug/L		05/11/15 10:44	05/20/15 08:41	1
Hexachloroethane	ND		0.93	0.13	ug/L		05/11/15 10:44	05/20/15 08:41	1
Hexachlorocyclopentadiene	ND		0.93	0.13	ug/L		05/11/15 10:44	05/20/15 08:41	1
Isophorone	ND		0.93	0.068	ug/L		05/11/15 10:44	05/20/15 08:41	1
2-Methylphenol	ND		0.93	0.17	ug/L		05/11/15 10:44	05/20/15 08:41	1
Methylphenol, 3 & 4	ND		0.93	0.19	ug/L		05/11/15 10:44	05/20/15 08:41	1
Nitrobenzene	ND		1.9	0.14	ug/L		05/11/15 10:44	05/20/15 08:41	1
2-Nitrophenol	ND		0.93	0.10	ug/L		05/11/15 10:44	05/20/15 08:41	1
4-Nitrophenol	ND		4.6	0.74	ug/L		05/11/15 10:44	05/20/15 08:41	1
N-Nitrosodiphenylamine	ND		0.93	0.11	ug/L		05/11/15 10:44	05/20/15 08:41	1
N-Nitrosodimethylamine	ND		0.93	0.11	ug/L		05/11/15 10:44	05/20/15 08:41	1
N-Nitrosodi-n-propylamine	ND		0.93	0.046	ug/L		05/11/15 10:44	05/20/15 08:41	1
2,2'-oxybis[1-chloropropane]	ND		0.93	0.022	ug/L		05/11/15 10:44	05/20/15 08:41	1
Pentachlorophenol	ND		0.93	0.46	ug/L		05/11/15 10:44	05/20/15 08:41	1
Phenol	ND		0.93	0.051	ug/L		05/11/15 10:44	05/20/15 08:41	1
1,2,4-Trichlorobenzene	ND		0.93	0.079	ug/L		05/11/15 10:44	05/20/15 08:41	1
2,4,6-Trichlorophenol	ND		0.93	0.28	ug/L		05/11/15 10:44	05/20/15 08:41	1
2-Methylnaphthalene	ND		0.19	0.018	ug/L		05/11/15 10:44	05/20/15 08:41	1
1-Methylnaphthalene	ND		0.19	0.029	ug/L		05/11/15 10:44	05/20/15 08:41	1
Naphthalene	ND		0.19	0.021	ug/L		05/11/15 10:44	05/20/15 08:41	1
Acenaphthylene	ND		0.19	0.020	ug/L		05/11/15 10:44	05/20/15 08:41	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: EQB-GRAB
Date Collected: 05/05/15 16:30
Date Received: 05/06/15 10:00

Lab Sample ID: 180-43799-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.027	ug/L		05/11/15 10:44	05/20/15 08:41	1
Fluorene	ND		0.19	0.022	ug/L		05/11/15 10:44	05/20/15 08:41	1
Phenanthrene	ND		0.19	0.038	ug/L		05/11/15 10:44	05/20/15 08:41	1
Anthracene	ND		0.19	0.018	ug/L		05/11/15 10:44	05/20/15 08:41	1
Fluoranthene	ND		0.19	0.020	ug/L		05/11/15 10:44	05/20/15 08:41	1
Pyrene	ND		0.19	0.021	ug/L		05/11/15 10:44	05/20/15 08:41	1
Benzo[a]anthracene	ND		0.19	0.034	ug/L		05/11/15 10:44	05/20/15 08:41	1
Chrysene	ND		0.19	0.029	ug/L		05/11/15 10:44	05/20/15 08:41	1
Benzo[b]fluoranthene	ND		0.19	0.045	ug/L		05/11/15 10:44	05/20/15 08:41	1
Benzo[k]fluoranthene	ND		0.19	0.028	ug/L		05/11/15 10:44	05/20/15 08:41	1
Benzo[a]pyrene	ND		0.19	0.026	ug/L		05/11/15 10:44	05/20/15 08:41	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.040	ug/L		05/11/15 10:44	05/20/15 08:41	1
Dibenz(a,h)anthracene	ND		0.19	0.025	ug/L		05/11/15 10:44	05/20/15 08:41	1
Benzo[g,h,i]perylene	ND		0.19	0.027	ug/L		05/11/15 10:44	05/20/15 08:41	1
Benzyl alcohol	ND		0.93	0.18	ug/L		05/11/15 10:44	05/20/15 08:41	1
Dibenzofuran	ND		0.93	0.089	ug/L		05/11/15 10:44	05/20/15 08:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*56*		*28 - 109*	*05/11/15 10:44*	*05/20/15 08:41*	*1*
2-Fluorophenol (Surr)	*45*		*20 - 105*	*05/11/15 10:44*	*05/20/15 08:41*	*1*
2,4,6-Tribromophenol (Surr)	*56*		*30 - 118*	*05/11/15 10:44*	*05/20/15 08:41*	*1*
Nitrobenzene-d5 (Surr)	*55*		*27 - 114*	*05/11/15 10:44*	*05/20/15 08:41*	*1*
Phenol-d5 (Surr)	*55*		*25 - 105*	*05/11/15 10:44*	*05/20/15 08:41*	*1*
Terphenyl-d14 (Surr)	*73*		*20 - 118*	*05/11/15 10:44*	*05/20/15 08:41*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: EQB-GRAB
Date Collected: 05/05/15 16:30
Date Received: 05/06/15 10:00

Lab Sample ID: 180-43799-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND	H	0.0012	0.00079	ug/L		05/13/15 15:10	05/23/15 12:58	1
alpha-BHC	ND	H	0.0012	0.00063	ug/L		05/13/15 15:10	05/23/15 12:58	1
beta-BHC	ND	H	0.0012	0.00095	ug/L		05/13/15 15:10	05/23/15 12:58	1
delta-BHC	**0.0015**	**H p**	0.0012	0.00036	ug/L		05/13/15 15:10	05/23/15 12:58	1
gamma-BHC (Lindane)	ND	H	0.0012	0.00076	ug/L		05/13/15 15:10	05/23/15 12:58	1
Chlordane (technical)	ND	H	0.012	0.0016	ug/L		05/13/15 15:10	05/23/15 12:58	1
DCPA	ND	H	0.0024	0.00032	ug/L		05/13/15 15:10	05/23/15 12:58	1
4,4'-DDD	ND	H	0.0012	0.00064	ug/L		05/13/15 15:10	05/23/15 12:58	1
4,4'-DDE	ND	H	0.0012	0.00075	ug/L		05/13/15 15:10	05/23/15 12:58	1
4,4'-DDT	ND	H	0.0012	0.00070	ug/L		05/13/15 15:10	05/23/15 12:58	1
Dieldrin	ND	H	0.0012	0.00078	ug/L		05/13/15 15:10	05/23/15 12:58	1
Endosulfan I	ND	H	0.0012	0.00090	ug/L		05/13/15 15:10	05/23/15 12:58	1
2,4'-DDD	ND	H	0.0012	0.00015	ug/L		05/13/15 15:10	05/23/15 12:58	1
Endosulfan II	ND	H	0.0012	0.00093	ug/L		05/13/15 15:10	05/23/15 12:58	1
Endosulfan sulfate	ND	H	0.0012	0.00054	ug/L		05/13/15 15:10	05/23/15 12:58	1
2,4'-DDE	**0.00020**	**J H p**	0.0012	0.00014	ug/L		05/13/15 15:10	05/23/15 12:58	1
Endrin	ND	H	0.0012	0.00091	ug/L		05/13/15 15:10	05/23/15 12:58	1
Endrin aldehyde	ND	H	0.0012	0.00086	ug/L		05/13/15 15:10	05/23/15 12:58	1
2,4'-DDT	ND	H	0.0012	0.00021	ug/L		05/13/15 15:10	05/23/15 12:58	1
Heptachlor	ND	H	0.0012	0.00094	ug/L		05/13/15 15:10	05/23/15 12:58	1
Heptachlor epoxide	ND	H	0.0012	0.00092	ug/L		05/13/15 15:10	05/23/15 12:58	1
Methoxychlor	ND	H	0.0024	0.00087	ug/L		05/13/15 15:10	05/23/15 12:58	1
Mirex	ND	H	0.0012	0.00046	ug/L		05/13/15 15:10	05/23/15 12:58	1
Toxaphene	ND	H	0.095	0.018	ug/L		05/13/15 15:10	05/23/15 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*95*		*60 - 111*	*05/13/15 15:10*	*05/23/15 12:58*	*1*
Tetrachloro-m-xylene	*97*		*60 - 111*	*05/13/15 15:10*	*05/23/15 12:58*	*1*
DCB Decachlorobiphenyl (Surr)	*102*		*45 - 122*	*05/13/15 15:10*	*05/23/15 12:58*	*1*
DCB Decachlorobiphenyl (Surr)	*101*		*45 - 122*	*05/13/15 15:10*	*05/23/15 12:58*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: EQB-GRAB
Date Collected: 05/05/15 16:30
Date Received: 05/06/15 10:00

Lab Sample ID: 180-43799-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenside	ND	H	0.0030	0.0014	ug/L		05/13/15 15:10	05/31/15 05:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*123*	*X*	*60 - 111*	*05/13/15 15:10*	*05/31/15 05:32*	*1*
Tetrachloro-m-xylene	*124*	*X*	*60 - 111*	*05/13/15 15:10*	*05/31/15 05:32*	*1*
DCB Decachlorobiphenyl (Surr)	*121*		*45 - 122*	*05/13/15 15:10*	*05/31/15 05:32*	*1*
DCB Decachlorobiphenyl (Surr)	*127*	*X*	*45 - 122*	*05/13/15 15:10*	*05/31/15 05:32*	*1*

Method: 8082A - PCB Congeners (GC)

Client Sample ID: EQB-GRAB
Date Collected: 05/05/15 16:30
Date Received: 05/06/15 10:00

Lab Sample ID: 180-43799-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		0.94	0.30	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-18	ND		0.94	0.18	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-28	**0.62**	**J p**	0.94	0.22	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-44	**0.081**	**J p**	0.94	0.073	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-49	ND		0.94	0.14	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-66	ND		0.94	0.12	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-77	ND		0.94	0.15	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-87	ND		0.94	0.075	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-101	**0.91**	**J**	0.94	0.14	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-105	ND		0.94	0.075	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-118	ND		0.94	0.11	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-126	ND		0.94	0.30	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-128	ND		0.94	0.080	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-138	ND		0.94	0.14	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-153	ND		0.94	0.11	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-156	ND		0.94	0.074	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-169	ND		0.94	0.21	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-170	**0.12**	**J p**	0.94	0.11	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-180	ND		0.94	0.075	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-183	ND		0.94	0.25	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-184	ND		0.94	0.13	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-187	ND		0.94	0.38	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-195	ND		0.94	0.097	ng/L		05/07/15 15:15	05/18/15 18:40	1
PCB-206	ND		0.94	0.16	ng/L		05/07/15 15:15	05/18/15 18:40	1
DCB Decachlorobiphenyl	ND		0.94	0.099	ng/L		05/07/15 15:15	05/18/15 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*97*		*35 - 140*	*05/07/15 15:15*	*05/18/15 18:40*	*1*
Tetrachloro-m-xylene (Surr)	*114*		*35 - 140*	*05/07/15 15:15*	*05/18/15 18:40*	*1*
PCB-205 (Surr)	*101*		*35 - 140*	*05/07/15 15:15*	*05/18/15 18:40*	*1*
PCB-205 (Surr)	*100*		*35 - 140*	*05/07/15 15:15*	*05/18/15 18:40*	*1*

Method: 8082A - PCB Congeners (GC) - DL

Client Sample ID: EQB-GRAB
Date Collected: 05/05/15 16:30
Date Received: 05/06/15 10:00

Lab Sample ID: 180-43799-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-52	**44**		1.9	0.29	ng/L		05/07/15 15:15	05/21/15 18:11	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*112*		*35 - 140*	*05/07/15 15:15*	*05/21/15 18:11*	*2*
Tetrachloro-m-xylene (Surr)	*126*		*35 - 140*	*05/07/15 15:15*	*05/21/15 18:11*	*2*
PCB-205 (Surr)	*103*		*35 - 140*	*05/07/15 15:15*	*05/21/15 18:11*	*2*
PCB-205 (Surr)	*115*		*35 - 140*	*05/07/15 15:15*	*05/21/15 18:11*	*2*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Client Sample ID: EQB-GRAB
Date Collected: 05/05/15 16:30
Date Received: 05/06/15 10:00

Lab Sample ID: 180-43799-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.94	0.11	ug/L		05/07/15 13:45	05/12/15 11:59	1
Demeton, Total	ND		1.9	0.16	ug/L		05/07/15 13:45	05/12/15 11:59	1
Malathion	ND		0.94	0.10	ug/L		05/07/15 13:45	05/12/15 11:59	1
Methyl parathion	ND		0.94	0.10	ug/L		05/07/15 13:45	05/12/15 11:59	1
Parathion	ND		0.94	0.15	ug/L		05/07/15 13:45	05/12/15 11:59	1
Bolstar	ND		0.94	0.10	ug/L		05/07/15 13:45	05/12/15 11:59	1
Chlorpyrifos	ND		0.94	0.096	ug/L		05/07/15 13:45	05/12/15 11:59	1
Coumaphos	ND		0.94	0.14	ug/L		05/07/15 13:45	05/12/15 11:59	1
Diazinon	ND		0.94	0.089	ug/L		05/07/15 13:45	05/12/15 11:59	1
Dichlorvos	ND		0.94	0.080	ug/L		05/07/15 13:45	05/12/15 11:59	1
Dimethoate	ND		0.94	0.11	ug/L		05/07/15 13:45	05/12/15 11:59	1
Disulfoton	ND		0.94	0.095	ug/L		05/07/15 13:45	05/12/15 11:59	1
EPN	ND		0.94	0.11	ug/L		05/07/15 13:45	05/12/15 11:59	1
Mocap	ND		0.94	0.095	ug/L		05/07/15 13:45	05/12/15 11:59	1
Famphur	ND		0.94	0.12	ug/L		05/07/15 13:45	05/12/15 11:59	1
Fensulfothion	ND		0.94	0.16	ug/L		05/07/15 13:45	05/13/15 15:44	1
Fenthion	ND		0.94	0.080	ug/L		05/07/15 13:45	05/12/15 11:59	1
Mevinphos	ND		0.94	0.092	ug/L		05/07/15 13:45	05/12/15 11:59	1
Phorate	ND		0.94	0.087	ug/L		05/07/15 13:45	05/12/15 11:59	1
Ronnel	ND		0.94	0.097	ug/L		05/07/15 13:45	05/12/15 11:59	1
Stirophos	ND		0.94	0.090	ug/L		05/07/15 13:45	05/12/15 11:59	1
Sulfotepp	ND		0.94	0.089	ug/L		05/07/15 13:45	05/12/15 11:59	1
Thionazin	ND		0.94	0.095	ug/L		05/07/15 13:45	05/12/15 11:59	1
Tokuthion	ND		0.94	0.088	ug/L		05/07/15 13:45	05/12/15 11:59	1
Trichloronate	ND		0.94	0.094	ug/L		05/07/15 13:45	05/12/15 11:59	1
O,O,O-Triethyl phosphorothioate	ND		0.94	0.094	ug/L		05/07/15 13:45	05/12/15 11:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*84*		*49 - 122*	*05/07/15 13:45*	*05/12/15 11:59*	*1*
Tributyl phosphate	*77*		*49 - 122*	*05/07/15 13:45*	*05/12/15 11:59*	*1*
Tributyl phosphate	*96*		*49 - 122*	*05/07/15 13:45*	*05/13/15 15:44*	*1*
Tributyl phosphate	*89*		*49 - 122*	*05/07/15 13:45*	*05/13/15 15:44*	*1*
Triphenylphosphate	*91*		*45 - 145*	*05/07/15 13:45*	*05/12/15 11:59*	*1*
Triphenylphosphate	*94*		*45 - 145*	*05/07/15 13:45*	*05/12/15 11:59*	*1*
Triphenylphosphate	*104*		*45 - 145*	*05/07/15 13:45*	*05/13/15 15:44*	*1*
Triphenylphosphate	*108*		*45 - 145*	*05/07/15 13:45*	*05/13/15 15:44*	*1*

Method: Organotins/GC - Organotins (GC/FPD)

Client Sample ID: EQB-GRAB
Date Collected: 05/05/15 16:30
Date Received: 05/06/15 10:00

Lab Sample ID: 180-43799-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.049	0.049	ug/L		05/11/15 09:25	05/12/15 17:02	1
Tributyltin	ND		0.044	0.044	ug/L		05/11/15 09:25	05/12/15 17:02	1
Dibutyltin	ND		0.038	0.038	ug/L		05/11/15 09:25	05/12/15 17:02	1
Monobutyltin	ND	* cn	0.60	0.60	ug/L		05/11/15 09:25	05/12/15 17:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*70*		*15 - 150*	*05/11/15 09:25*	*05/12/15 17:02*	*1*
Tripentyltin	*67*		*15 - 150*	*05/11/15 09:25*	*05/12/15 17:02*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: EQB-GRAB
Date Collected: 05/05/15 16:30
Date Received: 05/06/15 10:00

Lab Sample ID: 180-43799-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**92**		30	2.6	ug/L		05/07/15 10:58	05/20/15 00:39	1
Arsenic	ND		1.0	0.29	ug/L		05/07/15 10:58	05/20/15 00:39	1
Barium	**4.5**	**J**	10	0.098	ug/L		05/07/15 10:58	05/20/15 00:39	1
Beryllium	ND		1.0	0.037	ug/L		05/07/15 10:58	05/20/15 00:39	1
Cadmium	ND		1.0	0.11	ug/L		05/07/15 10:58	05/20/15 00:39	1
Calcium	**650**		500	2.8	ug/L		05/07/15 10:58	05/20/15 00:39	1
Chromium	**7.8**		2.0	0.54	ug/L		05/07/15 10:58	05/20/15 00:39	1
Cobalt	**0.31**	**J**	0.50	0.026	ug/L		05/07/15 10:58	05/20/15 00:39	1
Copper	**4.3**		2.0	0.24	ug/L		05/07/15 10:58	05/20/15 00:39	1
Iron	**310**		50	6.1	ug/L		05/07/15 10:58	05/20/15 00:39	1
Silver	ND		1.0	0.036	ug/L		05/07/15 10:58	05/20/15 00:39	1
Potassium	**70**	**J**	500	5.8	ug/L		05/07/15 10:58	05/20/15 00:39	1
Magnesium	**190**	**J**	500	1.2	ug/L		05/07/15 10:58	05/20/15 00:39	1
Sodium	**190**	**J B**	500	3.8	ug/L		05/07/15 10:58	05/20/15 00:39	1
Nickel	**7.5**		1.0	0.17	ug/L		05/07/15 10:58	05/20/15 00:39	1
Lead	**480**		1.0	0.019	ug/L		05/07/15 10:58	05/20/15 00:39	1
Antimony	**1.5**	**J**	2.0	0.019	ug/L		05/07/15 10:58	05/20/15 00:39	1
Selenium	ND		5.0	0.42	ug/L		05/07/15 10:58	05/20/15 00:39	1
Thallium	**0.019**	**J**	1.0	0.015	ug/L		05/07/15 10:58	05/20/15 00:39	1
Vanadium	**0.55**	**J**	1.0	0.082	ug/L		05/07/15 10:58	05/20/15 00:39	1
Zinc	**20**		5.0	0.96	ug/L		05/07/15 10:58	05/20/15 00:39	1
Manganese	**26**		5.0	0.039	ug/L		05/07/15 10:58	05/20/15 00:39	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: EQB-GRAB
Date Collected: 05/05/15 16:30
Date Received: 05/06/15 10:00

Lab Sample ID: 180-43799-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/27/15 12:26	05/28/15 12:46	1

General Chemistry

Client Sample ID: EQB-GRAB
Date Collected: 05/05/15 16:30
Date Received: 05/06/15 10:00

Lab Sample ID: 180-43799-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		0.10	0.086	mg/L		05/29/15 14:32	05/29/15 17:38	1
Nitrate Nitrite as N	**0.41**		0.10	0.022	mg/L			05/20/15 12:20	1
Cyanide, Total	ND		10	2.5	ug/L		05/15/15 08:15	05/15/15 12:13	1
Sulfide	**1.0**	**J**	3.0	0.59	mg/L		05/08/15 15:00	05/08/15 18:50	1
Total Organic Carbon - Duplicates	**0.66**	**J**	1.0	0.19	mg/L			05/07/15 21:15	1
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/19/15 05:18	05/19/15 11:06	1
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		05/11/15 13:45	05/12/15 14:56	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
1,2,4-Trichlorobenzene	1.0	0.085	ug/L	8270D LL
1,2-Dichlorobenzene	1.0	0.11	ug/L	8270D LL
1,2-Diphenylhydrazine(as Azobenzene)	1.0	0.12	ug/L	8270D LL
1,3-Dichlorobenzene	1.0	0.075	ug/L	8270D LL
1,4-Dichlorobenzene	1.0	0.16	ug/L	8270D LL
1-Methylnaphthalene	0.20	0.031	ug/L	8270D LL
2,2'-oxybis[1-chloropropane]	1.0	0.024	ug/L	8270D LL
2,4,6-Trichlorophenol	1.0	0.30	ug/L	8270D LL
2,4-Dichlorophenol	1.0	0.067	ug/L	8270D LL
2,4-Dimethylphenol	1.0	0.17	ug/L	8270D LL
2,4-Dinitrophenol	5.0	2.5	ug/L	8270D LL
2,4-Dinitrotoluene	1.0	0.21	ug/L	8270D LL
2,6-Dinitrotoluene	1.0	0.14	ug/L	8270D LL
2-Chloronaphthalene	0.20	0.031	ug/L	8270D LL
2-Chlorophenol	1.0	0.23	ug/L	8270D LL
2-Methylnaphthalene	0.20	0.019	ug/L	8270D LL
2-Methylphenol	1.0	0.19	ug/L	8270D LL
2-Nitrophenol	1.0	0.11	ug/L	8270D LL
3,3'-Dichlorobenzidine	1.0	0.15	ug/L	8270D LL
4,6-Dinitro-2-methylphenol	5.0	1.6	ug/L	8270D LL
4-Bromophenyl phenyl ether	1.0	0.12	ug/L	8270D LL
4-Chloro-3-methylphenol	1.0	0.17	ug/L	8270D LL
4-Chlorophenyl phenyl ether	1.0	0.080	ug/L	8270D LL
4-Nitrophenol	5.0	0.80	ug/L	8270D LL
Acenaphthene	0.20	0.029	ug/L	8270D LL
Acenaphthylene	0.20	0.022	ug/L	8270D LL
Anthracene	0.20	0.019	ug/L	8270D LL
Benzidine	20	4.7	ug/L	8270D LL
Benzo[a]anthracene	0.20	0.037	ug/L	8270D LL
Benzo[a]pyrene	0.20	0.028	ug/L	8270D LL
Benzo[b]fluoranthene	0.20	0.049	ug/L	8270D LL
Benzo[g,h,i]perylene	0.20	0.029	ug/L	8270D LL
Benzo[k]fluoranthene	0.20	0.030	ug/L	8270D LL
Benzoic acid	5.0	1.6	ug/L	8270D LL
Benzyl alcohol	1.0	0.20	ug/L	8270D LL
Bis(2-chloroethoxy)methane	1.0	0.13	ug/L	8270D LL
Bis(2-chloroethyl)ether	1.0	0.032	ug/L	8270D LL
Bis(2-ethylhexyl) phthalate	2.0	0.44	ug/L	8270D LL
Butyl benzyl phthalate	1.0	0.21	ug/L	8270D LL
Chrysene	0.20	0.031	ug/L	8270D LL
Dibenz(a,h)anthracene	0.20	0.027	ug/L	8270D LL
Dibenzofuran	1.0	0.097	ug/L	8270D LL
Diethyl phthalate	1.0	0.30	ug/L	8270D LL
Dimethyl phthalate	1.0	0.18	ug/L	8270D LL
Di-n-butyl phthalate	1.0	0.24	ug/L	8270D LL
Di-n-octyl phthalate	1.0	0.20	ug/L	8270D LL
Fluoranthene	0.20	0.021	ug/L	8270D LL
Fluorene	0.20	0.024	ug/L	8270D LL
Hexachlorobenzene	1.0	0.061	ug/L	8270D LL
Hexachlorobutadiene	1.0	0.094	ug/L	8270D LL
Hexachlorocyclopentadiene	1.0	0.14	ug/L	8270D LL
Hexachloroethane	1.0	0.14	ug/L	8270D LL

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	RL	MDL	Units	Method
Indeno[1,2,3-cd]pyrene	0.20	0.043	ug/L	8270D LL
Isophorone	1.0	0.074	ug/L	8270D LL
Methylphenol, 3 & 4	1.0	0.21	ug/L	8270D LL
Naphthalene	0.20	0.023	ug/L	8270D LL
Nitrobenzene	2.0	0.15	ug/L	8270D LL
N-Nitrosodimethylamine	1.0	0.12	ug/L	8270D LL
N-Nitrosodi-n-propylamine	1.0	0.050	ug/L	8270D LL
N-Nitrosodiphenylamine	1.0	0.12	ug/L	8270D LL
Pentachlorophenol	1.0	0.50	ug/L	8270D LL
Phenanthrene	0.20	0.042	ug/L	8270D LL
Phenol	1.0	0.055	ug/L	8270D LL
Pyrene	0.20	0.023	ug/L	8270D LL

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.0013	0.00016	ug/L	8081B_LL
2,4'-DDE	0.0013	0.00015	ug/L	8081B_LL
2,4'-DDT	0.0013	0.00022	ug/L	8081B_LL
4,4'-DDD	0.0013	0.00067	ug/L	8081B_LL
4,4'-DDE	0.0013	0.00079	ug/L	8081B_LL
4,4'-DDT	0.0013	0.00074	ug/L	8081B_LL
Aldrin	0.0013	0.00083	ug/L	8081B_LL
alpha-BHC	0.0013	0.00066	ug/L	8081B_LL
beta-BHC	0.0013	0.0010	ug/L	8081B_LL
Chlordane (technical)	0.013	0.0017	ug/L	8081B_LL
Chlorobenside	0.0032	0.0015	ug/L	8081B_LL
DCPA	0.0025	0.00034	ug/L	8081B_LL
delta-BHC	0.0013	0.00038	ug/L	8081B_LL
Dieldrin	0.0013	0.00082	ug/L	8081B_LL
Endosulfan I	0.0013	0.00094	ug/L	8081B_LL
Endosulfan II	0.0013	0.00098	ug/L	8081B_LL
Endosulfan sulfate	0.0013	0.00057	ug/L	8081B_LL
Endrin	0.0013	0.00096	ug/L	8081B_LL
Endrin aldehyde	0.0013	0.00090	ug/L	8081B_LL
gamma-BHC (Lindane)	0.0013	0.00080	ug/L	8081B_LL
Heptachlor	0.0013	0.00099	ug/L	8081B_LL
Heptachlor epoxide	0.0013	0.00097	ug/L	8081B_LL
Methoxychlor	0.0025	0.00091	ug/L	8081B_LL
Mirex	0.0013	0.00048	ug/L	8081B_LL
Toxaphene	0.10	0.019	ug/L	8081B_LL

Method: 8082A - PCB Congeners (GC)

Analyte	RL	MDL	Units	Method
DCB Decachlorobiphenyl	1.0	0.11	ng/L	8082A
PCB-101	1.0	0.15	ng/L	8082A
PCB-105	1.0	0.079	ng/L	8082A
PCB-118	1.0	0.12	ng/L	8082A
PCB-126	1.0	0.32	ng/L	8082A
PCB-128	1.0	0.085	ng/L	8082A
PCB-138	1.0	0.15	ng/L	8082A

Method: 8082A - PCB Congeners (GC) (Continued)

Analyte	RL	MDL	Units	Method
PCB-153	1.0	0.12	ng/L	8082A
PCB-156	1.0	0.078	ng/L	8082A
PCB-169	1.0	0.22	ng/L	8082A
PCB-170	1.0	0.11	ng/L	8082A
PCB-18	1.0	0.19	ng/L	8082A
PCB-180	1.0	0.080	ng/L	8082A
PCB-183	1.0	0.27	ng/L	8082A
PCB-184	1.0	0.14	ng/L	8082A
PCB-187	1.0	0.40	ng/L	8082A
PCB-195	1.0	0.10	ng/L	8082A
PCB-206	1.0	0.17	ng/L	8082A
PCB-28	1.0	0.23	ng/L	8082A
PCB-44	1.0	0.077	ng/L	8082A
PCB-49	1.0	0.15	ng/L	8082A
PCB-52	1.0	0.15	ng/L	8082A
PCB-66	1.0	0.13	ng/L	8082A
PCB-77	1.0	0.16	ng/L	8082A
PCB-8	1.0	0.32	ng/L	8082A
PCB-87	1.0	0.079	ng/L	8082A

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Tecl

Analyte	RL	MDL	Units	Method
Azinphos-methyl	1.0	0.11	ug/L	8141B
Bolstar	1.0	0.11	ug/L	8141B
Chlorpyrifos	1.0	0.10	ug/L	8141B
Coumaphos	1.0	0.15	ug/L	8141B
Demeton, Total	2.0	0.16	ug/L	8141B
Diazinon	1.0	0.094	ug/L	8141B
Dichlorvos	1.0	0.085	ug/L	8141B
Dimethoate	1.0	0.12	ug/L	8141B
Disulfoton	1.0	0.10	ug/L	8141B
EPN	1.0	0.12	ug/L	8141B
Famphur	1.0	0.12	ug/L	8141B
Fensulfothion	1.0	0.17	ug/L	8141B
Fenthion	1.0	0.085	ug/L	8141B
Malathion	1.0	0.11	ug/L	8141B
Methyl parathion	1.0	0.11	ug/L	8141B
Mevinphos	1.0	0.098	ug/L	8141B
Mocap	1.0	0.10	ug/L	8141B
O,O,O-Triethyl phosphorothioate	1.0	0.10	ug/L	8141B
Parathion	1.0	0.16	ug/L	8141B
Phorate	1.0	0.092	ug/L	8141B
Ronnel	1.0	0.10	ug/L	8141B
Stirophos	1.0	0.096	ug/L	8141B
Sulfotepp	1.0	0.095	ug/L	8141B
Thionazin	1.0	0.10	ug/L	8141B
Tokuthion	1.0	0.094	ug/L	8141B
Trichloronate	1.0	0.099	ug/L	8141B

Method: Organotins/GC - Organotins (GC/FPD)

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43799-1

Method: Organotins/GC - Organotins (GC/FPD)

Analyte	RL	MDL	Units	Method
Dibutyltin	0.039	0.039	ug/L	Organotins/GC
Monobutyltin	0.62	0.62	ug/L	Organotins/GC
Tetrabutyltin	0.050	0.050	ug/L	Organotins/GC
Tributyltin	0.045	0.045	ug/L	Organotins/GC

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	RL	MDL	Units	Method
Aluminum	30	2.6	ug/L	6020A
Antimony	2.0	0.019	ug/L	6020A
Arsenic	1.0	0.29	ug/L	6020A
Barium	10	0.098	ug/L	6020A
Beryllium	1.0	0.037	ug/L	6020A
Cadmium	1.0	0.11	ug/L	6020A
Calcium	500	2.8	ug/L	6020A
Chromium	2.0	0.54	ug/L	6020A
Cobalt	0.50	0.026	ug/L	6020A
Copper	2.0	0.24	ug/L	6020A
Iron	50	6.1	ug/L	6020A
Lead	1.0	0.019	ug/L	6020A
Magnesium	500	1.2	ug/L	6020A
Manganese	5.0	0.039	ug/L	6020A
Nickel	1.0	0.17	ug/L	6020A
Potassium	500	5.8	ug/L	6020A
Selenium	5.0	0.42	ug/L	6020A
Silver	1.0	0.036	ug/L	6020A
Sodium	500	3.8	ug/L	6020A
Thallium	1.0	0.015	ug/L	6020A
Vanadium	1.0	0.082	ug/L	6020A
Zinc	5.0	0.96	ug/L	6020A

Method: 7470A - Mercury (CVAA)

Analyte	RL	MDL	Units	Method
Mercury	0.20	0.078	ug/L	7470A

General Chemistry

Analyte	RL	MDL	Units	Method
Ammonia, distilled	0.10	0.086	mg/L	350.1
Nitrate Nitrite as N	0.10	0.022	mg/L	353.2
Cyanide, Total	10	2.5	ug/L	9014
Sulfide	3.0	0.59	mg/L	9034
Total Organic Carbon - Duplicates	1.0	0.19	mg/L	SM 5310C
Total Phosphorus as P	0.10	0.050	mg/L	SM4500 P E-1999
Nitrogen, Kjeldahl	5.0	1.7	mg/L	SM4500_NH3_E

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43799-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(28-109)	(20-105)	(30-118)	(27-114)	(25-105)	(20-118)
180-43799-1	EQB-GRAB	56	45	56	55	55	73
LCS 180-141164/2-A	Lab Control Sample	71	68	83	71	68	81
LCSD 180-141164/3-A	Lab Control Sample Dup	74	69	87	72	68	84
MB 180-141164/1-A	Method Blank	61	62	59	61	63	80

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(60-111)	(60-111)	(45-122)	(45-122)
180-43799-1	EQB-GRAB	95	97	102	101
180-43799-1 - RA	EQB-GRAB	123 X	124 X	121	127 X
LCS 180-141492/2-A	Lab Control Sample	88	82	93	91
MB 180-141492/1-A	Method Blank	89	90	99	96

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082A - PCB Congeners (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	B-205 (Su	B-205 (Su
Lab Sample ID	Client Sample ID	(35-140)	(35-140)	(35-140)	(35-140)
180-43799-1	EQB-GRAB	97	114	101	100
180-43799-1 - DL	EQB-GRAB	112	126	103	115
LCS 180-140931/2-A	Lab Control Sample	81	80	89	86
LCSD 180-140931/3-A	Lab Control Sample Dup	83	84	92	91
MB 180-140931/1-A	Method Blank	79	80	88	86

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
PCB-205 (Surr) = PCB-205 (Surr)

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-43799-1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TBPH1	TBPH2	TPP1	TPP2
Lab Sample ID	Client Sample ID	(49-122)	(49-122)	(45-145)	(45-145)
180-43799-1	EQB-GRAB	84	77	91	94
180-43799-1	EQB-GRAB	96	89	104	108
LCS 180-140926/2-A	Lab Control Sample	94	113	95	96
LCSD 180-140926/3-A	Lab Control Sample Dup	95	117	96	96
MB 180-140926/1-A	Method Blank	79	72	83	86

Surrogate Legend

TBPH = Tributyl phosphate

TPP = Triphenylphosphate

Method: Organotins/GC - Organotins (GC/FPD)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TPT1	TPT2
Lab Sample ID	Client Sample ID	(15-150)	(15-150)
180-43799-1	EQB-GRAB	70	67
LCS 200-88087/2-A	Lab Control Sample	73	80
MB 200-88087/1-A	Method Blank	66	68

Surrogate Legend

TPT = Tripentyltin

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-141164/1-A
Matrix: Water
Analysis Batch: 142165

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141164

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	ND		20	4.7	ug/L		05/11/15 10:44	05/20/15 02:09	1
1,2-Dichlorobenzene	ND		1.0	0.11	ug/L		05/11/15 10:44	05/20/15 02:09	1
1,3-Dichlorobenzene	ND		1.0	0.075	ug/L		05/11/15 10:44	05/20/15 02:09	1
1,4-Dichlorobenzene	ND		1.0	0.16	ug/L		05/11/15 10:44	05/20/15 02:09	1
Benzoic acid	ND		5.0	1.6	ug/L		05/11/15 10:44	05/20/15 02:09	1
Bis(2-chloroethyl)ether	ND		1.0	0.032	ug/L		05/11/15 10:44	05/20/15 02:09	1
Bis(2-chloroethoxy)methane	ND		1.0	0.13	ug/L		05/11/15 10:44	05/20/15 02:09	1
Bis(2-ethylhexyl) phthalate	ND		2.0	0.44	ug/L		05/11/15 10:44	05/20/15 02:09	1
4-Bromophenyl phenyl ether	ND		1.0	0.12	ug/L		05/11/15 10:44	05/20/15 02:09	1
Butyl benzyl phthalate	ND		1.0	0.21	ug/L		05/11/15 10:44	05/20/15 02:09	1
4-Chloro-3-methylphenol	ND		1.0	0.17	ug/L		05/11/15 10:44	05/20/15 02:09	1
2-Chloronaphthalene	ND		0.20	0.031	ug/L		05/11/15 10:44	05/20/15 02:09	1
2-Chlorophenol	ND		1.0	0.23	ug/L		05/11/15 10:44	05/20/15 02:09	1
4-Chlorophenyl phenyl ether	ND		1.0	0.080	ug/L		05/11/15 10:44	05/20/15 02:09	1
Di-n-butyl phthalate	ND		1.0	0.24	ug/L		05/11/15 10:44	05/20/15 02:09	1
3,3'-Dichlorobenzidine	ND		1.0	0.15	ug/L		05/11/15 10:44	05/20/15 02:09	1
2,4-Dichlorophenol	ND		1.0	0.067	ug/L		05/11/15 10:44	05/20/15 02:09	1
Diethyl phthalate	ND		1.0	0.30	ug/L		05/11/15 10:44	05/20/15 02:09	1
4,6-Dinitro-2-methylphenol	ND		5.0	1.6	ug/L		05/11/15 10:44	05/20/15 02:09	1
2,4-Dimethylphenol	ND		1.0	0.17	ug/L		05/11/15 10:44	05/20/15 02:09	1
Dimethyl phthalate	ND		1.0	0.18	ug/L		05/11/15 10:44	05/20/15 02:09	1
2,4-Dinitrophenol	ND		5.0	2.5	ug/L		05/11/15 10:44	05/20/15 02:09	1
2,4-Dinitrotoluene	ND		1.0	0.21	ug/L		05/11/15 10:44	05/20/15 02:09	1
2,6-Dinitrotoluene	ND		1.0	0.14	ug/L		05/11/15 10:44	05/20/15 02:09	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		1.0	0.12	ug/L		05/11/15 10:44	05/20/15 02:09	1
Di-n-octyl phthalate	ND		1.0	0.20	ug/L		05/11/15 10:44	05/20/15 02:09	1
Hexachlorobenzene	ND		1.0	0.061	ug/L		05/11/15 10:44	05/20/15 02:09	1
Hexachlorobutadiene	ND		1.0	0.094	ug/L		05/11/15 10:44	05/20/15 02:09	1
Hexachloroethane	ND		1.0	0.14	ug/L		05/11/15 10:44	05/20/15 02:09	1
Hexachlorocyclopentadiene	ND		1.0	0.14	ug/L		05/11/15 10:44	05/20/15 02:09	1
Isophorone	ND		1.0	0.074	ug/L		05/11/15 10:44	05/20/15 02:09	1
2-Methylphenol	ND		1.0	0.19	ug/L		05/11/15 10:44	05/20/15 02:09	1
Methylphenol, 3 & 4	ND		1.0	0.21	ug/L		05/11/15 10:44	05/20/15 02:09	1
Nitrobenzene	ND		2.0	0.15	ug/L		05/11/15 10:44	05/20/15 02:09	1
2-Nitrophenol	ND		1.0	0.11	ug/L		05/11/15 10:44	05/20/15 02:09	1
4-Nitrophenol	ND		5.0	0.80	ug/L		05/11/15 10:44	05/20/15 02:09	1
N-Nitrosodiphenylamine	ND		1.0	0.12	ug/L		05/11/15 10:44	05/20/15 02:09	1
N-Nitrosodimethylamine	ND		1.0	0.12	ug/L		05/11/15 10:44	05/20/15 02:09	1
N-Nitrosodi-n-propylamine	ND		1.0	0.050	ug/L		05/11/15 10:44	05/20/15 02:09	1
2,2'-oxybis[1-chloropropane]	ND		1.0	0.024	ug/L		05/11/15 10:44	05/20/15 02:09	1
Pentachlorophenol	ND		1.0	0.50	ug/L		05/11/15 10:44	05/20/15 02:09	1
Phenol	ND		1.0	0.055	ug/L		05/11/15 10:44	05/20/15 02:09	1
1,2,4-Trichlorobenzene	ND		1.0	0.085	ug/L		05/11/15 10:44	05/20/15 02:09	1
2,4,6-Trichlorophenol	ND		1.0	0.30	ug/L		05/11/15 10:44	05/20/15 02:09	1
2-Methylnaphthalene	ND		0.20	0.019	ug/L		05/11/15 10:44	05/20/15 02:09	1
1-Methylnaphthalene	ND		0.20	0.031	ug/L		05/11/15 10:44	05/20/15 02:09	1
Naphthalene	0.0232	J	0.20	0.023	ug/L		05/11/15 10:44	05/20/15 02:09	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-141164/1-A
Matrix: Water
Analysis Batch: 142165

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141164

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		0.20	0.022	ug/L		05/11/15 10:44	05/20/15 02:09	1
Acenaphthene	ND		0.20	0.029	ug/L		05/11/15 10:44	05/20/15 02:09	1
Fluorene	ND		0.20	0.024	ug/L		05/11/15 10:44	05/20/15 02:09	1
Phenanthrene	ND		0.20	0.042	ug/L		05/11/15 10:44	05/20/15 02:09	1
Anthracene	ND		0.20	0.019	ug/L		05/11/15 10:44	05/20/15 02:09	1
Fluoranthene	ND		0.20	0.021	ug/L		05/11/15 10:44	05/20/15 02:09	1
Pyrene	ND		0.20	0.023	ug/L		05/11/15 10:44	05/20/15 02:09	1
Benzo[a]anthracene	ND		0.20	0.037	ug/L		05/11/15 10:44	05/20/15 02:09	1
Chrysene	ND		0.20	0.031	ug/L		05/11/15 10:44	05/20/15 02:09	1
Benzo[b]fluoranthene	ND		0.20	0.049	ug/L		05/11/15 10:44	05/20/15 02:09	1
Benzo[k]fluoranthene	ND		0.20	0.030	ug/L		05/11/15 10:44	05/20/15 02:09	1
Benzo[a]pyrene	ND		0.20	0.028	ug/L		05/11/15 10:44	05/20/15 02:09	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.043	ug/L		05/11/15 10:44	05/20/15 02:09	1
Dibenz(a,h)anthracene	ND		0.20	0.027	ug/L		05/11/15 10:44	05/20/15 02:09	1
Benzo[g,h,i]perylene	ND		0.20	0.029	ug/L		05/11/15 10:44	05/20/15 02:09	1
Benzyl alcohol	ND		1.0	0.20	ug/L		05/11/15 10:44	05/20/15 02:09	1
Dibenzofuran	ND		1.0	0.097	ug/L		05/11/15 10:44	05/20/15 02:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*61*		*28 - 109*	*05/11/15 10:44*	*05/20/15 02:09*	*1*
2-Fluorophenol (Surr)	*62*		*20 - 105*	*05/11/15 10:44*	*05/20/15 02:09*	*1*
2,4,6-Tribromophenol (Surr)	*59*		*30 - 118*	*05/11/15 10:44*	*05/20/15 02:09*	*1*
Nitrobenzene-d5 (Surr)	*61*		*27 - 114*	*05/11/15 10:44*	*05/20/15 02:09*	*1*
Phenol-d5 (Surr)	*63*		*25 - 105*	*05/11/15 10:44*	*05/20/15 02:09*	*1*
Terphenyl-d14 (Surr)	*80*		*20 - 118*	*05/11/15 10:44*	*05/20/15 02:09*	*1*

Lab Sample ID: LCS 180-141164/2-A
Matrix: Water
Analysis Batch: 142165

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141164

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzidine	20.0	8.61	J	ug/L		43	10 - 100
1,2-Dichlorobenzene	20.0	13.1		ug/L		66	40 - 100
1,3-Dichlorobenzene	20.0	13.0		ug/L		65	38 - 100
1,4-Dichlorobenzene	20.0	12.9		ug/L		64	39 - 100
Benzoic acid	20.0	16.4		ug/L		82	14 - 117
Bis(2-chloroethyl)ether	20.0	13.3		ug/L		67	42 - 100
Bis(2-chloroethoxy)methane	20.0	13.8		ug/L		69	45 - 100
Bis(2-ethylhexyl) phthalate	20.0	17.3		ug/L		87	35 - 118
4-Bromophenyl phenyl ether	20.0	16.8		ug/L		84	46 - 100
Butyl benzyl phthalate	20.0	16.9		ug/L		84	45 - 105
4-Chloro-3-methylphenol	20.0	14.6		ug/L		73	47 - 100
2-Chloronaphthalene	20.0	14.4		ug/L		72	42 - 100
2-Chlorophenol	20.0	13.8		ug/L		69	41 - 100
4-Chlorophenyl phenyl ether	20.0	14.8		ug/L		74	48 - 100
Di-n-butyl phthalate	20.0	15.9		ug/L		80	49 - 101
3,3'-Dichlorobenzidine	20.0	15.1		ug/L		75	41 - 100
2,4-Dichlorophenol	20.0	14.9		ug/L		74	45 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-141164/2-A
Matrix: Water
Analysis Batch: 142165

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141164

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diethyl phthalate	20.0	13.7		ug/L		68	48 - 100
4,6-Dinitro-2-methylphenol	40.0	34.9		ug/L		87	46 - 100
2,4-Dimethylphenol	20.0	14.1		ug/L		70	45 - 100
Dimethyl phthalate	20.0	14.9		ug/L		74	49 - 100
2,4-Dinitrophenol	40.0	32.6		ug/L		82	36 - 100
2,4-Dinitrotoluene	20.0	16.4		ug/L		82	49 - 100
2,6-Dinitrotoluene	20.0	15.7		ug/L		78	50 - 100
1,2-Diphenylhydrazine(as Azobenzene)	20.0	15.1		ug/L		76	49 - 100
Di-n-octyl phthalate	20.0	17.5		ug/L		87	40 - 105
Hexachlorobenzene	20.0	16.5		ug/L		83	45 - 100
Hexachlorobutadiene	20.0	14.3		ug/L		72	42 - 100
Hexachloroethane	20.0	13.1		ug/L		66	39 - 100
Hexachlorocyclopentadiene	20.0	14.9		ug/L		74	37 - 109
Isophorone	20.0	14.1		ug/L		71	48 - 100
2-Methylphenol	20.0	13.5		ug/L		68	43 - 100
Methylphenol, 3 & 4	20.0	13.5		ug/L		67	41 - 100
Nitrobenzene	20.0	14.1		ug/L		70	47 - 100
2-Nitrophenol	20.0	15.2		ug/L		76	45 - 100
4-Nitrophenol	40.0	29.8		ug/L		74	44 - 129
N-Nitrosodiphenylamine	40.0	31.0		ug/L		78	48 - 100
N-Nitrosodimethylamine	20.0	13.6		ug/L		68	41 - 100
N-Nitrosodi-n-propylamine	20.0	12.3		ug/L		61	42 - 100
2,2'-oxybis[1-chloropropane]	20.0	11.8		ug/L		59	38 - 100
Pentachlorophenol	40.0	31.0		ug/L		77	36 - 105
Phenol	20.0	13.7		ug/L		68	43 - 100
1,2,4-Trichlorobenzene	20.0	14.1		ug/L		70	43 - 100
2,4,6-Trichlorophenol	20.0	15.1		ug/L		75	47 - 101
2-Methylnaphthalene	20.0	14.3		ug/L		72	44 - 100
1-Methylnaphthalene	20.0	14.2		ug/L		71	43 - 100
Naphthalene	20.0	13.8		ug/L		69	44 - 100
Acenaphthylene	20.0	14.6		ug/L		73	47 - 100
Acenaphthene	20.0	13.3		ug/L		67	47 - 100
Fluorene	20.0	14.6		ug/L		73	48 - 100
Phenanthrene	20.0	15.2		ug/L		76	48 - 100
Anthracene	20.0	16.0		ug/L		80	49 - 100
Fluoranthene	20.0	15.9		ug/L		80	48 - 100
Pyrene	20.0	16.4		ug/L		82	44 - 100
Benzo[a]anthracene	20.0	16.3		ug/L		81	50 - 100
Chrysene	20.0	16.4		ug/L		82	49 - 100
Benzo[b]fluoranthene	20.0	15.2		ug/L		76	43 - 100
Benzo[k]fluoranthene	20.0	16.2		ug/L		81	47 - 100
Benzo[a]pyrene	20.0	16.9		ug/L		85	47 - 100
Indeno[1,2,3-cd]pyrene	20.0	18.2		ug/L		91	47 - 100
Dibenz(a,h)anthracene	20.0	18.7		ug/L		93	48 - 100
Benzo[g,h,i]perylene	20.0	18.2		ug/L		91	48 - 100
Benzyl alcohol	20.0	13.5		ug/L		68	41 - 100
Dibenzofuran	20.0	14.4		ug/L		72	47 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-141164/2-A
Matrix: Water
Analysis Batch: 142165

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141164

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	71		28 - 109
2-Fluorophenol (Surr)	68		20 - 105
2,4,6-Tribromophenol (Surr)	83		30 - 118
Nitrobenzene-d5 (Surr)	71		27 - 114
Phenol-d5 (Surr)	68		25 - 105
Terphenyl-d14 (Surr)	81		20 - 118

Lab Sample ID: LCSD 180-141164/3-A
Matrix: Water
Analysis Batch: 142165

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 141164

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzidine			20.0	9.13	J	ug/L		46	10 - 100	6	35
1,2-Dichlorobenzene			20.0	13.3		ug/L		66	40 - 100	1	20
1,3-Dichlorobenzene			20.0	13.0		ug/L		65	38 - 100	0	17
1,4-Dichlorobenzene			20.0	13.0		ug/L		65	39 - 100	1	18
Benzoic acid			20.0	15.9		ug/L		80	14 - 117	3	20
Bis(2-chloroethyl)ether			20.0	13.6		ug/L		68	42 - 100	2	28
Bis(2-chloroethoxy)methane			20.0	14.1		ug/L		70	45 - 100	2	28
Bis(2-ethylhexyl) phthalate			20.0	17.6		ug/L		88	35 - 118	2	35
4-Bromophenyl phenyl ether			20.0	17.5		ug/L		88	46 - 100	4	22
Butyl benzyl phthalate			20.0	17.1		ug/L		86	45 - 105	2	23
4-Chloro-3-methylphenol			20.0	14.6		ug/L		73	47 - 100	0	27
2-Chloronaphthalene			20.0	15.1		ug/L		75	42 - 100	5	26
2-Chlorophenol			20.0	13.8		ug/L		69	41 - 100	0	28
4-Chlorophenyl phenyl ether			20.0	15.3		ug/L		76	48 - 100	3	25
Di-n-butyl phthalate			20.0	16.3		ug/L		81	49 - 101	2	21
3,3'-Dichlorobenzidine			20.0	15.5		ug/L		77	41 - 100	2	28
2,4-Dichlorophenol			20.0	14.9		ug/L		75	45 - 100	0	29
Diethyl phthalate			20.0	13.9		ug/L		70	48 - 100	2	20
4,6-Dinitro-2-methylphenol			40.0	35.9		ug/L		90	46 - 100	3	19
2,4-Dimethylphenol			20.0	14.6		ug/L		73	45 - 100	3	25
Dimethyl phthalate			20.0	15.3		ug/L		77	49 - 100	3	24
2,4-Dinitrophenol			40.0	33.4		ug/L		83	36 - 100	2	18
2,4-Dinitrotoluene			20.0	16.5		ug/L		83	49 - 100	1	21
2,6-Dinitrotoluene			20.0	16.0		ug/L		80	50 - 100	2	23
1,2-Diphenylhydrazine(as Azobenzene)			20.0	15.6		ug/L		78	49 - 100	3	22
Di-n-octyl phthalate			20.0	17.8		ug/L		89	40 - 105	2	23
Hexachlorobenzene			20.0	17.1		ug/L		86	45 - 100	4	19
Hexachlorobutadiene			20.0	14.5		ug/L		72	42 - 100	1	18
Hexachloroethane			20.0	13.3		ug/L		67	39 - 100	2	16
Hexachlorocyclopentadiene			20.0	15.6		ug/L		78	37 - 109	5	16
Isophorone			20.0	14.5		ug/L		72	48 - 100	2	30
2-Methylphenol			20.0	13.6		ug/L		68	43 - 100	0	28
Methylphenol, 3 & 4			20.0	13.2		ug/L		66	41 - 100	2	28
Nitrobenzene			20.0	14.5		ug/L		73	47 - 100	3	27
2-Nitrophenol			20.0	15.7		ug/L		79	45 - 100	3	31

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 180-141164/3-A
Matrix: Water
Analysis Batch: 142165

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 141164

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Nitrophenol	40.0	30.1		ug/L		75	44 - 129	1	21
N-Nitrosodiphenylamine	40.0	32.3		ug/L		81	48 - 100	4	21
N-Nitrosodimethylamine	20.0	14.1		ug/L		70	41 - 100	3	30
N-Nitrosodi-n-propylamine	20.0	12.3		ug/L		61	42 - 100	0	27
2,2'-oxybis[1-chloropropane]	20.0	11.8		ug/L		59	38 - 100	1	28
Pentachlorophenol	40.0	31.6		ug/L		79	36 - 105	2	15
Phenol	20.0	13.7		ug/L		68	43 - 100	0	25
1,2,4-Trichlorobenzene	20.0	14.6		ug/L		73	43 - 100	3	22
2,4,6-Trichlorophenol	20.0	15.4		ug/L		77	47 - 101	2	28
2-Methylnaphthalene	20.0	14.6		ug/L		73	44 - 100	2	27
1-Methylnaphthalene	20.0	14.4		ug/L		72	43 - 100	1	27
Naphthalene	20.0	14.0		ug/L		70	44 - 100	2	25
Acenaphthylene	20.0	15.1		ug/L		76	47 - 100	4	26
Acenaphthene	20.0	13.6		ug/L		68	47 - 100	2	25
Fluorene	20.0	14.9		ug/L		75	48 - 100	2	22
Phenanthrene	20.0	15.8		ug/L		79	48 - 100	3	20
Anthracene	20.0	16.5		ug/L		82	49 - 100	3	20
Fluoranthene	20.0	16.4		ug/L		82	48 - 100	3	20
Pyrene	20.0	16.8		ug/L		84	44 - 100	2	20
Benzo[a]anthracene	20.0	16.7		ug/L		84	50 - 100	3	20
Chrysene	20.0	17.1		ug/L		85	49 - 100	4	20
Benzo[b]fluoranthene	20.0	15.6		ug/L		78	43 - 100	3	22
Benzo[k]fluoranthene	20.0	16.6		ug/L		83	47 - 100	2	24
Benzo[a]pyrene	20.0	17.2		ug/L		86	47 - 100	1	22
Indeno[1,2,3-cd]pyrene	20.0	18.6		ug/L		93	47 - 100	2	21
Dibenz(a,h)anthracene	20.0	18.8		ug/L		94	48 - 100	1	21
Benzo[g,h,i]perylene	20.0	18.7		ug/L		94	48 - 100	3	21
Benzyl alcohol	20.0	13.7		ug/L		69	41 - 100	1	32
Dibenzofuran	20.0	14.8		ug/L		74	47 - 100	3	24

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*74*		*28 - 109*
2-Fluorophenol (Surr)	*69*		*20 - 105*
2,4,6-Tribromophenol (Surr)	*87*		*30 - 118*
Nitrobenzene-d5 (Surr)	*72*		*27 - 114*
Phenol-d5 (Surr)	*68*		*25 - 105*
Terphenyl-d14 (Surr)	*84*		*20 - 118*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-141492/1-A
Matrix: Water
Analysis Batch: 142635

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141492

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0013	0.00083	ug/L		05/13/15 15:10	05/23/15 12:27	1
alpha-BHC	ND		0.0013	0.00066	ug/L		05/13/15 15:10	05/23/15 12:27	1
beta-BHC	ND		0.0013	0.0010	ug/L		05/13/15 15:10	05/23/15 12:27	1

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 180-141492/1-A
Matrix: Water
Analysis Batch: 142635

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141492

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
delta-BHC	ND		0.0013	0.00038	ug/L		05/13/15 15:10	05/23/15 12:27	1
gamma-BHC (Lindane)	ND		0.0013	0.00080	ug/L		05/13/15 15:10	05/23/15 12:27	1
Chlordane (technical)	ND		0.013	0.0017	ug/L		05/13/15 15:10	05/23/15 12:27	1
Chlorobenside	ND		0.0032	0.0015	ug/L		05/13/15 15:10	05/23/15 12:27	1
DCPA	ND		0.0025	0.00034	ug/L		05/13/15 15:10	05/23/15 12:27	1
4,4'-DDD	ND		0.0013	0.00067	ug/L		05/13/15 15:10	05/23/15 12:27	1
4,4'-DDE	ND		0.0013	0.00079	ug/L		05/13/15 15:10	05/23/15 12:27	1
4,4'-DDT	ND		0.0013	0.00074	ug/L		05/13/15 15:10	05/23/15 12:27	1
Dieldrin	ND		0.0013	0.00082	ug/L		05/13/15 15:10	05/23/15 12:27	1
Endosulfan I	ND		0.0013	0.00094	ug/L		05/13/15 15:10	05/23/15 12:27	1
2,4'-DDD	ND		0.0013	0.00016	ug/L		05/13/15 15:10	05/23/15 12:27	1
Endosulfan II	ND		0.0013	0.00098	ug/L		05/13/15 15:10	05/23/15 12:27	1
Endosulfan sulfate	ND		0.0013	0.00057	ug/L		05/13/15 15:10	05/23/15 12:27	1
2,4'-DDE	ND		0.0013	0.00015	ug/L		05/13/15 15:10	05/23/15 12:27	1
Endrin	ND		0.0013	0.00096	ug/L		05/13/15 15:10	05/23/15 12:27	1
Endrin aldehyde	ND		0.0013	0.00090	ug/L		05/13/15 15:10	05/23/15 12:27	1
2,4'-DDT	ND		0.0013	0.00022	ug/L		05/13/15 15:10	05/23/15 12:27	1
Heptachlor	ND		0.0013	0.00099	ug/L		05/13/15 15:10	05/23/15 12:27	1
Heptachlor epoxide	ND		0.0013	0.00097	ug/L		05/13/15 15:10	05/23/15 12:27	1
Methoxychlor	ND		0.0025	0.00091	ug/L		05/13/15 15:10	05/23/15 12:27	1
Mirex	ND		0.0013	0.00048	ug/L		05/13/15 15:10	05/23/15 12:27	1
Toxaphene	ND		0.10	0.019	ug/L		05/13/15 15:10	05/23/15 12:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*89*		*60 - 111*	*05/13/15 15:10*	*05/23/15 12:27*	*1*
Tetrachloro-m-xylene	*90*		*60 - 111*	*05/13/15 15:10*	*05/23/15 12:27*	*1*
DCB Decachlorobiphenyl (Surr)	*99*		*45 - 122*	*05/13/15 15:10*	*05/23/15 12:27*	*1*
DCB Decachlorobiphenyl (Surr)	*96*		*45 - 122*	*05/13/15 15:10*	*05/23/15 12:27*	*1*

Lab Sample ID: LCS 180-141492/2-A
Matrix: Water
Analysis Batch: 142635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141492

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0250	0.0219		ug/L		87	62 - 113
alpha-BHC	0.0250	0.0182		ug/L		73	58 - 114
beta-BHC	0.0250	0.0173		ug/L		69	37 - 133
delta-BHC	0.0250	0.00995		ug/L		40	20 - 137
gamma-BHC (Lindane)	0.0250	0.0183		ug/L		73	57 - 120
4,4'-DDD	0.0250	0.0183		ug/L		73	48 - 120
4,4'-DDE	0.0250	0.0213		ug/L		85	47 - 120
4,4'-DDT	0.0250	0.0156		ug/L		62	39 - 131
Dieldrin	0.0250	0.0220		ug/L		88	51 - 121
Endosulfan I	0.0250	0.0207		ug/L		83	53 - 117
Endosulfan II	0.0250	0.0179		ug/L		71	44 - 122
Endosulfan sulfate	0.0250	0.0126		ug/L		50	42 - 122
Endrin	0.0250	0.0211		ug/L		84	31 - 138
Endrin aldehyde	0.0250	0.0198		ug/L		79	41 - 116

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-141492/2-A
Matrix: Water
Analysis Batch: 142635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141492

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Heptachlor			0.0250	0.0201		ug/L		81	63 - 120		
Heptachlor epoxide			0.0250	0.0216		ug/L		86	60 - 120		
Methoxychlor			0.0250	0.0142		ug/L		57	35 - 137		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*88*		*60 - 111*
Tetrachloro-m-xylene	*82*		*60 - 111*
DCB Decachlorobiphenyl (Surr)	*93*		*45 - 122*
DCB Decachlorobiphenyl (Surr)	*91*		*45 - 122*

Method: 8082A - PCB Congeners (GC)

Lab Sample ID: MB 180-140931/1-A
Matrix: Water
Analysis Batch: 141926

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140931

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-8	ND		1.0	0.32	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-18	ND		1.0	0.19	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-28	ND		1.0	0.23	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-44	ND		1.0	0.077	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-49	ND		1.0	0.15	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-52	ND		1.0	0.15	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-66	ND		1.0	0.13	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-77	ND		1.0	0.16	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-87	ND		1.0	0.079	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-101	ND		1.0	0.15	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-105	ND		1.0	0.079	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-118	ND		1.0	0.12	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-126	ND		1.0	0.32	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-128	ND		1.0	0.085	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-138	ND		1.0	0.15	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-153	ND		1.0	0.12	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-156	ND		1.0	0.078	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-169	ND		1.0	0.22	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-170	ND		1.0	0.11	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-180	ND		1.0	0.080	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-183	ND		1.0	0.27	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-184	ND		1.0	0.14	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-187	ND		1.0	0.40	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-195	ND		1.0	0.10	ng/L		05/07/15 15:15	05/18/15 17:54	1
PCB-206	ND		1.0	0.17	ng/L		05/07/15 15:15	05/18/15 17:54	1
DCB Decachlorobiphenyl	ND		1.0	0.11	ng/L		05/07/15 15:15	05/18/15 17:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*79*		*35 - 140*	*05/07/15 15:15*	*05/18/15 17:54*	*1*
Tetrachloro-m-xylene (Surr)	*80*		*35 - 140*	*05/07/15 15:15*	*05/18/15 17:54*	*1*

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: MB 180-140931/1-A
Matrix: Water
Analysis Batch: 141926

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140931

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
PCB-205 (Surr)	88		35 - 140	05/07/15 15:15	05/18/15 17:54	1
PCB-205 (Surr)	86		35 - 140	05/07/15 15:15	05/18/15 17:54	1

Lab Sample ID: LCS 180-140931/2-A
Matrix: Water
Analysis Batch: 141926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140931

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-8	20.0	17.0		ng/L		85	40 - 140
PCB-18	20.0	16.6		ng/L		83	40 - 140
PCB-28	20.0	17.0		ng/L		85	40 - 140
PCB-44	20.0	16.5		ng/L		82	40 - 140
PCB-49	20.0	15.8		ng/L		79	40 - 140
PCB-52	20.0	14.9		ng/L		75	40 - 140
PCB-66	20.0	19.1		ng/L		96	40 - 140
PCB-77	20.0	18.8		ng/L		94	40 - 140
PCB-87	20.0	19.5		ng/L		97	40 - 140
PCB-101	20.0	16.0		ng/L		80	40 - 140
PCB-105	20.0	17.3		ng/L		87	40 - 140
PCB-118	20.0	16.8		ng/L		84	40 - 140
PCB-126	20.0	14.2		ng/L		71	40 - 140
PCB-128	20.0	16.4		ng/L		82	40 - 140
PCB-138	20.0	15.9		ng/L		80	40 - 140
PCB-153	20.0	16.0		ng/L		80	40 - 140
PCB-156	20.0	16.7		ng/L		84	40 - 140
PCB-169	20.0	15.5		ng/L		78	40 - 140
PCB-170	20.0	16.5		ng/L		82	40 - 140
PCB-180	20.0	16.3		ng/L		81	40 - 140
PCB-183	20.0	15.6		ng/L		78	40 - 140
PCB-184	20.0	17.1		ng/L		86	40 - 140
PCB-187	20.0	14.7		ng/L		73	40 - 140
PCB-195	20.0	16.5		ng/L		83	40 - 140
PCB-206	20.0	15.0		ng/L		75	40 - 140
DCB Decachlorobiphenyl	20.0	15.5		ng/L		77	40 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene (Surr)	81		35 - 140
Tetrachloro-m-xylene (Surr)	80		35 - 140
PCB-205 (Surr)	89		35 - 140
PCB-205 (Surr)	86		35 - 140

Lab Sample ID: LCSD 180-140931/3-A
Matrix: Water
Analysis Batch: 141926

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140931

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-8	20.0	18.1		ng/L		91	40 - 140	6	35
PCB-18	20.0	17.8		ng/L		89	40 - 140	7	35

Method: 8082A - PCB Congeners (GC) (Continued)

Lab Sample ID: LCSD 180-140931/3-A
Matrix: Water
Analysis Batch: 141926

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140931

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-28			20.0	17.2		ng/L		86	40 - 140	1	35
PCB-44			20.0	17.1		ng/L		86	40 - 140	4	35
PCB-49			20.0	16.5		ng/L		83	40 - 140	4	35
PCB-52			20.0	15.7		ng/L		79	40 - 140	5	35
PCB-66			20.0	19.2		ng/L		96	40 - 140	0	35
PCB-77			20.0	18.6		ng/L		93	40 - 140	1	35
PCB-87			20.0	20.4		ng/L		102	40 - 140	5	35
PCB-101			20.0	16.7		ng/L		83	40 - 140	4	35
PCB-105			20.0	17.5		ng/L		87	40 - 140	1	35
PCB-118			20.0	17.4		ng/L		87	40 - 140	3	35
PCB-126			20.0	15.5		ng/L		78	40 - 140	9	35
PCB-128			20.0	17.1		ng/L		86	40 - 140	4	35
PCB-138			20.0	16.4		ng/L		82	40 - 140	3	35
PCB-153			20.0	16.8		ng/L		84	40 - 140	5	35
PCB-156			20.0	17.7		ng/L		89	40 - 140	6	35
PCB-169			20.0	15.7		ng/L		79	40 - 140	1	35
PCB-170			20.0	17.4		ng/L		87	40 - 140	5	35
PCB-180			20.0	18.0		ng/L		90	40 - 140	10	35
PCB-183			20.0	16.4		ng/L		82	40 - 140	5	35
PCB-184			20.0	17.3		ng/L		87	40 - 140	1	35
PCB-187			20.0	16.7		ng/L		83	40 - 140	13	35
PCB-195			20.0	17.7		ng/L		88	40 - 140	7	35
PCB-206			20.0	16.0		ng/L		80	40 - 140	6	35
DCB Decachlorobiphenyl			20.0	16.9		ng/L		84	40 - 140	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*83*		*35 - 140*
Tetrachloro-m-xylene (Surr)	*84*		*35 - 140*
PCB-205 (Surr)	*92*		*35 - 140*
PCB-205 (Surr)	*91*		*35 - 140*

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique

Lab Sample ID: MB 180-140926/1-A
Matrix: Water
Analysis Batch: 141233

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		1.0	0.11	ug/L		05/07/15 13:45	05/12/15 11:25	1
Demeton, Total	ND		2.0	0.16	ug/L		05/07/15 13:45	05/12/15 11:25	1
Malathion	ND		1.0	0.11	ug/L		05/07/15 13:45	05/12/15 11:25	1
Methyl parathion	ND		1.0	0.11	ug/L		05/07/15 13:45	05/12/15 11:25	1
Parathion	ND		1.0	0.16	ug/L		05/07/15 13:45	05/12/15 11:25	1
Bolstar	ND		1.0	0.11	ug/L		05/07/15 13:45	05/12/15 11:25	1
Chlorpyrifos	ND		1.0	0.10	ug/L		05/07/15 13:45	05/12/15 11:25	1
Coumaphos	ND		1.0	0.15	ug/L		05/07/15 13:45	05/12/15 11:25	1

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: MB 180-140926/1-A
Matrix: Water
Analysis Batch: 141233

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diazinon	ND		1.0	0.094	ug/L		05/07/15 13:45	05/12/15 11:25	1
Dichlorvos	ND		1.0	0.085	ug/L		05/07/15 13:45	05/12/15 11:25	1
Dimethoate	ND		1.0	0.12	ug/L		05/07/15 13:45	05/12/15 11:25	1
Disulfoton	ND		1.0	0.10	ug/L		05/07/15 13:45	05/12/15 11:25	1
EPN	ND		1.0	0.12	ug/L		05/07/15 13:45	05/12/15 11:25	1
Mocap	ND		1.0	0.10	ug/L		05/07/15 13:45	05/12/15 11:25	1
Famphur	ND		1.0	0.12	ug/L		05/07/15 13:45	05/12/15 11:25	1
Fenthion	ND		1.0	0.085	ug/L		05/07/15 13:45	05/12/15 11:25	1
Mevinphos	ND		1.0	0.098	ug/L		05/07/15 13:45	05/12/15 11:25	1
Phorate	ND		1.0	0.092	ug/L		05/07/15 13:45	05/12/15 11:25	1
Ronnel	ND		1.0	0.10	ug/L		05/07/15 13:45	05/12/15 11:25	1
Stirophos	ND		1.0	0.096	ug/L		05/07/15 13:45	05/12/15 11:25	1
Sulfotepp	ND		1.0	0.095	ug/L		05/07/15 13:45	05/12/15 11:25	1
Thionazin	ND		1.0	0.10	ug/L		05/07/15 13:45	05/12/15 11:25	1
Tokuthion	ND		1.0	0.094	ug/L		05/07/15 13:45	05/12/15 11:25	1
Trichloronate	ND		1.0	0.099	ug/L		05/07/15 13:45	05/12/15 11:25	1
O,O,O-Triethyl phosphorothioate	ND		1.0	0.10	ug/L		05/07/15 13:45	05/12/15 11:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tributyl phosphate	*79*		*49 - 122*	*05/07/15 13:45*	*05/12/15 11:25*	*1*
Tributyl phosphate	*72*		*49 - 122*	*05/07/15 13:45*	*05/12/15 11:25*	*1*
Triphenylphosphate	*83*		*45 - 145*	*05/07/15 13:45*	*05/12/15 11:25*	*1*
Triphenylphosphate	*86*		*45 - 145*	*05/07/15 13:45*	*05/12/15 11:25*	*1*

Lab Sample ID: LCS 180-140926/2-A
Matrix: Water
Analysis Batch: 141233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	10.0	9.43		ug/L		94	40 - 150
Malathion	10.0	9.56		ug/L		96	50 - 150
Methyl parathion	10.0	8.91		ug/L		89	41 - 148
Parathion	10.0	9.40		ug/L		94	56 - 125
Bolstar	10.0	9.77		ug/L		98	50 - 150
Chlorpyrifos	10.0	9.61		ug/L		96	50 - 130
Coumaphos	10.0	8.55		ug/L		85	50 - 150
Diazinon	10.0	9.17		ug/L		92	50 - 150
Dichlorvos	10.0	7.28		ug/L		73	30 - 150
Dimethoate	10.0	10.4		ug/L		104	26 - 136
Disulfoton	10.0	9.29		ug/L		93	45 - 124
EPN	10.0	9.63		ug/L		96	50 - 150
Mocap	10.0	9.33		ug/L		93	40 - 150
Famphur	10.0	9.34		ug/L		93	52 - 131
Fensulfothion	10.0	9.51		ug/L		95	38 - 150
Fenthion	10.0	9.61		ug/L		96	10 - 150
Mevinphos	10.0	8.44		ug/L		84	30 - 150
Phorate	10.0	9.42		ug/L		94	41 - 135

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCS 180-140926/2-A
Matrix: Water
Analysis Batch: 141233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ronnel	10.0	8.92		ug/L		89	50 - 150
Stirophos	10.0	9.55		ug/L		95	50 - 150
Sulfotepp	10.0	9.39		ug/L		94	56 - 128
Thionazin	10.0	8.94		ug/L		89	44 - 128
Tokuthion	10.0	9.27		ug/L		93	50 - 150
Trichloronate	10.0	9.48		ug/L		95	10 - 150
O,O,O-Triethyl phosphorothioate	10.0	9.09		ug/L		91	31 - 131

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tributyl phosphate	*94*		*49 - 122*
Tributyl phosphate	*113*		*49 - 122*
Triphenylphosphate	*95*		*45 - 145*
Triphenylphosphate	*96*		*45 - 145*

Lab Sample ID: LCSD 180-140926/3-A
Matrix: Water
Analysis Batch: 141233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140926

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	10.0	9.75		ug/L		98	40 - 150	3	30
Malathion	10.0	9.93		ug/L		99	50 - 150	4	30
Methyl parathion	10.0	9.27		ug/L		93	41 - 148	4	30
Parathion	10.0	9.61		ug/L		96	56 - 125	2	21
Bolstar	10.0	9.93		ug/L		99	50 - 150	2	30
Chlorpyrifos	10.0	9.85		ug/L		99	50 - 130	2	25
Coumaphos	10.0	8.91		ug/L		89	50 - 150	4	30
Diazinon	10.0	9.49		ug/L		95	50 - 150	3	30
Dichlorvos	10.0	7.51		ug/L		75	30 - 150	3	30
Dimethoate	10.0	10.8		ug/L		108	26 - 136	4	22
Disulfoton	10.0	9.62		ug/L		96	45 - 124	3	30
EPN	10.0	10.0		ug/L		100	50 - 150	4	30
Mocap	10.0	9.62		ug/L		96	40 - 150	3	30
Famphur	10.0	9.69		ug/L		97	52 - 131	4	24
Fensulfothion	10.0	9.77		ug/L		98	38 - 150	3	30
Fenthion	10.0	9.98		ug/L		100	10 - 150	4	30
Mevinphos	10.0	8.80		ug/L		88	30 - 150	4	30
Phorate	10.0	9.82		ug/L		98	41 - 135	4	24
Ronnel	10.0	9.26		ug/L		93	50 - 150	4	30
Stirophos	10.0	9.93		ug/L		99	50 - 150	4	30
Sulfotepp	10.0	9.75		ug/L		97	56 - 128	4	23
Thionazin	10.0	9.33		ug/L		93	44 - 128	4	21
Tokuthion	10.0	9.57		ug/L		96	50 - 150	3	30
Trichloronate	10.0	9.88		ug/L		99	10 - 150	4	30
O,O,O-Triethyl phosphorothioate	10.0	9.36		ug/L		94	31 - 131	3	30

Method: 8141B - Organophosphorous Compounds by Gas Chromatography, Capillary Column Technique (Continued)

Lab Sample ID: LCSD 180-140926/3-A
Matrix: Water
Analysis Batch: 141233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140926

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tributyl phosphate	*95*		*49 - 122*
Tributyl phosphate	*117*		*49 - 122*
Triphenylphosphate	*96*		*45 - 145*
Triphenylphosphate	*96*		*45 - 145*

Method: Organotins/GC - Organotins (GC/FPD)

Lab Sample ID: MB 200-88087/1-A
Matrix: Water
Analysis Batch: 88196

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 88087

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrabutyltin	ND		0.050	0.050	ug/L		05/11/15 09:25	05/12/15 14:22	1
Tributyltin	ND		0.045	0.045	ug/L		05/11/15 09:25	05/12/15 14:22	1
Dibutyltin	ND		0.039	0.039	ug/L		05/11/15 09:25	05/12/15 14:22	1
Monobutyltin	ND	cn	0.62	0.62	ug/L		05/11/15 09:25	05/12/15 14:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tripentyltin	*66*		*15 - 150*	*05/11/15 09:25*	*05/12/15 14:22*	*1*
Tripentyltin	*68*		*15 - 150*	*05/11/15 09:25*	*05/12/15 14:22*	*1*

Lab Sample ID: LCS 200-88087/2-A
Matrix: Water
Analysis Batch: 88196

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88087

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrabutyltin	0.500	0.257		ug/L		51	30 - 150
Tributyltin	0.445	0.304		ug/L		68	30 - 150
Dibutyltin	0.385	0.189		ug/L		49	30 - 150
Monobutyltin	1.55	ND	* cn	ug/L		7	10 - 48

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tripentyltin	*73*		*15 - 150*
Tripentyltin	*80*		*15 - 150*

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-140872/1-A
Matrix: Water
Analysis Batch: 142313

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 140872

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		30	2.6	ug/L		05/07/15 10:58	05/19/15 23:58	1
Arsenic	ND		1.0	0.29	ug/L		05/07/15 10:58	05/19/15 23:58	1
Barium	ND		10	0.098	ug/L		05/07/15 10:58	05/19/15 23:58	1
Beryllium	ND		1.0	0.037	ug/L		05/07/15 10:58	05/19/15 23:58	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-140872/1-A
Matrix: Water
Analysis Batch: 142313

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 140872

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.11	ug/L		05/07/15 10:58	05/19/15 23:58	1
Calcium	ND		500	2.8	ug/L		05/07/15 10:58	05/19/15 23:58	1
Chromium	ND		2.0	0.54	ug/L		05/07/15 10:58	05/19/15 23:58	1
Cobalt	ND		0.50	0.026	ug/L		05/07/15 10:58	05/19/15 23:58	1
Copper	ND		2.0	0.24	ug/L		05/07/15 10:58	05/19/15 23:58	1
Iron	ND		50	6.1	ug/L		05/07/15 10:58	05/19/15 23:58	1
Silver	ND		1.0	0.036	ug/L		05/07/15 10:58	05/19/15 23:58	1
Potassium	ND		500	5.8	ug/L		05/07/15 10:58	05/19/15 23:58	1
Magnesium	ND		500	1.2	ug/L		05/07/15 10:58	05/19/15 23:58	1
Sodium	15.3	J	500	3.8	ug/L		05/07/15 10:58	05/19/15 23:58	1
Nickel	ND		1.0	0.17	ug/L		05/07/15 10:58	05/19/15 23:58	1
Lead	ND		1.0	0.019	ug/L		05/07/15 10:58	05/19/15 23:58	1
Antimony	ND		2.0	0.019	ug/L		05/07/15 10:58	05/19/15 23:58	1
Selenium	ND		5.0	0.42	ug/L		05/07/15 10:58	05/19/15 23:58	1
Thallium	ND		1.0	0.015	ug/L		05/07/15 10:58	05/19/15 23:58	1
Vanadium	ND		1.0	0.082	ug/L		05/07/15 10:58	05/19/15 23:58	1
Zinc	ND		5.0	0.96	ug/L		05/07/15 10:58	05/19/15 23:58	1
Manganese	ND		5.0	0.039	ug/L		05/07/15 10:58	05/19/15 23:58	1

Lab Sample ID: LCS 180-140872/2-A
Matrix: Water
Analysis Batch: 142313

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 140872

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	1640		ug/L		82	80 - 120
Arsenic	40.0	36.5		ug/L		91	80 - 120
Barium	2000	1700		ug/L		85	80 - 120
Beryllium	50.0	45.6		ug/L		91	80 - 120
Cadmium	50.0	44.4		ug/L		89	80 - 120
Calcium	50000	46500		ug/L		93	80 - 120
Chromium	200	189		ug/L		95	80 - 120
Cobalt	500	468		ug/L		94	80 - 120
Copper	250	235		ug/L		94	80 - 120
Iron	1000	922		ug/L		92	80 - 120
Silver	50.0	43.7		ug/L		87	80 - 120
Potassium	50000	46000		ug/L		92	80 - 120
Magnesium	50000	42400		ug/L		85	80 - 120
Sodium	50000	43100		ug/L		86	80 - 120
Nickel	500	471		ug/L		94	80 - 120
Lead	20.0	19.1		ug/L		96	80 - 120
Antimony	500	445		ug/L		89	80 - 120
Selenium	10.0	9.73		ug/L		97	80 - 120
Thallium	50.0	47.0		ug/L		94	80 - 120
Vanadium	500	479		ug/L		96	80 - 120
Zinc	500	445		ug/L		89	80 - 120
Manganese	500	459		ug/L		92	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 180-140872/3-A
Matrix: Water
Analysis Batch: 142313

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 140872

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	2000	1660		ug/L		83	80 - 120	1	20
Arsenic	40.0	36.0		ug/L		90	80 - 120	1	20
Barium	2000	1690		ug/L		84	80 - 120	1	20
Beryllium	50.0	45.7		ug/L		91	80 - 120	0	20
Cadmium	50.0	44.7		ug/L		89	80 - 120	1	20
Calcium	50000	45300		ug/L		91	80 - 120	3	20
Chromium	200	188		ug/L		94	80 - 120	1	20
Cobalt	500	462		ug/L		92	80 - 120	1	20
Copper	250	234		ug/L		94	80 - 120	0	20
Iron	1000	905		ug/L		91	80 - 120	2	20
Silver	50.0	43.3		ug/L		87	80 - 120	1	20
Potassium	50000	45600		ug/L		91	80 - 120	1	20
Magnesium	50000	42800		ug/L		86	80 - 120	1	20
Sodium	50000	43100		ug/L		86	80 - 120	0	20
Nickel	500	463		ug/L		93	80 - 120	2	20
Lead	20.0	19.2		ug/L		96	80 - 120	0	20
Antimony	500	441		ug/L		88	80 - 120	1	20
Selenium	10.0	9.35		ug/L		94	80 - 120	4	20
Thallium	50.0	47.5		ug/L		95	80 - 120	1	20
Vanadium	500	464		ug/L		93	80 - 120	3	20
Zinc	500	451		ug/L		90	80 - 120	1	20
Manganese	500	455		ug/L		91	80 - 120	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-142902/1-A
Matrix: Water
Analysis Batch: 143072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 142902

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.078	ug/L		05/27/15 12:26	05/28/15 11:44	1

Lab Sample ID: LCS 180-142902/2-A
Matrix: Water
Analysis Batch: 143072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 142902

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.55		ug/L		102	80 - 120

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 180-143211/1-A
Matrix: Water
Analysis Batch: 143278

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 143211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		0.10	0.086	mg/L		05/29/15 13:00	05/29/15 16:57	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 180-143211/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 143278 — **Prep Batch: 143211**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	2.00	2.05		mg/L		102	90 - 110

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 180-142263/16 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 142263

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	0.022	mg/L			05/20/15 11:47	1

Lab Sample ID: LCS 180-142263/15 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 142263

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	4.00	3.97		mg/L		99	90 - 110

Method: 9014 - Cyanide

Lab Sample ID: MB 180-141677/4-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141746 — **Prep Batch: 141677**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		10	2.5	ug/L		05/15/15 08:15	05/15/15 11:28	1

Lab Sample ID: HLCS 180-141677/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141746 — **Prep Batch: 141677**

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	250	255		ug/L		102	90 - 110

Lab Sample ID: LCS 180-141677/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141746 — **Prep Batch: 141677**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	200	210		ug/L		105	85 - 115

Lab Sample ID: LLCS 180-141677/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141746 — **Prep Batch: 141677**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	50.0	48.0		ug/L		96	90 - 110

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-141035/1-A
Matrix: Water
Analysis Batch: 141045

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141035

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		3.0	0.59	mg/L		05/08/15 15:00	05/08/15 18:38	1

Lab Sample ID: LCS 180-141035/2-A
Matrix: Water
Analysis Batch: 141045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141035

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	19.2	18.8		mg/L		98	85 - 115

Method: SM 5310C - TOC

Lab Sample ID: MB 180-141058/31
Matrix: Water
Analysis Batch: 141058

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1.0	0.19	mg/L			05/07/15 20:21	1

Lab Sample ID: LCS 180-141058/29
Matrix: Water
Analysis Batch: 141058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	20.0	19.1		mg/L		96	80 - 120

Lab Sample ID: LCSD 180-141058/30
Matrix: Water
Analysis Batch: 141058

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	20.0	19.7		mg/L		99	80 - 120	3	20

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-181378/10-A
Matrix: Water
Analysis Batch: 181492

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 181378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		0.10	0.050	mg/L		05/19/15 05:02	05/19/15 11:02	1

Lab Sample ID: LCS 240-181378/11-A
Matrix: Water
Analysis Batch: 181492

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 181378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	1.69	1.54		mg/L		91	53 - 134

Method: SM4500_NH3_E - Kjeldahl Nitrogen, Total

Lab Sample ID: MB 240-180261/1-A
Matrix: Water
Analysis Batch: 180398

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 180261

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		5.0	1.7	mg/L		05/11/15 13:45	05/12/15 14:32	1

Lab Sample ID: LCS 240-180261/2-A
Matrix: Water
Analysis Batch: 180398

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 180261

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Kjeldahl			7.77	6.04		mg/L		78	65 - 144		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-43799-1

CBBT Thimble Shoal

Lot #: H5E080406

Carrie Gamber

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.

Bruce Wagner
Project Manager

May 19, 2015

ANALYTICAL METHODS SUMMARY

H5E080406

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

SAMPLE SUMMARY

H5E080406

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M6RJ2	001	EQB-GRAB	05/05/15	16:30

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
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The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the

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concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

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Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration

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W = amount of sample extracted (grams or liters)
S = percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: EQB-GRAB

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5E080406 - 001	**Work Order #....:**	M6RJ21AA	**Matrix.....:**	WS
Date Sampled....:	05/05/15	**Date Received....:**	05/08/15	**Units....:**	pg/L
Prep Date....:	05/12/15			**Dilution Factor:**	1
Prep Batch # ....:	5132013				
Initial Wgt/Vol :	1050 mL	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	5/15/15	1	ND	9.5	0.038	1.0	0.038
1,2,3,7,8-PeCDD	5/15/15	1	ND	48	0.060	0.5	0.030
1,2,3,4,7,8-HxCDD	5/15/15	1	ND	48	0.087	0.1	0.0087
1,2,3,6,7,8-HxCDD	5/15/15	1	ND	48	0.10	0.1	0.010
1,2,3,7,8,9-HxCDD	5/15/15	1	ND	48	0.089	0.1	0.0089
1,2,3,4,6,7,8-HpCDD	**5/15/15**	**1**	**0.64 Q B J**	**48**	**0.090**	**0.01**	**0.0064**
OCDD	**5/15/15**	**1**	**8.6 Q B J**	**95**	**0.087**	**0.001**	**0.0086**
2,3,7,8-TCDF	5/15/15	1	ND	9.5	0.036	0.1	0.0036
1,2,3,7,8-PeCDF	5/15/15	1	ND	48	0.032	0.05	0.0016
2,3,4,7,8-PeCDF	**5/15/15**	**1**	**0.29 Q B J**	**48**	**0.032**	**0.5**	**0.14**
1,2,3,4,7,8-HxCDF	**5/15/15**	**1**	**0.50 Q J**	**48**	**0.064**	**0.1**	**0.050**
1,2,3,6,7,8-HxCDF	5/15/15	1	ND	48	0.063	0.1	0.0063
2,3,4,6,7,8-HxCDF	5/15/15	1	ND	48	0.062	0.1	0.0062
1,2,3,7,8,9-HxCDF	5/15/15	1	ND	48	0.080	0.1	0.0080
1,2,3,4,6,7,8-HpCDF	5/15/15	1	ND	48	0.066	0.01	0.00066
1,2,3,4,7,8,9-HpCDF	5/15/15	1	ND	48	0.087	0.01	0.00087
OCDF	**5/15/15**	**1**	**1.0 Q B J**	**95**	**0.080**	**0.001**	**0.0010**
Total TEQ Concentration							**0.33**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	76	(25 - 164)
13C-1,2,3,7,8-PeCDD	82	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	77	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	91	(23 - 140)
13C-OCDD	77	(17 - 157)
13C-2,3,7,8-TCDF	74	(24 - 169)
13C-1,2,3,7,8-PeCDF	83	(24 - 185)
13C-2,3,4,7,8-PeCDF	82	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	76	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	70	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	79	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	72	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	81	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	82	(26 - 138)
13C-OCDF	73	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: EQB-GRAB

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	112	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5E120000 - 013B	**Work Order #....:**	M6R2T1AA	**Matrix....:**	WATER
Dilution Factor:	1				
Prep Date....:	05/12/15	**Analysis Date....:**	05/15/15		
Prep Batch # ....:	5132013				
Initial Wgt/Vol :	1000 mL	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		10	0.039	pg/L
1,2,3,7,8-PeCDD	**0.17**	**Q J**	**50**	**0.077**	**pg/L**
1,2,3,4,7,8-HxCDD	**0.20**	**Q J**	**50**	**0.099**	**pg/L**
1,2,3,6,7,8-HxCDD	ND		50	0.11	pg/L
1,2,3,7,8,9-HxCDD	ND		50	0.096	pg/L
1,2,3,4,6,7,8-HpCDD	**1.4**	**Q J**	**50**	**0.14**	**pg/L**
OCDD	**11**	**J**	**100**	**0.056**	**pg/L**
2,3,7,8-TCDF	ND		10	0.032	pg/L
1,2,3,7,8-PeCDF	ND		50	0.051	pg/L
2,3,4,7,8-PeCDF	**0.40**	**J**	**50**	**0.053**	**pg/L**
1,2,3,4,7,8-HxCDF	ND		50	0.048	pg/L
1,2,3,6,7,8-HxCDF	ND		50	0.050	pg/L
2,3,4,6,7,8-HxCDF	ND		50	0.051	pg/L
1,2,3,7,8,9-HxCDF	ND		50	0.061	pg/L
1,2,3,4,6,7,8-HpCDF	**0.42**	**J**	**50**	**0.034**	**pg/L**
1,2,3,4,7,8,9-HpCDF	**0.57**	**Q J**	**50**	**0.049**	**pg/L**
OCDF	**3.4**	**Q J**	**100**	**0.037**	**pg/L**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	80	25 - 164
13C-1,2,3,7,8-PeCDD	83	25 - 181
13C-1,2,3,4,7,8-HxCDD	81	32 - 141
13C-1,2,3,6,7,8-HxCDD	75	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	88	23 - 140
13C-OCDD	91	17 - 157
13C-2,3,7,8-TCDF	85	24 - 169
13C-1,2,3,7,8-PeCDF	87	24 - 185
13C-2,3,4,7,8-PeCDF	86	21 - 178
13C-1,2,3,4,7,8-HxCDF	85	26 - 152
13C-1,2,3,6,7,8-HxCDF	76	26 - 123
13C-2,3,4,6,7,8-HxCDF	83	28 - 136
13C-1,2,3,7,8,9-HxCDF	83	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	87	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	86	26 - 138
13C-OCDF	83	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5E120000 - 013B	**Work Order #....:**	M6R2T1AA	**Matrix.....:**	WATER
Dilution Factor:	1				
Prep Date....:	05/12/15	**Analysis Date....:**	05/15/15		
Prep Batch # ....:	5132013				
Initial Wgt/Vol :	1000 mL	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	113	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5E080406	**Work Order # ...:**	M6R2T1AC-LCS	**Matrix .....:**	WATER
LCS Lot-Sample# :	H5E120000 - 013				
Prep Date .....:	05/12/15	**Analysis Date ..:**	05/15/15		
Prep Batch # ...:	5132013				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	1000 mL				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**200**	**229**	**pg/L**	**115**		**(67 - 158)**
1,2,3,7,8-PeCDD	**1000**	**1150**	**pg/L**	**115**	**B**	**(70 - 142)**
1,2,3,4,7,8-HxCDD	**1000**	**1100**	**pg/L**	**110**	**B**	**(70 - 164)**
1,2,3,6,7,8-HxCDD	**1000**	**1030**	**pg/L**	**103**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**1000**	**1160**	**pg/L**	**116**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**1000**	**1030**	**pg/L**	**103**	**B**	**(70 - 140)**
OCDD	**2000**	**2040**	**pg/L**	**102**	**B**	**(78 - 144)**
2,3;7,8-TCDF	**200**	**227**	**pg/L**	**114**		**(75 - 158)**
1,2,3,7,8-PeCDF	**1000**	**995**	**pg/L**	**100**		**(80 - 134)**
2,3,4,7,8-PeCDF	**1000**	**1140**	**pg/L**	**114**	**B**	**(68 - 160)**
1,2,3,4,7,8-HxCDF	**1000**	**1130**	**pg/L**	**113**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**1000**	**1060**	**pg/L**	**106**		**(84 - 130)**
2,3,4,6,7,8-HxCDF	**1000**	**1060**	**pg/L**	**106**		**(70 - 156)**
1,2,3,7,8,9-HxCDF	**1000**	**1070**	**pg/L**	**107**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**1000**	**1050**	**pg/L**	**105**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**1000**	**1110**	**pg/L**	**111**	**B**	**(78 - 138)**
OCDF	**2000**	**2040**	**pg/L**	**102**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	71	(20 - 175)
13C-1,2,3,7,8-PeCDD	78	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	74	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	77	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	90	(26 - 166)
13C-OCDD	85	(13 - 199)
13C-2,3,7,8-TCDF	73	(22 - 152)
13C-1,2,3,7,8-PeCDF	80	(21 - 192)
13C-2,3,4,7,8-PeCDF	76	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	75	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	74	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	79	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	77	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	81	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	84	(20 - 186)
13C-OCDF	82	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	105	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSE 080402

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-198406.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43799-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 5/29/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria))/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EQB-GRAB (180-43799-1)	5/5/15	16:30 Eastern		Water			X	2	

CUSTODY SEALS INTACT
RECEIVED AT RT 0.1 / CT 0.1°C
BKD 5-8-15
1 COOLER FEDX# 568237258666

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1200 ~~5/6/15~~ HS 5/7/15	TAP	[signature]	5-8-15 09:20	TA KNOX

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSE0804016

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC57 Correction factor: 0.0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?	✓			☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: 4258 2017/07	✓			☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?	✓			If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		✓		☐ **19a** Other

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number: HC944635

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: NA

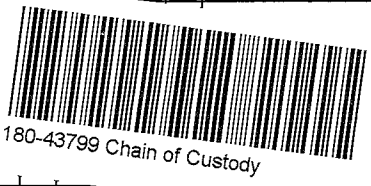
Sample Receiving Associate: [signature] Date: 5-8-15

QA026R29.doc, 041115

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc.	**Peggy Derrick** Phone: **410-584-7000**
225 Schilling Circle **Hunt Valley, MD 21031**	Field Contact: **Morgan Gelinas** **Phone: 860-287-0745**
Project Name: Parallel Thimble Shoal Tunnel, Ocean Placement Billing (Project #, phase): 15204.01, 0007	
Page 1 of 1	**Sediment Samples**

Date	Time	Water	Sediment	Sample Identification	No. of Containers	Semivolatiles and PAHs SW846 8270C	Metals SW846 6020/7471A	Mercury SW846 7471A	PCB Congeners SW846 8082	Organochlorine Pesticides SW846 8081A	Organophosphorus Pesticides SW 846 8141A	Dioxins/Furans EPA 1613B	Butyl Tins Unger Method	Cyanide SW846 9012A	Nitrogen, Ammonia EPA 350.1	Sulfide SW846 9030B/9034	Nitrogen, Nitrate+Nitrite EPA 353.2	Total Kjedhal Nitrogen EPA 351.2	Total Phosphorus EPA 365.2	Total Organic Carbon	Remarks
5/5/15	1630	X		EQB-GRAB	19	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SEE PROJECT SPECIFIC ANALYTE LIST



Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
	5/5/15 1700		
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time
	5/5/15 1800	Debbie Watson	5-6-15 10:00

OCEAN WATER
Parallel Thimble Shoal Tunnel

MORGAN GELINAS
4105847000
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

50 LBS

1 OF 1

DWT: 18,15,15

SHIP TO:
CARRIE GAMBER
412-963-7058
TEST AMERICA-PITTSBURGH
RIDC PARK
301 ALPHA DR.
PITTSBURGH PA 15233-2907

PA 152 9-22

UPS NEXT DAY AIR

1

TRACKING #: 1Z 288 682 01 9377 4412

Uncorrected temp 9.2 °C
Thermometer ID 6
CF 0 Initials ES

PT-WI-SR-001 effective 7/26/13

BILLING: P/P

Department Code: 2123
Project Phase AND Task: 1520401_0007

GS 17.2.07. WNTIE90 6 04/2015

TM

https://www.campusship.ups.

180-43799 Waybill

...inPair=default PrintWindowP... 5/5/2015

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43799-1

Login Number: 43799
List Number: 1
Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43799-1

Login Number: 43799
List Number: 2
Creator: Goodrich, Kenneth L

List Source: TestAmerica Burlington
List Creation: 05/08/15 01:02 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	No numbers
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.6ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-198405.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43799-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 5/29/2015			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Organotins_GC/3510C_14d Organotins (GC/FPD)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EQB-GRAB (180-43799-1)	5/5/15	16:30 Eastern		Water			X	2	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	5/7/15 1200	TAP		5/8/15 1000	TAPT
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Part # 159469-434 RIT 02/15 ••

ORIGIN ID:AGCA (412) 963-7058
SAMPLE RECEIVING
TEST AMERICA LABORATORIES INC
301 ALPHA DR

PITTSBURGH, PA 152381330
UNITED STATES US

SHIP DATE: 07MAY15
ACTWGT: 30.1 LB MAN
CAD: 741733/CAFE2807

BILL RECIPIENT

TO SHIPPING/RECEIVING
TESTAMERICA LABORATORIES, INC.
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 660-1990
REF: S180-24062

FedEx Express

FRI - 08 MAY 10:30A
PRIORITY OVERNIGHT

TRK# 0201 5682 3725 8644

XH BTVA

05403
VT-US BTV

ORIGIN ID: SAMPLE TES

2.8/C3.3

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-198398.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-43799-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 5/29/2015			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

C197

Special Instructions/Note:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500Norg_C/SM4500Norg_C_P Nitrogen-Total Kjeldahl	4500_P_E/365_Prep Total Phosphorus as P	Total Number of containers
			Preservation Code:						
EQB-GRAB (180-43799-1)	5/5/15	16:30 Eastern		Water			X	X	1

1X500(5)

Possible Hazard Identification		***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***	
Unconfirmed		☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 5/7/15 1700	Company TAL	Received by:	Date/Time: 5-8-15 930	Company TAL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative Login # : 180-43799
Canton Facility

Client TAC Pittsburgh Site Name _____ Cooler unpacked by: Jackson

Cooler Received on 5-8-15 Opened on 5-8-15

FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 1 Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

~~IR GUN# A (CF +4.0 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C~~

IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. 2.8 °C Corrected Cooler Temp. 3.3 °C ☐ See Multiple Cooler Form

~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C~~

~~IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C~~

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
-Were custody seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were custody seals on the bottle(s)?	Yes	No
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the sampler(s) clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels be reconciled with the COC?	Yes	No
9. Were correct bottle(s) used for the test(s) indicated?	Yes	No
10. Sufficient quantity received to perform indicated analyses?	Yes	No
11. Were sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC432654
12. Were VOAs on the COC?	Yes	No
~~13. Were air bubbles >6 mm in any VOA vials?~~	Yes	No NA
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	No

5-8-15 5557

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: JM

15. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

TestAmerica Burlington

INTERNAL CHAIN OF CUSTODY LOG (ICOC)

Project Information:

Log In #: 180-43799	Method: ORGANOTINS
Client: EA ENGINEERING	LAB IDs: 180-43799-1

Samples associated with this log-in were placed into storage on 5/8/2015 (Date) 1310 (Time[2]) by:Ken Goodrich

Sample Custodian Signature

Storage Location: WO5 *Specify storage location (refrigerator, freezer ID or lab location) for original sample containers*

Storage Condition: Refrigeration ☐ Frozen Ambient

Internal Transfer Information

Sample Type		Lab ID(s)	Transfer	Transfer	Purpose of Transfer			Relinquished	Received	Storage Location
Original	Prepared[1]		Date	Time[2]	Prep	Analysis	Storage	By:	By:	Prepared Sample[1]
X		180-43799-1	5/11/15	0630	X					LW
X		" "	"	"			X			WR
	X	" "	"	1500	X					LW
	/	"	5/12/15	1200		/				GC Lab
	-	"	5/12/15	1300			/			GC Storage

[1] Extract, digestate, or any other prepared sample that is no longer in original sample container

[2] Military Time

ATTACHMENT III

STFATE MODEL RESULTS

TIER II STFATE RESULTS,
WATER QUALITY CRITERIA

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel - TS-1

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 33,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 98

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	1.07E-23	9.35E+20
4.0	15	1.01E-14	9.90E+11
4.0	30	1.83E-08	5.46E+05
4.0	45	3.20E-05	3.12E+02
4.0	65	1.36E-05	7.34E+02
4.0	53.6	1.01E-04	9.80E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.30E-05	7.68E+02
53.6	3.83	9.63E-05	1.03E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel - TS-1

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel - TS-1

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

3.67	45.0	0.300E-04	0.300E-04	8000.	7800.	0.225E-04	0.225E-04
3.83	45.0	0.311E-04	0.311E-04	8100.	8000.	0.267E-04	0.267E-04
4.00	45.0	0.320E-04	0.320E-04	8300.	8100.	0.299E-04	0.299E-04

0.17	65.0	0.633E-03	0.633E-03	5100.	4900.	0.000E+00	0.000E+00
0.33	65.0	0.475E-03	0.475E-03	5200.	5100.	0.000E+00	0.000E+00
0.50	65.0	0.371E-03	0.371E-03	5400.	5200.	0.000E+00	0.000E+00
0.67	65.0	0.295E-03	0.295E-03	5500.	5300.	0.000E+00	0.000E+00
0.83	65.0	0.234E-03	0.234E-03	5600.	5500.	0.000E+00	0.000E+00
1.00	65.0	0.191E-03	0.191E-03	5800.	5600.	0.000E+00	0.000E+00
1.17	65.0	0.155E-03	0.155E-03	5900.	5800.	0.000E+00	0.000E+00
1.33	65.0	0.128E-03	0.128E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	65.0	0.107E-03	0.107E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	65.0	0.895E-04	0.895E-04	6300.	6200.	0.000E+00	0.000E+00
1.83	65.0	0.759E-04	0.759E-04	6500.	6300.	0.000E+00	0.000E+00
2.00	65.0	0.644E-04	0.644E-04	6600.	6400.	0.000E+00	0.000E+00
2.17	65.0	0.551E-04	0.551E-04	6700.	6600.	0.000E+00	0.000E+00
2.33	65.0	0.476E-04	0.476E-04	6900.	6700.	0.000E+00	0.000E+00
2.50	65.0	0.411E-04	0.411E-04	7000.	6900.	0.000E+00	0.000E+00
2.67	65.0	0.358E-04	0.358E-04	7200.	7000.	0.000E+00	0.000E+00
2.83	65.0	0.313E-04	0.313E-04	7300.	7100.	0.364E-05	0.364E-05
3.00	65.0	0.275E-04	0.275E-04	7400.	7300.	0.585E-05	0.585E-05
3.17	65.0	0.243E-04	0.243E-04	7600.	7400.	0.820E-05	0.820E-05
3.33	65.0	0.214E-04	0.214E-04	7700.	7600.	0.103E-04	0.103E-04
3.50	65.0	0.191E-04	0.191E-04	7900.	7700.	0.119E-04	0.119E-04
3.67	65.0	0.170E-04	0.170E-04	8000.	7800.	0.128E-04	0.128E-04
3.83	65.0	0.152E-04	0.152E-04	8100.	8000.	0.130E-04	0.130E-04
4.00	65.0	0.136E-04	0.136E-04	8300.	8100.	0.127E-04	0.127E-04

0.17	53.6	0.468E-02	0.468E-02	5100.	4900.	0.000E+00	0.000E+00
0.33	53.6	0.351E-02	0.351E-02	5200.	5100.	0.000E+00	0.000E+00
0.50	53.6	0.274E-02	0.274E-02	5400.	5200.	0.000E+00	0.000E+00
0.67	53.6	0.218E-02	0.218E-02	5500.	5300.	0.000E+00	0.000E+00
0.83	53.6	0.173E-02	0.173E-02	5600.	5500.	0.000E+00	0.000E+00
1.00	53.6	0.141E-02	0.141E-02	5800.	5600.	0.000E+00	0.000E+00
1.17	53.6	0.114E-02	0.114E-02	5900.	5800.	0.000E+00	0.000E+00
1.33	53.6	0.945E-03	0.945E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	53.6	0.791E-03	0.791E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	53.6	0.661E-03	0.661E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	53.6	0.561E-03	0.561E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	53.6	0.476E-03	0.476E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	53.6	0.407E-03	0.407E-03	6700.	6600.	0.000E+00	0.000E+00
2.33	53.6	0.352E-03	0.352E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	53.6	0.304E-03	0.304E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	53.6	0.265E-03	0.265E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	53.6	0.231E-03	0.231E-03	7300.	7100.	0.269E-04	0.269E-04
3.00	53.6	0.203E-03	0.203E-03	7400.	7300.	0.432E-04	0.432E-04
3.17	53.6	0.179E-03	0.179E-03	7600.	7400.	0.606E-04	0.606E-04
3.33	53.6	0.158E-03	0.158E-03	7700.	7600.	0.760E-04	0.760E-04
3.50	53.6	0.141E-03	0.141E-03	7900.	7700.	0.877E-04	0.877E-04
3.67	53.6	0.125E-03	0.125E-03	8000.	7800.	0.943E-04	0.943E-04
3.83	53.6	0.112E-03	0.112E-03	8100.	8000.	0.963E-04	0.963E-04
4.00	53.6	0.101E-03	0.101E-03	8300.	8100.	0.940E-04	0.940E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-2ST

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 48,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 99

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	6.58E-21	1.52E+18
4.0	15	3.50E-13	2.86E+10
4.0	30	8.27E-08	1.21E+05
4.0	45	4.33E-05	2.30E+02
4.0	65	1.36E-05	7.34E+02
4.0	52.9	1.00E-04	9.90E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.31E-05	7.62E+02
52.9	3.83	9.68E-05	1.02E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-2ST

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-2ST

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

3.33	65.0	0.210E-04	0.210E-04	7700.	7600.	0.109E-04	0.109E-04
3.50	65.0	0.187E-04	0.187E-04	7900.	7700.	0.122E-04	0.122E-04
3.67	65.0	0.168E-04	0.168E-04	8000.	7800.	0.130E-04	0.130E-04
3.83	65.0	0.151E-04	0.151E-04	8100.	8000.	0.131E-04	0.131E-04
4.00	65.0	0.136E-04	0.136E-04	8300.	8100.	0.127E-04	0.127E-04

0.17	52.9	0.366E-02	0.366E-02	5100.	4900.	0.000E+00	0.000E+00
0.33	52.9	0.282E-02	0.282E-02	5200.	5100.	0.000E+00	0.000E+00
0.50	52.9	0.225E-02	0.225E-02	5400.	5200.	0.000E+00	0.000E+00
0.67	52.9	0.182E-02	0.182E-02	5500.	5300.	0.000E+00	0.000E+00
0.83	52.9	0.147E-02	0.147E-02	5600.	5500.	0.000E+00	0.000E+00
1.00	52.9	0.122E-02	0.122E-02	5800.	5600.	0.000E+00	0.000E+00
1.17	52.9	0.100E-02	0.100E-02	5900.	5800.	0.000E+00	0.000E+00
1.33	52.9	0.838E-03	0.838E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	52.9	0.709E-03	0.709E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	52.9	0.600E-03	0.600E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	52.9	0.513E-03	0.513E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	52.9	0.440E-03	0.440E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	52.9	0.380E-03	0.380E-03	6700.	6600.	0.000E+00	0.000E+00
2.33	52.9	0.331E-03	0.331E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	52.9	0.288E-03	0.288E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	52.9	0.253E-03	0.253E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	52.9	0.222E-03	0.222E-03	7300.	7100.	0.332E-04	0.332E-04
3.00	52.9	0.196E-03	0.196E-03	7400.	7300.	0.497E-04	0.497E-04
3.17	52.9	0.174E-03	0.174E-03	7600.	7400.	0.662E-04	0.662E-04
3.33	52.9	0.155E-03	0.155E-03	7700.	7600.	0.802E-04	0.802E-04
3.50	52.9	0.138E-03	0.138E-03	7900.	7700.	0.904E-04	0.904E-04
3.67	52.9	0.124E-03	0.124E-03	8000.	7800.	0.957E-04	0.957E-04
3.83	52.9	0.111E-03	0.111E-03	8100.	8000.	0.968E-04	0.968E-04
4.00	52.9	0.100E-03	0.100E-03	8300.	8100.	0.942E-04	0.942E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-2MT

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 46,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 98

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	3.33E-21	3.00E+18
4.0	15	2.41E-13	4.15E+10
4.0	30	7.08E-08	1.41E+05
4.0	45	4.21E-05	2.37E+02
4.0	65	1.36E-05	7.34E+02
4.0	53	1.01E-04	9.80E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.31E-05	7.62E+02
53	3.83	9.71E-05	1.02E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-2MT

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-2MT

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

3.17	53.0	0.175E-03	0.175E-03	7600.	7400.	0.658E-04	0.658E-04
3.33	53.0	0.156E-03	0.156E-03	7700.	7600.	0.801E-04	0.801E-04
3.50	53.0	0.139E-03	0.139E-03	7900.	7700.	0.905E-04	0.905E-04
3.67	53.0	0.125E-03	0.125E-03	8000.	7800.	0.959E-04	0.959E-04
3.83	53.0	0.112E-03	0.112E-03	8100.	8000.	0.971E-04	0.971E-04
4.00	53.0	0.101E-03	0.101E-03	8300.	8100.	0.945E-04	0.945E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-2NT

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 50,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 98

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	1.25E-20	8.00E+17
4.0	15	4.99E-13	2.00E+10
4.0	30	9.63E-08	1.04E+05
4.0	45	4.47E-05	2.23E+02
4.0	65	1.36E-05	7.34E+02
4.0	52.8	1.01E-04	9.80E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.32E-05	7.57E+02
52.8	3.83	9.73E-05	1.02E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-2NT

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-2NT

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

2.67	65.0	0.342E-04	0.342E-04	7200.	7000.	0.000E+00	0.000E+00
2.83	65.0	0.301E-04	0.301E-04	7300.	7100.	0.459E-05	0.459E-05
3.00	65.0	0.266E-04	0.266E-04	7400.	7300.	0.685E-05	0.685E-05
3.17	65.0	0.236E-04	0.236E-04	7600.	7400.	0.907E-05	0.907E-05
3.33	65.0	0.210E-04	0.210E-04	7700.	7600.	0.110E-04	0.110E-04
3.50	65.0	0.188E-04	0.188E-04	7900.	7700.	0.123E-04	0.123E-04
3.67	65.0	0.168E-04	0.168E-04	8000.	7800.	0.130E-04	0.130E-04
3.83	65.0	0.151E-04	0.151E-04	8100.	8000.	0.132E-04	0.132E-04
4.00	65.0	0.136E-04	0.136E-04	8300.	8100.	0.128E-04	0.128E-04

0.17	52.8	0.359E-02	0.359E-02	5100.	4900.	0.000E+00	0.000E+00
0.33	52.8	0.278E-02	0.278E-02	5200.	5100.	0.000E+00	0.000E+00
0.50	52.8	0.222E-02	0.222E-02	5400.	5200.	0.000E+00	0.000E+00
0.67	52.8	0.180E-02	0.180E-02	5500.	5300.	0.000E+00	0.000E+00
0.83	52.8	0.146E-02	0.146E-02	5600.	5500.	0.000E+00	0.000E+00
1.00	52.8	0.121E-02	0.121E-02	5800.	5600.	0.000E+00	0.000E+00
1.17	52.8	0.994E-03	0.994E-03	5900.	5800.	0.000E+00	0.000E+00
1.33	52.8	0.832E-03	0.832E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	52.8	0.705E-03	0.705E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	52.8	0.598E-03	0.598E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	52.8	0.511E-03	0.511E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	52.8	0.439E-03	0.439E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	52.8	0.379E-03	0.379E-03	6700.	6600.	0.000E+00	0.000E+00
2.33	52.8	0.330E-03	0.330E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	52.8	0.288E-03	0.288E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	52.8	0.253E-03	0.253E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	52.8	0.222E-03	0.222E-03	7300.	7100.	0.340E-04	0.340E-04
3.00	52.8	0.196E-03	0.196E-03	7400.	7300.	0.506E-04	0.506E-04
3.17	52.8	0.175E-03	0.175E-03	7600.	7400.	0.671E-04	0.671E-04
3.33	52.8	0.155E-03	0.155E-03	7700.	7600.	0.810E-04	0.810E-04
3.50	52.8	0.139E-03	0.139E-03	7900.	7700.	0.911E-04	0.911E-04
3.67	52.8	0.124E-03	0.124E-03	8000.	7800.	0.963E-04	0.963E-04
3.83	52.8	0.112E-03	0.112E-03	8100.	8000.	0.973E-04	0.973E-04
4.00	52.8	0.101E-03	0.101E-03	8300.	8100.	0.947E-04	0.947E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-2SB

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 39,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 98

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	1.97E-22	5.08E+19
4.0	15	5.08E-14	1.97E+11
4.0	30	3.67E-08	2.72E+05
4.0	45	3.71E-05	2.69E+02
4.0	65	1.37E-05	7.29E+02
4.0	53.3	1.01E-04	9.80E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.32E-05	7.57E+02
53.3	3.83	9.73E-05	1.02E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-2SB

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-2SB

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

3.67	45.0	0.358E-04	0.358E-04	8000.	7800.	0.272E-04	0.272E-04
3.83	45.0	0.366E-04	0.366E-04	8100.	8000.	0.316E-04	0.316E-04
4.00	45.0	0.371E-04	0.371E-04	8300.	8100.	0.347E-04	0.347E-04

0.17	65.0	0.572E-03	0.572E-03	5100.	4900.	0.000E+00	0.000E+00
0.33	65.0	0.435E-03	0.435E-03	5200.	5100.	0.000E+00	0.000E+00
0.50	65.0	0.343E-03	0.343E-03	5400.	5200.	0.000E+00	0.000E+00
0.67	65.0	0.275E-03	0.275E-03	5500.	5300.	0.000E+00	0.000E+00
0.83	65.0	0.220E-03	0.220E-03	5600.	5500.	0.000E+00	0.000E+00
1.00	65.0	0.180E-03	0.180E-03	5800.	5600.	0.000E+00	0.000E+00
1.17	65.0	0.147E-03	0.147E-03	5900.	5800.	0.000E+00	0.000E+00
1.33	65.0	0.122E-03	0.122E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	65.0	0.103E-03	0.103E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	65.0	0.865E-04	0.865E-04	6300.	6200.	0.000E+00	0.000E+00
1.83	65.0	0.736E-04	0.736E-04	6500.	6300.	0.000E+00	0.000E+00
2.00	65.0	0.627E-04	0.627E-04	6600.	6400.	0.000E+00	0.000E+00
2.17	65.0	0.539E-04	0.539E-04	6700.	6600.	0.000E+00	0.000E+00
2.33	65.0	0.467E-04	0.467E-04	6900.	6700.	0.000E+00	0.000E+00
2.50	65.0	0.405E-04	0.405E-04	7000.	6900.	0.000E+00	0.000E+00
2.67	65.0	0.354E-04	0.354E-04	7200.	7000.	0.000E+00	0.000E+00
2.83	65.0	0.310E-04	0.310E-04	7300.	7100.	0.403E-05	0.403E-05
3.00	65.0	0.273E-04	0.273E-04	7400.	7300.	0.628E-05	0.628E-05
3.17	65.0	0.242E-04	0.242E-04	7600.	7400.	0.859E-05	0.859E-05
3.33	65.0	0.214E-04	0.214E-04	7700.	7600.	0.106E-04	0.106E-04
3.50	65.0	0.191E-04	0.191E-04	7900.	7700.	0.121E-04	0.121E-04
3.67	65.0	0.170E-04	0.170E-04	8000.	7800.	0.130E-04	0.130E-04
3.83	65.0	0.152E-04	0.152E-04	8100.	8000.	0.132E-04	0.132E-04
4.00	65.0	0.137E-04	0.137E-04	8300.	8100.	0.128E-04	0.128E-04

0.17	53.3	0.423E-02	0.423E-02	5100.	4900.	0.000E+00	0.000E+00
0.33	53.3	0.321E-02	0.321E-02	5200.	5100.	0.000E+00	0.000E+00
0.50	53.3	0.253E-02	0.253E-02	5400.	5200.	0.000E+00	0.000E+00
0.67	53.3	0.203E-02	0.203E-02	5500.	5300.	0.000E+00	0.000E+00
0.83	53.3	0.163E-02	0.163E-02	5600.	5500.	0.000E+00	0.000E+00
1.00	53.3	0.133E-02	0.133E-02	5800.	5600.	0.000E+00	0.000E+00
1.17	53.3	0.109E-02	0.109E-02	5900.	5800.	0.000E+00	0.000E+00
1.33	53.3	0.904E-03	0.904E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	53.3	0.760E-03	0.760E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	53.3	0.639E-03	0.639E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	53.3	0.544E-03	0.544E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	53.3	0.463E-03	0.463E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	53.3	0.398E-03	0.398E-03	6700.	6600.	0.000E+00	0.000E+00
2.33	53.3	0.345E-03	0.345E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	53.3	0.299E-03	0.299E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	53.3	0.262E-03	0.262E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	53.3	0.229E-03	0.229E-03	7300.	7100.	0.297E-04	0.297E-04
3.00	53.3	0.202E-03	0.202E-03	7400.	7300.	0.464E-04	0.464E-04
3.17	53.3	0.179E-03	0.179E-03	7600.	7400.	0.635E-04	0.635E-04
3.33	53.3	0.158E-03	0.158E-03	7700.	7600.	0.785E-04	0.785E-04
3.50	53.3	0.141E-03	0.141E-03	7900.	7700.	0.896E-04	0.896E-04
3.67	53.3	0.126E-03	0.126E-03	8000.	7800.	0.957E-04	0.957E-04
3.83	53.3	0.113E-03	0.113E-03	8100.	8000.	0.973E-04	0.973E-04
4.00	53.3	0.101E-03	0.101E-03	8300.	8100.	0.949E-04	0.949E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-2NB

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 34,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 98

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	1.78E-23	5.62E+20
4.0	15	1.34E-14	7.46E+11
4.0	30	2.07E-08	4.83E+05
4.0	45	3.28E-05	3.04E+02
4.0	65	1.36E-05	7.34E+02
4.0	53.6	1.01E-04	9.80E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.31E-05	7.62E+02
53.6	3.83	9.64E-05	1.03E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-2NB

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-2NB

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

0.50	53.6	0.270E-02	0.270E-02	5400.	5200.	0.000E+00	0.000E+00
0.67	53.6	0.215E-02	0.215E-02	5500.	5300.	0.000E+00	0.000E+00
0.83	53.6	0.171E-02	0.171E-02	5600.	5500.	0.000E+00	0.000E+00
1.00	53.6	0.140E-02	0.140E-02	5800.	5600.	0.000E+00	0.000E+00
1.17	53.6	0.113E-02	0.113E-02	5900.	5800.	0.000E+00	0.000E+00
1.33	53.6	0.937E-03	0.937E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	53.6	0.785E-03	0.785E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	53.6	0.657E-03	0.657E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	53.6	0.557E-03	0.557E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	53.6	0.473E-03	0.473E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	53.6	0.405E-03	0.405E-03	6700.	6600.	0.000E+00	0.000E+00
2.33	53.6	0.351E-03	0.351E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	53.6	0.303E-03	0.303E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	53.6	0.264E-03	0.264E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	53.6	0.231E-03	0.231E-03	7300.	7100.	0.274E-04	0.274E-04
3.00	53.6	0.203E-03	0.203E-03	7400.	7300.	0.438E-04	0.438E-04
3.17	53.6	0.179E-03	0.179E-03	7600.	7400.	0.611E-04	0.611E-04
3.33	53.6	0.158E-03	0.158E-03	7700.	7600.	0.765E-04	0.765E-04
3.50	53.6	0.141E-03	0.141E-03	7900.	7700.	0.881E-04	0.881E-04
3.67	53.6	0.126E-03	0.126E-03	8000.	7800.	0.946E-04	0.946E-04
3.83	53.6	0.112E-03	0.112E-03	8100.	8000.	0.964E-04	0.964E-04
4.00	53.6	0.101E-03	0.101E-03	8300.	8100.	0.942E-04	0.942E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-3ST

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 37,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 99

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	8.30E-23	1.20E+20
4.0	15	3.13E-14	3.19E+11
4.0	30	2.97E-08	3.37E+05
4.0	45	3.52E-05	2.83E+02
4.0	65	1.36E-05	7.34E+02
4.0	53.4	1.00E-04	9.90E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.30E-05	7.68E+02
53.4	3.83	9.62E-05	1.03E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-3ST

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-3ST

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

0.17	45.0	0.945E-09	0.945E-09	5100.	4900.	0.000E+00	0.000E+00
0.33	45.0	0.519E-08	0.519E-08	5200.	5100.	0.000E+00	0.000E+00
0.50	45.0	0.218E-07	0.218E-07	5400.	5200.	0.000E+00	0.000E+00
0.67	45.0	0.728E-07	0.728E-07	5500.	5300.	0.000E+00	0.000E+00
0.83	45.0	0.198E-06	0.198E-06	5600.	5500.	0.000E+00	0.000E+00
1.00	45.0	0.466E-06	0.466E-06	5800.	5600.	0.000E+00	0.000E+00
1.17	45.0	0.947E-06	0.947E-06	5900.	5800.	0.000E+00	0.000E+00
1.33	45.0	0.174E-05	0.174E-05	6100.	5900.	0.000E+00	0.000E+00
1.50	45.0	0.293E-05	0.293E-05	6200.	6000.	0.000E+00	0.000E+00
1.67	45.0	0.453E-05	0.453E-05	6300.	6200.	0.000E+00	0.000E+00
1.83	45.0	0.658E-05	0.658E-05	6500.	6300.	0.000E+00	0.000E+00
2.00	45.0	0.898E-05	0.898E-05	6600.	6400.	0.000E+00	0.000E+00
2.17	45.0	0.117E-04	0.117E-04	6700.	6600.	0.000E+00	0.000E+00
2.33	45.0	0.147E-04	0.147E-04	6900.	6700.	0.000E+00	0.000E+00
2.50	45.0	0.177E-04	0.177E-04	7000.	6900.	0.000E+00	0.000E+00
2.67	45.0	0.208E-04	0.208E-04	7200.	7000.	0.000E+00	0.000E+00
2.83	45.0	0.236E-04	0.236E-04	7300.	7100.	0.298E-05	0.298E-05
3.00	45.0	0.263E-04	0.263E-04	7400.	7300.	0.592E-05	0.592E-05
3.17	45.0	0.287E-04	0.287E-04	7600.	7400.	0.101E-04	0.101E-04
3.33	45.0	0.307E-04	0.307E-04	7700.	7600.	0.151E-04	0.151E-04
3.50	45.0	0.324E-04	0.324E-04	7900.	7700.	0.205E-04	0.205E-04
3.67	45.0	0.337E-04	0.337E-04	8000.	7800.	0.256E-04	0.256E-04
3.83	45.0	0.346E-04	0.346E-04	8100.	8000.	0.298E-04	0.298E-04
4.00	45.0	0.352E-04	0.352E-04	8300.	8100.	0.330E-04	0.330E-04

0.17	65.0	0.584E-03	0.584E-03	5100.	4900.	0.000E+00	0.000E+00
0.33	65.0	0.442E-03	0.442E-03	5200.	5100.	0.000E+00	0.000E+00
0.50	65.0	0.348E-03	0.348E-03	5400.	5200.	0.000E+00	0.000E+00
0.67	65.0	0.278E-03	0.278E-03	5500.	5300.	0.000E+00	0.000E+00
0.83	65.0	0.222E-03	0.222E-03	5600.	5500.	0.000E+00	0.000E+00
1.00	65.0	0.182E-03	0.182E-03	5800.	5600.	0.000E+00	0.000E+00
1.17	65.0	0.148E-03	0.148E-03	5900.	5800.	0.000E+00	0.000E+00
1.33	65.0	0.123E-03	0.123E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	65.0	0.103E-03	0.103E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	65.0	0.866E-04	0.866E-04	6300.	6200.	0.000E+00	0.000E+00
1.83	65.0	0.736E-04	0.736E-04	6500.	6300.	0.000E+00	0.000E+00
2.00	65.0	0.626E-04	0.626E-04	6600.	6400.	0.000E+00	0.000E+00
2.17	65.0	0.538E-04	0.538E-04	6700.	6600.	0.000E+00	0.000E+00
2.33	65.0	0.466E-04	0.466E-04	6900.	6700.	0.000E+00	0.000E+00
2.50	65.0	0.403E-04	0.403E-04	7000.	6900.	0.000E+00	0.000E+00
2.67	65.0	0.352E-04	0.352E-04	7200.	7000.	0.000E+00	0.000E+00
2.83	65.0	0.308E-04	0.308E-04	7300.	7100.	0.388E-05	0.388E-05
3.00	65.0	0.271E-04	0.271E-04	7400.	7300.	0.610E-05	0.610E-05
3.17	65.0	0.240E-04	0.240E-04	7600.	7400.	0.841E-05	0.841E-05
3.33	65.0	0.212E-04	0.212E-04	7700.	7600.	0.104E-04	0.104E-04
3.50	65.0	0.189E-04	0.189E-04	7900.	7700.	0.120E-04	0.120E-04
3.67	65.0	0.169E-04	0.169E-04	8000.	7800.	0.128E-04	0.128E-04
3.83	65.0	0.151E-04	0.151E-04	8100.	8000.	0.130E-04	0.130E-04
4.00	65.0	0.136E-04	0.136E-04	8300.	8100.	0.127E-04	0.127E-04

0.17	53.4	0.431E-02	0.431E-02	5100.	4900.	0.000E+00	0.000E+00
0.33	53.4	0.327E-02	0.327E-02	5200.	5100.	0.000E+00	0.000E+00
0.50	53.4	0.257E-02	0.257E-02	5400.	5200.	0.000E+00	0.000E+00
0.67	53.4	0.205E-02	0.205E-02	5500.	5300.	0.000E+00	0.000E+00
0.83	53.4	0.164E-02	0.164E-02	5600.	5500.	0.000E+00	0.000E+00
1.00	53.4	0.134E-02	0.134E-02	5800.	5600.	0.000E+00	0.000E+00
1.17	53.4	0.109E-02	0.109E-02	5900.	5800.	0.000E+00	0.000E+00
1.33	53.4	0.907E-03	0.907E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	53.4	0.762E-03	0.762E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	53.4	0.640E-03	0.640E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	53.4	0.544E-03	0.544E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	53.4	0.463E-03	0.463E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	53.4	0.397E-03	0.397E-03	6700.	6600.	0.000E+00	0.000E+00
2.33	53.4	0.344E-03	0.344E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	53.4	0.298E-03	0.298E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	53.4	0.260E-03	0.260E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	53.4	0.228E-03	0.228E-03	7300.	7100.	0.287E-04	0.287E-04
3.00	53.4	0.200E-03	0.200E-03	7400.	7300.	0.451E-04	0.451E-04
3.17	53.4	0.177E-03	0.177E-03	7600.	7400.	0.621E-04	0.621E-04
3.33	53.4	0.157E-03	0.157E-03	7700.	7600.	0.771E-04	0.771E-04
3.50	53.4	0.140E-03	0.140E-03	7900.	7700.	0.883E-04	0.883E-04
3.67	53.4	0.125E-03	0.125E-03	8000.	7800.	0.945E-04	0.945E-04
3.83	53.4	0.112E-03	0.112E-03	8100.	8000.	0.962E-04	0.962E-04
4.00	53.4	0.100E-03	0.100E-03	8300.	8100.	0.938E-04	0.938E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-3NT

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 36,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 98

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	5.66E-23	1.77E+20
4.0	15	2.54E-14	3.94E+11
4.0	30	2.72E-08	3.68E+05
4.0	45	3.47E-05	2.87E+02
4.0	65	1.36E-05	7.34E+02
4.0	53.4	1.01E-04	9.80E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.30E-05	7.68E+02
53.4	3.83	9.64E-05	1.03E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-3NT

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-3NT

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

2.17	65.0	0.541E-04	0.541E-04	6700.	6600.	0.000E+00	0.000E+00
2.33	65.0	0.468E-04	0.468E-04	6900.	6700.	0.000E+00	0.000E+00
2.50	65.0	0.406E-04	0.406E-04	7000.	6900.	0.000E+00	0.000E+00
2.67	65.0	0.354E-04	0.354E-04	7200.	7000.	0.000E+00	0.000E+00
2.83	65.0	0.310E-04	0.310E-04	7300.	7100.	0.384E-05	0.384E-05
3.00	65.0	0.272E-04	0.272E-04	7400.	7300.	0.607E-05	0.607E-05
3.17	65.0	0.241E-04	0.241E-04	7600.	7400.	0.839E-05	0.839E-05
3.33	65.0	0.213E-04	0.213E-04	7700.	7600.	0.104E-04	0.104E-04
3.50	65.0	0.190E-04	0.190E-04	7900.	7700.	0.120E-04	0.120E-04
3.67	65.0	0.169E-04	0.169E-04	8000.	7800.	0.128E-04	0.128E-04
3.83	65.0	0.151E-04	0.151E-04	8100.	8000.	0.130E-04	0.130E-04
4.00	65.0	0.136E-04	0.136E-04	8300.	8100.	0.127E-04	0.127E-04

0.17	53.4	0.439E-02	0.439E-02	5100.	4900.	0.000E+00	0.000E+00
0.33	53.4	0.332E-02	0.332E-02	5200.	5100.	0.000E+00	0.000E+00
0.50	53.4	0.261E-02	0.261E-02	5400.	5200.	0.000E+00	0.000E+00
0.67	53.4	0.208E-02	0.208E-02	5500.	5300.	0.000E+00	0.000E+00
0.83	53.4	0.166E-02	0.166E-02	5600.	5500.	0.000E+00	0.000E+00
1.00	53.4	0.136E-02	0.136E-02	5800.	5600.	0.000E+00	0.000E+00
1.17	53.4	0.110E-02	0.110E-02	5900.	5800.	0.000E+00	0.000E+00
1.33	53.4	0.916E-03	0.916E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	53.4	0.769E-03	0.769E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	53.4	0.645E-03	0.645E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	53.4	0.548E-03	0.548E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	53.4	0.466E-03	0.466E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	53.4	0.400E-03	0.400E-03	6700.	6600.	0.000E+00	0.000E+00
2.33	53.4	0.346E-03	0.346E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	53.4	0.300E-03	0.300E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	53.4	0.262E-03	0.262E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	53.4	0.229E-03	0.229E-03	7300.	7100.	0.284E-04	0.284E-04
3.00	53.4	0.201E-03	0.201E-03	7400.	7300.	0.448E-04	0.448E-04
3.17	53.4	0.178E-03	0.178E-03	7600.	7400.	0.620E-04	0.620E-04
3.33	53.4	0.157E-03	0.157E-03	7700.	7600.	0.771E-04	0.771E-04
3.50	53.4	0.140E-03	0.140E-03	7900.	7700.	0.884E-04	0.884E-04
3.67	53.4	0.125E-03	0.125E-03	8000.	7800.	0.947E-04	0.947E-04
3.83	53.4	0.112E-03	0.112E-03	8100.	8000.	0.964E-04	0.964E-04
4.00	53.4	0.101E-03	0.101E-03	8300.	8100.	0.940E-04	0.940E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-3SB

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 31,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 99

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	3.56E-24	2.81E+21
4.0	15	5.47E-15	1.83E+12
4.0	30	1.41E-08	7.09E+05
4.0	45	3.01E-05	3.31E+02
4.0	65	1.36E-05	7.34E+02
4.0	53.7	1.00E-04	9.90E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.29E-05	7.74E+02
53.7	3.83	9.56E-05	1.04E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-3SB

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-3SB

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

3.17	45.0	0.223E-04	0.223E-04	7600.	7400.	0.738E-05	0.738E-05
3.33	45.0	0.244E-04	0.244E-04	7700.	7600.	0.116E-04	0.116E-04
3.50	45.0	0.264E-04	0.264E-04	7900.	7700.	0.163E-04	0.163E-04
3.67	45.0	0.279E-04	0.279E-04	8000.	7800.	0.209E-04	0.209E-04
3.83	45.0	0.292E-04	0.292E-04	8100.	8000.	0.250E-04	0.250E-04
4.00	45.0	0.301E-04	0.301E-04	8300.	8100.	0.281E-04	0.281E-04

0.17	65.0	0.657E-03	0.657E-03	5100.	4900.	0.000E+00	0.000E+00
0.33	65.0	0.489E-03	0.489E-03	5200.	5100.	0.000E+00	0.000E+00
0.50	65.0	0.382E-03	0.382E-03	5400.	5200.	0.000E+00	0.000E+00
0.67	65.0	0.302E-03	0.302E-03	5500.	5300.	0.000E+00	0.000E+00
0.83	65.0	0.239E-03	0.239E-03	5600.	5500.	0.000E+00	0.000E+00
1.00	65.0	0.195E-03	0.195E-03	5800.	5600.	0.000E+00	0.000E+00
1.17	65.0	0.157E-03	0.157E-03	5900.	5800.	0.000E+00	0.000E+00
1.33	65.0	0.130E-03	0.130E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	65.0	0.108E-03	0.108E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	65.0	0.904E-04	0.904E-04	6300.	6200.	0.000E+00	0.000E+00
1.83	65.0	0.765E-04	0.765E-04	6500.	6300.	0.000E+00	0.000E+00
2.00	65.0	0.648E-04	0.648E-04	6600.	6400.	0.000E+00	0.000E+00
2.17	65.0	0.554E-04	0.554E-04	6700.	6600.	0.000E+00	0.000E+00
2.33	65.0	0.478E-04	0.478E-04	6900.	6700.	0.000E+00	0.000E+00
2.50	65.0	0.413E-04	0.413E-04	7000.	6900.	0.000E+00	0.000E+00
2.67	65.0	0.359E-04	0.359E-04	7200.	7000.	0.000E+00	0.000E+00
2.83	65.0	0.313E-04	0.313E-04	7300.	7100.	0.348E-05	0.348E-05
3.00	65.0	0.275E-04	0.275E-04	7400.	7300.	0.568E-05	0.568E-05
3.17	65.0	0.242E-04	0.242E-04	7600.	7400.	0.802E-05	0.802E-05
3.33	65.0	0.214E-04	0.214E-04	7700.	7600.	0.101E-04	0.101E-04
3.50	65.0	0.190E-04	0.190E-04	7900.	7700.	0.117E-04	0.117E-04
3.67	65.0	0.169E-04	0.169E-04	8000.	7800.	0.127E-04	0.127E-04
3.83	65.0	0.151E-04	0.151E-04	8100.	8000.	0.129E-04	0.129E-04
4.00	65.0	0.136E-04	0.136E-04	8300.	8100.	0.126E-04	0.126E-04

0.17	53.7	0.485E-02	0.485E-02	5100.	4900.	0.000E+00	0.000E+00
0.33	53.7	0.362E-02	0.362E-02	5200.	5100.	0.000E+00	0.000E+00
0.50	53.7	0.282E-02	0.282E-02	5400.	5200.	0.000E+00	0.000E+00
0.67	53.7	0.223E-02	0.223E-02	5500.	5300.	0.000E+00	0.000E+00
0.83	53.7	0.177E-02	0.177E-02	5600.	5500.	0.000E+00	0.000E+00
1.00	53.7	0.144E-02	0.144E-02	5800.	5600.	0.000E+00	0.000E+00
1.17	53.7	0.116E-02	0.116E-02	5900.	5800.	0.000E+00	0.000E+00
1.33	53.7	0.958E-03	0.958E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	53.7	0.800E-03	0.800E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	53.7	0.668E-03	0.668E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	53.7	0.565E-03	0.565E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	53.7	0.479E-03	0.479E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	53.7	0.409E-03	0.409E-03	6700.	6600.	0.000E+00	0.000E+00
2.33	53.7	0.353E-03	0.353E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	53.7	0.305E-03	0.305E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	53.7	0.265E-03	0.265E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	53.7	0.231E-03	0.231E-03	7300.	7100.	0.257E-04	0.257E-04
3.00	53.7	0.203E-03	0.203E-03	7400.	7300.	0.419E-04	0.419E-04
3.17	53.7	0.179E-03	0.179E-03	7600.	7400.	0.593E-04	0.593E-04
3.33	53.7	0.158E-03	0.158E-03	7700.	7600.	0.748E-04	0.748E-04
3.50	53.7	0.140E-03	0.140E-03	7900.	7700.	0.868E-04	0.868E-04
3.67	53.7	0.125E-03	0.125E-03	8000.	7800.	0.935E-04	0.935E-04
3.83	53.7	0.112E-03	0.112E-03	8100.	8000.	0.956E-04	0.956E-04
4.00	53.7	0.100E-03	0.100E-03	8300.	8100.	0.934E-04	0.934E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-3NB

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 35,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 99

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	3.40E-23	2.94E+20
4.0	15	1.91E-14	5.24E+11
4.0	30	2.40E-08	4.17E+05
4.0	45	3.38E-05	2.95E+02
4.0	65	1.36E-05	7.34E+02
4.0	53.5	1.00E-04	9.90E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.30E-05	7.68E+02
53.5	3.83	9.62E-05	1.03E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-3NB

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-3NB

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

1.67	53.5	0.649E-03	0.649E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	53.5	0.551E-03	0.551E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	53.5	0.468E-03	0.468E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	53.5	0.401E-03	0.401E-03	6700.	6600.	0.000E+00	0.000E+00
2.33	53.5	0.347E-03	0.347E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	53.5	0.301E-03	0.301E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	53.5	0.262E-03	0.262E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	53.5	0.229E-03	0.229E-03	7300.	7100.	0.278E-04	0.278E-04
3.00	53.5	0.201E-03	0.201E-03	7400.	7300.	0.442E-04	0.442E-04
3.17	53.5	0.178E-03	0.178E-03	7600.	7400.	0.614E-04	0.614E-04
3.33	53.5	0.157E-03	0.157E-03	7700.	7600.	0.766E-04	0.766E-04
3.50	53.5	0.140E-03	0.140E-03	7900.	7700.	0.880E-04	0.880E-04
3.67	53.5	0.125E-03	0.125E-03	8000.	7800.	0.944E-04	0.944E-04
3.83	53.5	0.112E-03	0.112E-03	8100.	8000.	0.962E-04	0.962E-04
4.00	53.5	0.100E-03	0.100E-03	8300.	8100.	0.939E-04	0.939E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-4ST

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 38,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 98

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	1.26E-22	7.94E+19
4.0	15	3.97E-14	2.52E+11
4.0	30	3.30E-08	3.03E+05
4.0	45	3.63E-05	2.74E+02
4.0	65	1.37E-05	7.29E+02
4.0	53.3	1.01E-04	9.80E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.31E-05	7.62E+02
53.3	3.83	9.71E-05	1.02E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-4ST

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-4ST

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

0.17	65.0	0.581E-03	0.581E-03	5100.	4900.	0.000E+00	0.000E+00
0.33	65.0	0.441E-03	0.441E-03	5200.	5100.	0.000E+00	0.000E+00
0.50	65.0	0.347E-03	0.347E-03	5400.	5200.	0.000E+00	0.000E+00
0.67	65.0	0.278E-03	0.278E-03	5500.	5300.	0.000E+00	0.000E+00
0.83	65.0	0.222E-03	0.222E-03	5600.	5500.	0.000E+00	0.000E+00
1.00	65.0	0.182E-03	0.182E-03	5800.	5600.	0.000E+00	0.000E+00
1.17	65.0	0.148E-03	0.148E-03	5900.	5800.	0.000E+00	0.000E+00
1.33	65.0	0.123E-03	0.123E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	65.0	0.103E-03	0.103E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	65.0	0.869E-04	0.869E-04	6300.	6200.	0.000E+00	0.000E+00
1.83	65.0	0.739E-04	0.739E-04	6500.	6300.	0.000E+00	0.000E+00
2.00	65.0	0.630E-04	0.630E-04	6600.	6400.	0.000E+00	0.000E+00
2.17	65.0	0.541E-04	0.541E-04	6700.	6600.	0.000E+00	0.000E+00
2.33	65.0	0.468E-04	0.468E-04	6900.	6700.	0.000E+00	0.000E+00
2.50	65.0	0.406E-04	0.406E-04	7000.	6900.	0.000E+00	0.000E+00
2.67	65.0	0.355E-04	0.355E-04	7200.	7000.	0.000E+00	0.000E+00
2.83	65.0	0.311E-04	0.311E-04	7300.	7100.	0.397E-05	0.397E-05
3.00	65.0	0.273E-04	0.273E-04	7400.	7300.	0.622E-05	0.622E-05
3.17	65.0	0.242E-04	0.242E-04	7600.	7400.	0.854E-05	0.854E-05
3.33	65.0	0.214E-04	0.214E-04	7700.	7600.	0.106E-04	0.106E-04
3.50	65.0	0.191E-04	0.191E-04	7900.	7700.	0.121E-04	0.121E-04
3.67	65.0	0.170E-04	0.170E-04	8000.	7800.	0.129E-04	0.129E-04
3.83	65.0	0.152E-04	0.152E-04	8100.	8000.	0.131E-04	0.131E-04
4.00	65.0	0.137E-04	0.137E-04	8300.	8100.	0.128E-04	0.128E-04

0.17	53.3	0.429E-02	0.429E-02	5100.	4900.	0.000E+00	0.000E+00
0.33	53.3	0.326E-02	0.326E-02	5200.	5100.	0.000E+00	0.000E+00
0.50	53.3	0.256E-02	0.256E-02	5400.	5200.	0.000E+00	0.000E+00
0.67	53.3	0.205E-02	0.205E-02	5500.	5300.	0.000E+00	0.000E+00
0.83	53.3	0.164E-02	0.164E-02	5600.	5500.	0.000E+00	0.000E+00
1.00	53.3	0.134E-02	0.134E-02	5800.	5600.	0.000E+00	0.000E+00
1.17	53.3	0.110E-02	0.110E-02	5900.	5800.	0.000E+00	0.000E+00
1.33	53.3	0.910E-03	0.910E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	53.3	0.765E-03	0.765E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	53.3	0.642E-03	0.642E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	53.3	0.546E-03	0.546E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	53.3	0.465E-03	0.465E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	53.3	0.400E-03	0.400E-03	6700.	6600.	0.000E+00	0.000E+00
2.33	53.3	0.346E-03	0.346E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	53.3	0.300E-03	0.300E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	53.3	0.262E-03	0.262E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	53.3	0.229E-03	0.229E-03	7300.	7100.	0.293E-04	0.293E-04
3.00	53.3	0.202E-03	0.202E-03	7400.	7300.	0.459E-04	0.459E-04
3.17	53.3	0.179E-03	0.179E-03	7600.	7400.	0.631E-04	0.631E-04
3.33	53.3	0.158E-03	0.158E-03	7700.	7600.	0.781E-04	0.781E-04
3.50	53.3	0.141E-03	0.141E-03	7900.	7700.	0.894E-04	0.894E-04
3.67	53.3	0.126E-03	0.126E-03	8000.	7800.	0.955E-04	0.955E-04
3.83	53.3	0.113E-03	0.113E-03	8100.	8000.	0.971E-04	0.971E-04
4.00	53.3	0.101E-03	0.101E-03	8300.	8100.	0.947E-04	0.947E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-4MT

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 36,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 97

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	4.78E-23	2.09E+20
4.0	15	2.32E-14	4.31E+11
4.0	30	2.63E-08	3.80E+05
4.0	45	3.48E-05	2.86E+02
4.0	65	1.38E-05	7.24E+02
4.0	53.5	1.02E-04	9.70E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.32E-05	7.57E+02
53.5	3.83	9.75E-05	1.02E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-4MT

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-4MT

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

0.17	65.0	0.605E-03	0.605E-03	5100.	4900.	0.000E+00	0.000E+00
0.33	65.0	0.457E-03	0.457E-03	5200.	5100.	0.000E+00	0.000E+00
0.50	65.0	0.359E-03	0.359E-03	5400.	5200.	0.000E+00	0.000E+00
0.67	65.0	0.286E-03	0.286E-03	5500.	5300.	0.000E+00	0.000E+00
0.83	65.0	0.229E-03	0.229E-03	5600.	5500.	0.000E+00	0.000E+00
1.00	65.0	0.187E-03	0.187E-03	5800.	5600.	0.000E+00	0.000E+00
1.17	65.0	0.152E-03	0.152E-03	5900.	5800.	0.000E+00	0.000E+00
1.33	65.0	0.126E-03	0.126E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	65.0	0.106E-03	0.106E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	65.0	0.886E-04	0.886E-04	6300.	6200.	0.000E+00	0.000E+00
1.83	65.0	0.752E-04	0.752E-04	6500.	6300.	0.000E+00	0.000E+00
2.00	65.0	0.640E-04	0.640E-04	6600.	6400.	0.000E+00	0.000E+00
2.17	65.0	0.549E-04	0.549E-04	6700.	6600.	0.000E+00	0.000E+00
2.33	65.0	0.475E-04	0.475E-04	6900.	6700.	0.000E+00	0.000E+00
2.50	65.0	0.411E-04	0.411E-04	7000.	6900.	0.000E+00	0.000E+00
2.67	65.0	0.359E-04	0.359E-04	7200.	7000.	0.000E+00	0.000E+00
2.83	65.0	0.314E-04	0.314E-04	7300.	7100.	0.387E-05	0.387E-05
3.00	65.0	0.276E-04	0.276E-04	7400.	7300.	0.612E-05	0.612E-05
3.17	65.0	0.244E-04	0.244E-04	7600.	7400.	0.847E-05	0.847E-05
3.33	65.0	0.216E-04	0.216E-04	7700.	7600.	0.105E-04	0.105E-04
3.50	65.0	0.192E-04	0.192E-04	7900.	7700.	0.121E-04	0.121E-04
3.67	65.0	0.171E-04	0.171E-04	8000.	7800.	0.130E-04	0.130E-04
3.83	65.0	0.153E-04	0.153E-04	8100.	8000.	0.132E-04	0.132E-04
4.00	65.0	0.138E-04	0.138E-04	8300.	8100.	0.129E-04	0.129E-04

0.17	53.5	0.447E-02	0.447E-02	5100.	4900.	0.000E+00	0.000E+00
0.33	53.5	0.338E-02	0.338E-02	5200.	5100.	0.000E+00	0.000E+00
0.50	53.5	0.265E-02	0.265E-02	5400.	5200.	0.000E+00	0.000E+00
0.67	53.5	0.212E-02	0.212E-02	5500.	5300.	0.000E+00	0.000E+00
0.83	53.5	0.169E-02	0.169E-02	5600.	5500.	0.000E+00	0.000E+00
1.00	53.5	0.138E-02	0.138E-02	5800.	5600.	0.000E+00	0.000E+00
1.17	53.5	0.112E-02	0.112E-02	5900.	5800.	0.000E+00	0.000E+00
1.33	53.5	0.930E-03	0.930E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	53.5	0.780E-03	0.780E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	53.5	0.655E-03	0.655E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	53.5	0.556E-03	0.556E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	53.5	0.473E-03	0.473E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	53.5	0.405E-03	0.405E-03	6700.	6600.	0.000E+00	0.000E+00
2.33	53.5	0.351E-03	0.351E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	53.5	0.304E-03	0.304E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	53.5	0.265E-03	0.265E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	53.5	0.232E-03	0.232E-03	7300.	7100.	0.286E-04	0.286E-04
3.00	53.5	0.204E-03	0.204E-03	7400.	7300.	0.452E-04	0.452E-04
3.17	53.5	0.180E-03	0.180E-03	7600.	7400.	0.626E-04	0.626E-04
3.33	53.5	0.159E-03	0.159E-03	7700.	7600.	0.779E-04	0.779E-04
3.50	53.5	0.142E-03	0.142E-03	7900.	7700.	0.894E-04	0.894E-04
3.67	53.5	0.127E-03	0.127E-03	8000.	7800.	0.958E-04	0.958E-04
3.83	53.5	0.113E-03	0.113E-03	8100.	8000.	0.975E-04	0.975E-04
4.00	53.5	0.102E-03	0.102E-03	8300.	8100.	0.952E-04	0.952E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-4NT

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 27,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 98

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	2.71E-25	3.69E+22
4.0	15	1.32E-15	7.58E+12
4.0	30	7.66E-09	1.31E+06
4.0	45	2.67E-05	3.74E+02
4.0	65	1.37E-05	7.29E+02
4.0	54	1.01E-04	9.80E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.30E-05	7.68E+02
54	3.83	9.62E-05	1.03E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-4NT

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-4NT

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

3.33	65.0	0.218E-04	0.218E-04	7700.	7600.	0.100E-04	0.100E-04
3.50	65.0	0.193E-04	0.193E-04	7900.	7700.	0.117E-04	0.117E-04
3.67	65.0	0.171E-04	0.171E-04	8000.	7800.	0.127E-04	0.127E-04
3.83	65.0	0.153E-04	0.153E-04	8100.	8000.	0.130E-04	0.130E-04
4.00	65.0	0.137E-04	0.137E-04	8300.	8100.	0.127E-04	0.127E-04

0.17	54.0	0.540E-02	0.540E-02	5100.	4900.	0.000E+00	0.000E+00
0.33	54.0	0.397E-02	0.397E-02	5200.	5100.	0.000E+00	0.000E+00
0.50	54.0	0.308E-02	0.308E-02	5400.	5200.	0.000E+00	0.000E+00
0.67	54.0	0.242E-02	0.242E-02	5500.	5300.	0.000E+00	0.000E+00
0.83	54.0	0.190E-02	0.190E-02	5600.	5500.	0.000E+00	0.000E+00
1.00	54.0	0.154E-02	0.154E-02	5800.	5600.	0.000E+00	0.000E+00
1.17	54.0	0.123E-02	0.123E-02	5900.	5800.	0.000E+00	0.000E+00
1.33	54.0	0.101E-02	0.101E-02	6100.	5900.	0.000E+00	0.000E+00
1.50	54.0	0.842E-03	0.842E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	54.0	0.699E-03	0.699E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	54.0	0.590E-03	0.590E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	54.0	0.497E-03	0.497E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	54.0	0.424E-03	0.424E-03	6800.	6600.	0.000E+00	0.000E+00
2.33	54.0	0.365E-03	0.365E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	54.0	0.314E-03	0.314E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	54.0	0.272E-03	0.272E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	54.0	0.237E-03	0.237E-03	7300.	7100.	0.239E-04	0.239E-04
3.00	54.0	0.207E-03	0.207E-03	7400.	7300.	0.401E-04	0.401E-04
3.17	54.0	0.183E-03	0.183E-03	7600.	7400.	0.578E-04	0.578E-04
3.33	54.0	0.161E-03	0.161E-03	7700.	7600.	0.740E-04	0.740E-04
3.50	54.0	0.143E-03	0.143E-03	7900.	7700.	0.866E-04	0.866E-04
3.67	54.0	0.127E-03	0.127E-03	8000.	7800.	0.939E-04	0.939E-04
3.83	54.0	0.113E-03	0.113E-03	8100.	8000.	0.962E-04	0.962E-04
4.00	54.0	0.101E-03	0.101E-03	8300.	8100.	0.942E-04	0.942E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-4SB

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 36,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 99

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	5.18E-23	1.93E+20
4.0	15	2.41E-14	4.15E+11
4.0	30	2.65E-08	3.77E+05
4.0	45	3.44E-05	2.90E+02
4.0	65	1.35E-05	7.40E+02
4.0	53.4	1.00E-04	9.90E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.30E-05	7.68E+02
53.4	3.83	9.59E-05	1.03E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-4SB

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-4SB

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

1.17	53.4	0.110E-02	0.110E-02	5900.	5800.	0.000E+00	0.000E+00
1.33	53.4	0.914E-03	0.914E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	53.4	0.767E-03	0.767E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	53.4	0.643E-03	0.643E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	53.4	0.546E-03	0.546E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	53.4	0.465E-03	0.465E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	53.4	0.399E-03	0.399E-03	6700.	6600.	0.000E+00	0.000E+00
2.33	53.4	0.345E-03	0.345E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	53.4	0.299E-03	0.299E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	53.4	0.261E-03	0.261E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	53.4	0.228E-03	0.228E-03	7300.	7100.	0.281E-04	0.281E-04
3.00	53.4	0.200E-03	0.200E-03	7400.	7300.	0.445E-04	0.445E-04
3.17	53.4	0.177E-03	0.177E-03	7600.	7400.	0.615E-04	0.615E-04
3.33	53.4	0.157E-03	0.157E-03	7700.	7600.	0.766E-04	0.766E-04
3.50	53.4	0.140E-03	0.140E-03	7900.	7700.	0.879E-04	0.879E-04
3.67	53.4	0.125E-03	0.125E-03	8000.	7800.	0.942E-04	0.942E-04
3.83	53.4	0.111E-03	0.111E-03	8100.	8000.	0.959E-04	0.959E-04
4.00	53.4	0.100E-03	0.100E-03	8300.	8100.	0.936E-04	0.936E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 2 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-4NB

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tun** **Placement Volume: 38,000**

Tier II - Water Quality Criteria

Analyte: Cyanide

Water Quality Criterion: 0.001

Elutriate Concentration (C_s): 0.01

Background concentration (C_{ds}): 0

Dilution Required: 9.0

Dilution Factor Achieved: 98

WQC Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{max}) on Grid	Dilution on Grid (D_{a-wq})
4.0	0	1.26E-22	7.94E+19
4.0	15	3.97E-14	2.52E+11
4.0	30	3.30E-08	3.03E+05
4.0	45	3.63E-05	2.74E+02
4.0	65	1.37E-05	7.29E+02
4.0	53.3	1.01E-04	9.80E+01

WQC Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{max} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{max}) Outside Disposal Site (percent)	Dilution Outside Disposal Site (D_{a-wq})
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.31E-05	7.62E+02
53.3	3.83	9.71E-05	1.02E+02

D_{a-wq} = $(C_s - C_{max}) / (C_{max} - C_{ds})$; where C_s = elutriate concentration and C_{ds} = background concentration

Shaded row = depth of maximum concentration

1. Concentration above backgrond ($C_{max} - C_{ds}$) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-4NB

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-4NB

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER II OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WATER QUALITY WITH CRITERIA (KEY3 = 2).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

0.17	65.0	0.581E-03	0.581E-03	5100.	4900.	0.000E+00	0.000E+00
0.33	65.0	0.441E-03	0.441E-03	5200.	5100.	0.000E+00	0.000E+00
0.50	65.0	0.347E-03	0.347E-03	5400.	5200.	0.000E+00	0.000E+00
0.67	65.0	0.278E-03	0.278E-03	5500.	5300.	0.000E+00	0.000E+00
0.83	65.0	0.222E-03	0.222E-03	5600.	5500.	0.000E+00	0.000E+00
1.00	65.0	0.182E-03	0.182E-03	5800.	5600.	0.000E+00	0.000E+00
1.17	65.0	0.148E-03	0.148E-03	5900.	5800.	0.000E+00	0.000E+00
1.33	65.0	0.123E-03	0.123E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	65.0	0.103E-03	0.103E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	65.0	0.869E-04	0.869E-04	6300.	6200.	0.000E+00	0.000E+00
1.83	65.0	0.739E-04	0.739E-04	6500.	6300.	0.000E+00	0.000E+00
2.00	65.0	0.630E-04	0.630E-04	6600.	6400.	0.000E+00	0.000E+00
2.17	65.0	0.541E-04	0.541E-04	6700.	6600.	0.000E+00	0.000E+00
2.33	65.0	0.468E-04	0.468E-04	6900.	6700.	0.000E+00	0.000E+00
2.50	65.0	0.406E-04	0.406E-04	7000.	6900.	0.000E+00	0.000E+00
2.67	65.0	0.355E-04	0.355E-04	7200.	7000.	0.000E+00	0.000E+00
2.83	65.0	0.311E-04	0.311E-04	7300.	7100.	0.397E-05	0.397E-05
3.00	65.0	0.273E-04	0.273E-04	7400.	7300.	0.622E-05	0.622E-05
3.17	65.0	0.242E-04	0.242E-04	7600.	7400.	0.854E-05	0.854E-05
3.33	65.0	0.214E-04	0.214E-04	7700.	7600.	0.106E-04	0.106E-04
3.50	65.0	0.191E-04	0.191E-04	7900.	7700.	0.121E-04	0.121E-04
3.67	65.0	0.170E-04	0.170E-04	8000.	7800.	0.129E-04	0.129E-04
3.83	65.0	0.152E-04	0.152E-04	8100.	8000.	0.131E-04	0.131E-04
4.00	65.0	0.137E-04	0.137E-04	8300.	8100.	0.128E-04	0.128E-04

0.17	53.3	0.429E-02	0.429E-02	5100.	4900.	0.000E+00	0.000E+00
0.33	53.3	0.326E-02	0.326E-02	5200.	5100.	0.000E+00	0.000E+00
0.50	53.3	0.256E-02	0.256E-02	5400.	5200.	0.000E+00	0.000E+00
0.67	53.3	0.205E-02	0.205E-02	5500.	5300.	0.000E+00	0.000E+00
0.83	53.3	0.164E-02	0.164E-02	5600.	5500.	0.000E+00	0.000E+00
1.00	53.3	0.134E-02	0.134E-02	5800.	5600.	0.000E+00	0.000E+00
1.17	53.3	0.110E-02	0.110E-02	5900.	5800.	0.000E+00	0.000E+00
1.33	53.3	0.910E-03	0.910E-03	6100.	5900.	0.000E+00	0.000E+00
1.50	53.3	0.765E-03	0.765E-03	6200.	6000.	0.000E+00	0.000E+00
1.67	53.3	0.642E-03	0.642E-03	6300.	6200.	0.000E+00	0.000E+00
1.83	53.3	0.546E-03	0.546E-03	6500.	6300.	0.000E+00	0.000E+00
2.00	53.3	0.465E-03	0.465E-03	6600.	6400.	0.000E+00	0.000E+00
2.17	53.3	0.400E-03	0.400E-03	6700.	6600.	0.000E+00	0.000E+00
2.33	53.3	0.346E-03	0.346E-03	6900.	6700.	0.000E+00	0.000E+00
2.50	53.3	0.300E-03	0.300E-03	7000.	6900.	0.000E+00	0.000E+00
2.67	53.3	0.262E-03	0.262E-03	7200.	7000.	0.000E+00	0.000E+00
2.83	53.3	0.229E-03	0.229E-03	7300.	7100.	0.293E-04	0.293E-04
3.00	53.3	0.202E-03	0.202E-03	7400.	7300.	0.459E-04	0.459E-04
3.17	53.3	0.179E-03	0.179E-03	7600.	7400.	0.631E-04	0.631E-04
3.33	53.3	0.158E-03	0.158E-03	7700.	7600.	0.781E-04	0.781E-04
3.50	53.3	0.141E-03	0.141E-03	7900.	7700.	0.894E-04	0.894E-04
3.67	53.3	0.126E-03	0.126E-03	8000.	7800.	0.955E-04	0.955E-04
3.83	53.3	0.113E-03	0.113E-03	8100.	8000.	0.971E-04	0.971E-04
4.00	53.3	0.101E-03	0.101E-03	8300.	8100.	0.947E-04	0.947E-04

RESULT: THE WATER QUALITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER III STFATE RESULTS, WATER COLUMN TOXICITY

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel - TS-1

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: NODS - Thimble Shoal Parallel Tunnel - TS-1

Placement Volume (cy): 32,000

Tier III - Water Column Toxicity

Species: *Mytilis*

LPC: 1

Dilution Required: 99

Dilution Achieved: 100

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	6.93E-20	1.44E+21
4.0	15	7.87E-11	1.27E+12
4.0	30	1.63E-04	6.13E+05
4.0	45	3.07E-01	3.25E+02
4.0	65	1.34E-01	7.45E+02
4.0	53.7	9.87E-01	1.00E+02

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.28E-01	7.80E+02
53.7	3.83	9.43E-01	1.05E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel - TS-1

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel - TS-1

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

0.67	53.7	0.216E+02	5500.	5300.	0.000E+00
0.83	53.7	0.172E+02	5600.	5500.	0.000E+00
1.00	53.7	0.140E+02	5800.	5600.	0.000E+00
1.17	53.7	0.113E+02	5900.	5800.	0.000E+00
1.33	53.7	0.934E+01	6100.	5900.	0.000E+00
1.50	53.7	0.781E+01	6200.	6000.	0.000E+00
1.67	53.7	0.652E+01	6300.	6200.	0.000E+00
1.83	53.7	0.553E+01	6500.	6300.	0.000E+00
2.00	53.7	0.469E+01	6600.	6400.	0.000E+00
2.17	53.7	0.401E+01	6700.	6600.	0.000E+00
2.33	53.7	0.346E+01	6900.	6700.	0.000E+00
2.50	53.7	0.299E+01	7000.	6900.	0.000E+00
2.67	53.7	0.260E+01	7200.	7000.	0.000E+00
2.83	53.7	0.227E+01	7300.	7100.	0.259E+00
3.00	53.7	0.199E+01	7400.	7300.	0.419E+00
3.17	53.7	0.176E+01	7600.	7400.	0.589E+00
3.33	53.7	0.156E+01	7700.	7600.	0.742E+00
3.50	53.7	0.138E+01	7900.	7700.	0.858E+00
3.67	53.7	0.123E+01	8000.	7800.	0.923E+00
3.83	53.7	0.110E+01	8100.	8000.	0.943E+00
4.00	53.7	0.987E+00	8300.	8100.	0.921E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-2ST

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: NODS - Thimble Shoal Parallel Tunnel TS-2ST

Placement Volume (cy): 47,000

Tier III - Water Column Toxicity

Species: *Mytilis*

LPC: 1

Dilution Required: 99

Dilution Achieved: 100

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	4.92E-17	2.03E+18
4.0	15	2.97E-09	3.37E+10
4.0	30	7.65E-04	1.31E+05
4.0	45	4.22E-01	2.36E+02
4.0	65	1.34E-01	7.45E+02
4.0	52.9	9.90E-01	1.00E+02

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.29E-01	7.74E+02
52.9	3.83	9.55E-01	1.04E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-2ST

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-2ST

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

2.67	52.9	0.250E+01	7200.	7000.	0.000E+00
2.83	52.9	0.220E+01	7300.	7100.	0.324E+00
3.00	52.9	0.194E+01	7400.	7300.	0.488E+00
3.17	52.9	0.172E+01	7600.	7400.	0.651E+00
3.33	52.9	0.153E+01	7700.	7600.	0.790E+00
3.50	52.9	0.137E+01	7900.	7700.	0.891E+00
3.67	52.9	0.122E+01	8000.	7800.	0.944E+00
3.83	52.9	0.110E+01	8100.	8000.	0.955E+00
4.00	52.9	0.990E+00	8300.	8100.	0.929E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-2SB

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: NODS - Thimble Shoal Parallel Tunnel TS-2SB

Placement Volume (cy): 38,000

Tier III - Water Column Toxicity

Species: *Mytilis*

LPC: 1

Dilution Required: 99

Dilution Achieved: 99

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	1.33E-18	7.52E+19
4.0	15	4.06E-10	2.46E+11
4.0	30	3.30E-04	3.03E+05
4.0	45	3.58E-01	2.78E+02
4.0	65	1.35E-01	7.40E+02
4.0	53.3	9.97E-01	9.93E+01

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.29E-01	7.74E+02
53.3	3.83	9.56E-01	1.04E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-2SB

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-2SB

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

0.67	53.3	0.202E+02	5500.	5300.	0.000E+00
0.83	53.3	0.161E+02	5600.	5500.	0.000E+00
1.00	53.3	0.132E+02	5800.	5600.	0.000E+00
1.17	53.3	0.108E+02	5900.	5800.	0.000E+00
1.33	53.3	0.894E+01	6100.	5900.	0.000E+00
1.50	53.3	0.752E+01	6200.	6000.	0.000E+00
1.67	53.3	0.632E+01	6300.	6200.	0.000E+00
1.83	53.3	0.537E+01	6500.	6300.	0.000E+00
2.00	53.3	0.458E+01	6600.	6400.	0.000E+00
2.17	53.3	0.393E+01	6700.	6600.	0.000E+00
2.33	53.3	0.341E+01	6900.	6700.	0.000E+00
2.50	53.3	0.295E+01	7000.	6900.	0.000E+00
2.67	53.3	0.258E+01	7200.	7000.	0.000E+00
2.83	53.3	0.226E+01	7300.	7100.	0.289E+00
3.00	53.3	0.199E+01	7400.	7300.	0.452E+00
3.17	53.3	0.176E+01	7600.	7400.	0.621E+00
3.33	53.3	0.156E+01	7700.	7600.	0.769E+00
3.50	53.3	0.139E+01	7900.	7700.	0.880E+00
3.67	53.3	0.124E+01	8000.	7800.	0.940E+00
3.83	53.3	0.111E+01	8100.	8000.	0.956E+00
4.00	53.3	0.997E+00	8300.	8100.	0.933E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-2MT

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: NODS - Thimble Shoal Parallel Tunnel TS-2MT

Placement Volume (cy): 45,000

Tier III - Water Column Toxicity

Species: *Mytilis*

LPC: 1

Dilution Required: 99

Dilution Achieved: 100

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	2.43E-17	4.12E+18
4.0	15	2.01E-09	4.98E+10
4.0	30	6.51E-04	1.54E+05
4.0	45	4.10E-01	2.43E+02
4.0	65	1.34E-01	7.45E+02
4.0	53	9.93E-01	9.97E+01

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.30E-01	7.68E+02
53	3.83	9.57E-01	1.03E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-2MT

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-2MT

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

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QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

2.00	45.0	0.156E+00	6600.	6400.	0.000E+00
2.17	45.0	0.191E+00	6700.	6600.	0.000E+00
2.33	45.0	0.227E+00	6900.	6700.	0.000E+00
2.50	45.0	0.261E+00	7000.	6900.	0.000E+00
2.67	45.0	0.293E+00	7200.	7000.	0.000E+00
2.83	45.0	0.322E+00	7300.	7100.	0.462E-01
3.00	45.0	0.347E+00	7400.	7300.	0.856E-01
3.17	45.0	0.368E+00	7600.	7400.	0.137E+00
3.33	45.0	0.385E+00	7700.	7600.	0.197E+00
3.50	45.0	0.397E+00	7900.	7700.	0.257E+00
3.67	45.0	0.405E+00	8000.	7800.	0.312E+00
3.83	45.0	0.409E+00	8100.	8000.	0.355E+00
4.00	45.0	0.410E+00	8300.	8100.	0.384E+00

0.17	65.0	0.509E+01	5100.	4900.	0.000E+00
0.33	65.0	0.392E+01	5200.	5100.	0.000E+00
0.50	65.0	0.311E+01	5400.	5200.	0.000E+00
0.67	65.0	0.251E+01	5500.	5300.	0.000E+00
0.83	65.0	0.203E+01	5600.	5500.	0.000E+00
1.00	65.0	0.167E+01	5800.	5600.	0.000E+00
1.17	65.0	0.137E+01	5900.	5800.	0.000E+00
1.33	65.0	0.114E+01	6100.	5900.	0.000E+00
1.50	65.0	0.967E+00	6200.	6000.	0.000E+00
1.67	65.0	0.817E+00	6300.	6200.	0.000E+00
1.83	65.0	0.698E+00	6500.	6300.	0.000E+00
2.00	65.0	0.597E+00	6600.	6400.	0.000E+00
2.17	65.0	0.515E+00	6700.	6600.	0.000E+00
2.33	65.0	0.447E+00	6900.	6700.	0.000E+00
2.50	65.0	0.389E+00	7000.	6900.	0.000E+00
2.67	65.0	0.341E+00	7200.	7000.	0.000E+00
2.83	65.0	0.300E+00	7300.	7100.	0.430E-01
3.00	65.0	0.264E+00	7400.	7300.	0.652E-01
3.17	65.0	0.234E+00	7600.	7400.	0.874E-01
3.33	65.0	0.208E+00	7700.	7600.	0.107E+00
3.50	65.0	0.186E+00	7900.	7700.	0.121E+00
3.67	65.0	0.166E+00	8000.	7800.	0.128E+00
3.83	65.0	0.149E+00	8100.	8000.	0.130E+00
4.00	65.0	0.134E+00	8300.	8100.	0.126E+00

0.17	53.0	0.376E+02	5100.	4900.	0.000E+00
0.33	53.0	0.289E+02	5200.	5100.	0.000E+00
0.50	53.0	0.230E+02	5400.	5200.	0.000E+00
0.67	53.0	0.185E+02	5500.	5300.	0.000E+00
0.83	53.0	0.150E+02	5600.	5500.	0.000E+00
1.00	53.0	0.123E+02	5800.	5600.	0.000E+00
1.17	53.0	0.101E+02	5900.	5800.	0.000E+00
1.33	53.0	0.846E+01	6100.	5900.	0.000E+00
1.50	53.0	0.714E+01	6200.	6000.	0.000E+00
1.67	53.0	0.604E+01	6300.	6200.	0.000E+00
1.83	53.0	0.515E+01	6500.	6300.	0.000E+00
2.00	53.0	0.441E+01	6600.	6400.	0.000E+00
2.17	53.0	0.380E+01	6700.	6600.	0.000E+00
2.33	53.0	0.331E+01	6900.	6700.	0.000E+00
2.50	53.0	0.288E+01	7000.	6900.	0.000E+00
2.67	53.0	0.252E+01	7200.	7000.	0.000E+00
2.83	53.0	0.221E+01	7300.	7100.	0.318E+00
3.00	53.0	0.195E+01	7400.	7300.	0.481E+00
3.17	53.0	0.173E+01	7600.	7400.	0.646E+00
3.33	53.0	0.154E+01	7700.	7600.	0.787E+00
3.50	53.0	0.137E+01	7900.	7700.	0.891E+00
3.67	53.0	0.123E+01	8000.	7800.	0.945E+00
3.83	53.0	0.110E+01	8100.	8000.	0.957E+00
4.00	53.0	0.993E+00	8300.	8100.	0.932E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-2NT

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: NODS - Thimble Shoal Parallel Tunnel TS-2NT

Placement Volume (cy): 49,000

Tier III - Water Column Toxicity

Species: *Mytilis*

LPC: 1

Dilution Required: 99

Dilution Achieved: 100

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	9.42E-17	1.06E+18
4.0	15	4.25E-09	2.35E+10
4.0	30	8.93E-04	1.12E+05
4.0	45	4.37E-01	2.28E+02
4.0	65	1.35E-01	7.40E+02
4.0	52.8	9.94E-01	9.96E+01

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.30E-01	7.68E+02
52.8	3.83	9.61E-01	1.03E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-2NT

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-2NT

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

3.33	65.0	0.208E+00	7700.	7600.	0.108E+00
3.50	65.0	0.185E+00	7900.	7700.	0.122E+00
3.67	65.0	0.166E+00	8000.	7800.	0.129E+00
3.83	65.0	0.149E+00	8100.	8000.	0.130E+00
4.00	65.0	0.135E+00	8300.	8100.	0.126E+00

0.17	52.8	0.358E+02	5100.	4900.	0.000E+00
0.33	52.8	0.277E+02	5200.	5100.	0.000E+00
0.50	52.8	0.221E+02	5400.	5200.	0.000E+00
0.67	52.8	0.179E+02	5500.	5300.	0.000E+00
0.83	52.8	0.145E+02	5600.	5500.	0.000E+00
1.00	52.8	0.120E+02	5800.	5600.	0.000E+00
1.17	52.8	0.987E+01	5900.	5800.	0.000E+00
1.33	52.8	0.826E+01	6100.	5900.	0.000E+00
1.50	52.8	0.700E+01	6200.	6000.	0.000E+00
1.67	52.8	0.592E+01	6300.	6200.	0.000E+00
1.83	52.8	0.507E+01	6500.	6300.	0.000E+00
2.00	52.8	0.435E+01	6600.	6400.	0.000E+00
2.17	52.8	0.376E+01	6700.	6600.	0.000E+00
2.33	52.8	0.327E+01	6900.	6700.	0.000E+00
2.50	52.8	0.285E+01	7000.	6900.	0.000E+00
2.67	52.8	0.250E+01	7200.	7000.	0.000E+00
2.83	52.8	0.220E+01	7300.	7100.	0.332E+00
3.00	52.8	0.194E+01	7400.	7300.	0.496E+00
3.17	52.8	0.173E+01	7600.	7400.	0.659E+00
3.33	52.8	0.153E+01	7700.	7600.	0.798E+00
3.50	52.8	0.137E+01	7900.	7700.	0.898E+00
3.67	52.8	0.123E+01	8000.	7800.	0.950E+00
3.83	52.8	0.110E+01	8100.	8000.	0.961E+00
4.00	52.8	0.994E+00	8300.	8100.	0.934E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-2NB

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: NODS - Thimble Shoal Parallel Tunnel TS-2NB

Placement Volume (cy): 33,000

Tier III - Water Column Toxicity

Species: *Mytilis*

LPC: 1

Dilution Required: 99

Dilution Achieved: 100

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	1.18E-19	8.47E+20
4.0	15	1.06E-10	9.43E+11
4.0	30	1.85E-04	5.41E+05
4.0	45	3.16E-01	3.15E+02
4.0	65	1.34E-01	7.45E+02
4.0	53.6	9.89E-01	1.00E+02

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.28E-01	7.80E+02
53.6	3.83	9.45E-01	1.05E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-2NB

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-2NB

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

0.17	65.0	0.620E+01	5100.	4900.	0.000E+00
0.33	65.0	0.465E+01	5200.	5100.	0.000E+00
0.50	65.0	0.364E+01	5400.	5200.	0.000E+00
0.67	65.0	0.289E+01	5500.	5300.	0.000E+00
0.83	65.0	0.230E+01	5600.	5500.	0.000E+00
1.00	65.0	0.187E+01	5800.	5600.	0.000E+00
1.17	65.0	0.152E+01	5900.	5800.	0.000E+00
1.33	65.0	0.125E+01	6100.	5900.	0.000E+00
1.50	65.0	0.105E+01	6200.	6000.	0.000E+00
1.67	65.0	0.878E+00	6300.	6200.	0.000E+00
1.83	65.0	0.744E+00	6500.	6300.	0.000E+00
2.00	65.0	0.631E+00	6600.	6400.	0.000E+00
2.17	65.0	0.541E+00	6700.	6600.	0.000E+00
2.33	65.0	0.467E+00	6900.	6700.	0.000E+00
2.50	65.0	0.404E+00	7000.	6900.	0.000E+00
2.67	65.0	0.352E+00	7200.	7000.	0.000E+00
2.83	65.0	0.307E+00	7300.	7100.	0.358E-01
3.00	65.0	0.270E+00	7400.	7300.	0.575E-01
3.17	65.0	0.238E+00	7600.	7400.	0.805E-01
3.33	65.0	0.211E+00	7700.	7600.	0.101E+00
3.50	65.0	0.187E+00	7900.	7700.	0.117E+00
3.67	65.0	0.167E+00	8000.	7800.	0.125E+00
3.83	65.0	0.149E+00	8100.	8000.	0.128E+00
4.00	65.0	0.134E+00	8300.	8100.	0.125E+00

0.17	53.6	0.458E+02	5100.	4900.	0.000E+00
0.33	53.6	0.343E+02	5200.	5100.	0.000E+00
0.50	53.6	0.269E+02	5400.	5200.	0.000E+00
0.67	53.6	0.214E+02	5500.	5300.	0.000E+00
0.83	53.6	0.170E+02	5600.	5500.	0.000E+00
1.00	53.6	0.138E+02	5800.	5600.	0.000E+00
1.17	53.6	0.112E+02	5900.	5800.	0.000E+00
1.33	53.6	0.926E+01	6100.	5900.	0.000E+00
1.50	53.6	0.775E+01	6200.	6000.	0.000E+00
1.67	53.6	0.649E+01	6300.	6200.	0.000E+00
1.83	53.6	0.550E+01	6500.	6300.	0.000E+00
2.00	53.6	0.467E+01	6600.	6400.	0.000E+00
2.17	53.6	0.399E+01	6700.	6600.	0.000E+00
2.33	53.6	0.345E+01	6900.	6700.	0.000E+00
2.50	53.6	0.298E+01	7000.	6900.	0.000E+00
2.67	53.6	0.260E+01	7200.	7000.	0.000E+00
2.83	53.6	0.227E+01	7300.	7100.	0.264E+00
3.00	53.6	0.199E+01	7400.	7300.	0.425E+00
3.17	53.6	0.176E+01	7600.	7400.	0.595E+00
3.33	53.6	0.156E+01	7700.	7600.	0.747E+00
3.50	53.6	0.138E+01	7900.	7700.	0.862E+00
3.67	53.6	0.123E+01	8000.	7800.	0.926E+00
3.83	53.6	0.110E+01	8100.	8000.	0.945E+00
4.00	53.6	0.989E+00	8300.	8100.	0.923E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-3ST

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: NODS - Thimble Shoal Parallel Tunnel TS-3ST

Placement Volume (cy): 36,000

Tier III - Water Column Toxicity

Species: *Mytilis*

LPC: 1

Dilution Required: 99

Dilution Achieved: 100

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	5.75E-19	1.74E+20
4.0	15	2.54E-10	3.94E+11
4.0	30	2.69E-04	3.72E+05
4.0	45	3.40E-01	2.93E+02
4.0	65	1.33E-01	7.51E+02
4.0	53.4	9.86E-01	1.00E+02

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.28E-01	7.80E+02
53.4	3.83	9.44E-01	1.05E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-3ST

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-3ST

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

0.17	53.4	0.430E+02	5100.	4900.	0.000E+00
0.33	53.4	0.325E+02	5200.	5100.	0.000E+00
0.50	53.4	0.255E+02	5400.	5200.	0.000E+00
0.67	53.4	0.204E+02	5500.	5300.	0.000E+00
0.83	53.4	0.163E+02	5600.	5500.	0.000E+00
1.00	53.4	0.133E+02	5800.	5600.	0.000E+00
1.17	53.4	0.108E+02	5900.	5800.	0.000E+00
1.33	53.4	0.898E+01	6100.	5900.	0.000E+00
1.50	53.4	0.754E+01	6200.	6000.	0.000E+00
1.67	53.4	0.632E+01	6300.	6200.	0.000E+00
1.83	53.4	0.537E+01	6500.	6300.	0.000E+00
2.00	53.4	0.457E+01	6600.	6400.	0.000E+00
2.17	53.4	0.392E+01	6700.	6600.	0.000E+00
2.33	53.4	0.339E+01	6900.	6700.	0.000E+00
2.50	53.4	0.294E+01	7000.	6900.	0.000E+00
2.67	53.4	0.256E+01	7200.	7000.	0.000E+00
2.83	53.4	0.224E+01	7300.	7100.	0.278E+00
3.00	53.4	0.197E+01	7400.	7300.	0.439E+00
3.17	53.4	0.174E+01	7600.	7400.	0.607E+00
3.33	53.4	0.154E+01	7700.	7600.	0.755E+00
3.50	53.4	0.137E+01	7900.	7700.	0.866E+00
3.67	53.4	0.123E+01	8000.	7800.	0.928E+00
3.83	53.4	0.110E+01	8100.	8000.	0.944E+00
4.00	53.4	0.986E+00	8300.	8100.	0.922E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-3SB

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: NODS - Thimble Shoal Parallel Tunnel TS-3SB

Placement Volume (cy): 30,000

Tier III - Water Column Toxicity

Species: *Mytilis*

LPC: 1

Dilution Required: 99

Dilution Achieved: 101

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	2.11E-20	4.74E+21
4.0	15	4.06E-11	2.46E+12
4.0	30	1.22E-04	8.20E+05
4.0	45	2.88E-01	3.46E+02
4.0	65	1.33E-01	7.51E+02
4.0	53.8	9.80E-01	1.01E+02

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.26E-01	7.93E+02
53.8	3.83	9.35E-01	1.06E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-3SB

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-3SB

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

2.50	30.0	0.461E-07	7000.	6900.	0.000E+00
2.67	30.0	0.167E-06	7200.	7000.	0.000E+00
2.83	30.0	0.528E-06	7300.	7100.	0.577E-07
3.00	30.0	0.149E-05	7400.	7300.	0.304E-06
3.17	30.0	0.378E-05	7600.	7400.	0.124E-05
3.33	30.0	0.876E-05	7700.	7600.	0.412E-05
3.50	30.0	0.187E-04	7900.	7700.	0.115E-04
3.67	30.0	0.372E-04	8000.	7800.	0.278E-04
3.83	30.0	0.693E-04	8100.	8000.	0.593E-04
4.00	30.0	0.122E-03	8300.	8100.	0.114E-03

0.17	45.0	0.326E-06	5100.	4900.	0.000E+00
0.33	45.0	0.308E-05	5200.	5100.	0.000E+00
0.50	45.0	0.201E-04	5400.	5200.	0.000E+00
0.67	45.0	0.960E-04	5500.	5300.	0.000E+00
0.83	45.0	0.350E-03	5600.	5500.	0.000E+00
1.00	45.0	0.105E-02	5800.	5600.	0.000E+00
1.17	45.0	0.260E-02	5900.	5800.	0.000E+00
1.33	45.0	0.566E-02	6100.	5900.	0.000E+00
1.50	45.0	0.110E-01	6200.	6000.	0.000E+00
1.67	45.0	0.191E-01	6300.	6200.	0.000E+00
1.83	45.0	0.308E-01	6500.	6300.	0.000E+00
2.00	45.0	0.458E-01	6600.	6400.	0.000E+00
2.17	45.0	0.644E-01	6700.	6600.	0.000E+00
2.33	45.0	0.864E-01	6900.	6700.	0.000E+00
2.50	45.0	0.110E+00	7000.	6900.	0.000E+00
2.67	45.0	0.135E+00	7200.	7000.	0.000E+00
2.83	45.0	0.161E+00	7300.	7100.	0.176E-01
3.00	45.0	0.186E+00	7400.	7300.	0.379E-01
3.17	45.0	0.209E+00	7600.	7400.	0.687E-01
3.33	45.0	0.230E+00	7700.	7600.	0.109E+00
3.50	45.0	0.249E+00	7900.	7700.	0.154E+00
3.67	45.0	0.265E+00	8000.	7800.	0.198E+00
3.83	45.0	0.278E+00	8100.	8000.	0.238E+00
4.00	45.0	0.288E+00	8300.	8100.	0.268E+00

0.17	65.0	0.654E+01	5100.	4900.	0.000E+00
0.33	65.0	0.486E+01	5200.	5100.	0.000E+00
0.50	65.0	0.379E+01	5400.	5200.	0.000E+00
0.67	65.0	0.299E+01	5500.	5300.	0.000E+00
0.83	65.0	0.237E+01	5600.	5500.	0.000E+00
1.00	65.0	0.192E+01	5800.	5600.	0.000E+00
1.17	65.0	0.155E+01	5900.	5800.	0.000E+00
1.33	65.0	0.128E+01	6100.	5900.	0.000E+00
1.50	65.0	0.107E+01	6200.	6000.	0.000E+00
1.67	65.0	0.891E+00	6300.	6200.	0.000E+00
1.83	65.0	0.753E+00	6500.	6300.	0.000E+00
2.00	65.0	0.637E+00	6600.	6400.	0.000E+00
2.17	65.0	0.544E+00	6700.	6600.	0.000E+00
2.33	65.0	0.470E+00	6900.	6700.	0.000E+00
2.50	65.0	0.405E+00	7000.	6900.	0.000E+00
2.67	65.0	0.352E+00	7200.	7000.	0.000E+00
2.83	65.0	0.307E+00	7300.	7100.	0.336E-01
3.00	65.0	0.269E+00	7400.	7300.	0.550E-01
3.17	65.0	0.238E+00	7600.	7400.	0.779E-01
3.33	65.0	0.210E+00	7700.	7600.	0.987E-01
3.50	65.0	0.186E+00	7900.	7700.	0.115E+00
3.67	65.0	0.166E+00	8000.	7800.	0.124E+00
3.83	65.0	0.148E+00	8100.	8000.	0.126E+00
4.00	65.0	0.133E+00	8300.	8100.	0.124E+00

0.17	53.8	0.483E+02	5100.	4900.	0.000E+00
0.33	53.8	0.359E+02	5200.	5100.	0.000E+00
0.50	53.8	0.280E+02	5400.	5200.	0.000E+00
0.67	53.8	0.221E+02	5500.	5300.	0.000E+00
0.83	53.8	0.175E+02	5600.	5500.	0.000E+00
1.00	53.8	0.142E+02	5800.	5600.	0.000E+00
1.17	53.8	0.115E+02	5900.	5800.	0.000E+00
1.33	53.8	0.946E+01	6100.	5900.	0.000E+00
1.50	53.8	0.789E+01	6200.	6000.	0.000E+00
1.67	53.8	0.658E+01	6300.	6200.	0.000E+00
1.83	53.8	0.557E+01	6500.	6300.	0.000E+00
2.00	53.8	0.471E+01	6600.	6400.	0.000E+00
2.17	53.8	0.402E+01	6700.	6600.	0.000E+00
2.33	53.8	0.347E+01	6900.	6700.	0.000E+00
2.50	53.8	0.299E+01	7000.	6900.	0.000E+00
2.67	53.8	0.260E+01	7200.	7000.	0.000E+00
2.83	53.8	0.227E+01	7300.	7100.	0.248E+00

3.00	53.8	0.199E+01	7400.	7300.	0.406E+00
3.17	53.8	0.175E+01	7600.	7400.	0.576E+00
3.33	53.8	0.155E+01	7700.	7600.	0.729E+00
3.50	53.8	0.137E+01	7900.	7700.	0.847E+00
3.67	53.8	0.122E+01	8000.	7800.	0.914E+00
3.83	53.8	0.109E+01	8100.	8000.	0.935E+00
4.00	53.8	0.980E+00	8300.	8100.	0.914E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-3NT

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: NODS - Thimble Shoal Parallel Tunnel TS-3NT

Placement Volume (cy): 35,000

Tier III - Water Column Toxicity

Species: *Mytilis*

LPC: 1

Dilution Required: 99

Dilution Achieved: 100

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	3.67E-19	2.72E+20
4.0	15	1.98E-10	5.05E+11
4.0	30	2.42E-04	4.13E+05
4.0	45	3.34E-01	2.98E+02
4.0	65	1.34E-01	7.45E+02
4.0	53.5	9.87E-01	1.00E+02

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.28E-01	7.80E+02
53.5	3.83	9.45E-01	1.05E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-3NT

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-3NT

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

1.50	45.0	0.235E-01	6200.	6000.	0.000E+00
1.67	45.0	0.373E-01	6300.	6200.	0.000E+00
1.83	45.0	0.553E-01	6500.	6300.	0.000E+00
2.00	45.0	0.770E-01	6600.	6400.	0.000E+00
2.17	45.0	0.102E+00	6700.	6600.	0.000E+00
2.33	45.0	0.130E+00	6900.	6700.	0.000E+00
2.50	45.0	0.158E+00	7000.	6900.	0.000E+00
2.67	45.0	0.187E+00	7200.	7000.	0.000E+00
2.83	45.0	0.215E+00	7300.	7100.	0.263E-01
3.00	45.0	0.241E+00	7400.	7300.	0.532E-01
3.17	45.0	0.266E+00	7600.	7400.	0.918E-01
3.33	45.0	0.286E+00	7700.	7600.	0.139E+00
3.50	45.0	0.303E+00	7900.	7700.	0.191E+00
3.67	45.0	0.317E+00	8000.	7800.	0.239E+00
3.83	45.0	0.327E+00	8100.	8000.	0.281E+00
4.00	45.0	0.334E+00	8300.	8100.	0.312E+00

0.17	65.0	0.592E+01	5100.	4900.	0.000E+00
0.33	65.0	0.447E+01	5200.	5100.	0.000E+00
0.50	65.0	0.350E+01	5400.	5200.	0.000E+00
0.67	65.0	0.279E+01	5500.	5300.	0.000E+00
0.83	65.0	0.223E+01	5600.	5500.	0.000E+00
1.00	65.0	0.182E+01	5800.	5600.	0.000E+00
1.17	65.0	0.148E+01	5900.	5800.	0.000E+00
1.33	65.0	0.123E+01	6100.	5900.	0.000E+00
1.50	65.0	0.103E+01	6200.	6000.	0.000E+00
1.67	65.0	0.862E+00	6300.	6200.	0.000E+00
1.83	65.0	0.732E+00	6500.	6300.	0.000E+00
2.00	65.0	0.622E+00	6600.	6400.	0.000E+00
2.17	65.0	0.533E+00	6700.	6600.	0.000E+00
2.33	65.0	0.462E+00	6900.	6700.	0.000E+00
2.50	65.0	0.399E+00	7000.	6900.	0.000E+00
2.67	65.0	0.348E+00	7200.	7000.	0.000E+00
2.83	65.0	0.305E+00	7300.	7100.	0.372E-01
3.00	65.0	0.268E+00	7400.	7300.	0.590E-01
3.17	65.0	0.237E+00	7600.	7400.	0.819E-01
3.33	65.0	0.209E+00	7700.	7600.	0.102E+00
3.50	65.0	0.186E+00	7900.	7700.	0.117E+00
3.67	65.0	0.166E+00	8000.	7800.	0.126E+00
3.83	65.0	0.149E+00	8100.	8000.	0.128E+00
4.00	65.0	0.134E+00	8300.	8100.	0.125E+00

0.17	53.5	0.437E+02	5100.	4900.	0.000E+00
0.33	53.5	0.330E+02	5200.	5100.	0.000E+00
0.50	53.5	0.259E+02	5400.	5200.	0.000E+00
0.67	53.5	0.206E+02	5500.	5300.	0.000E+00
0.83	53.5	0.165E+02	5600.	5500.	0.000E+00
1.00	53.5	0.134E+02	5800.	5600.	0.000E+00
1.17	53.5	0.109E+02	5900.	5800.	0.000E+00
1.33	53.5	0.906E+01	6100.	5900.	0.000E+00
1.50	53.5	0.760E+01	6200.	6000.	0.000E+00
1.67	53.5	0.637E+01	6300.	6200.	0.000E+00
1.83	53.5	0.541E+01	6500.	6300.	0.000E+00
2.00	53.5	0.460E+01	6600.	6400.	0.000E+00
2.17	53.5	0.394E+01	6700.	6600.	0.000E+00
2.33	53.5	0.341E+01	6900.	6700.	0.000E+00
2.50	53.5	0.295E+01	7000.	6900.	0.000E+00
2.67	53.5	0.257E+01	7200.	7000.	0.000E+00
2.83	53.5	0.225E+01	7300.	7100.	0.275E+00
3.00	53.5	0.198E+01	7400.	7300.	0.436E+00
3.17	53.5	0.175E+01	7600.	7400.	0.605E+00
3.33	53.5	0.155E+01	7700.	7600.	0.754E+00
3.50	53.5	0.138E+01	7900.	7700.	0.866E+00
3.67	53.5	0.123E+01	8000.	7800.	0.928E+00
3.83	53.5	0.110E+01	8100.	8000.	0.945E+00
4.00	53.5	0.987E+00	8300.	8100.	0.923E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-3NB

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: NODS - Thimble Shoal Parallel Tunnel TS-3NB

Placement Volume (cy): 34,000

Tier III - Water Column Toxicity

Species: *Mytilis*

LPC: 1

Dilution Required: 99

Dilution Achieved: 101

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	2.17E-19	4.61E+20
4.0	15	1.48E-10	6.76E+11
4.0	30	2.13E-04	4.69E+05
4.0	45	3.24E-01	3.08E+02
4.0	65	1.33E-01	7.51E+02
4.0	53.5	9.85E-01	1.01E+02

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.28E-01	7.80E+02
53.5	3.83	9.43E-01	1.05E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-3NB

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-3NB

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

3.67	65.0	0.166E+00	8000.	7800.	0.125E+00
3.83	65.0	0.148E+00	8100.	8000.	0.128E+00
4.00	65.0	0.133E+00	8300.	8100.	0.125E+00

0.17	53.5	0.445E+02	5100.	4900.	0.000E+00
0.33	53.5	0.335E+02	5200.	5100.	0.000E+00
0.50	53.5	0.263E+02	5400.	5200.	0.000E+00
0.67	53.5	0.209E+02	5500.	5300.	0.000E+00
0.83	53.5	0.167E+02	5600.	5500.	0.000E+00
1.00	53.5	0.136E+02	5800.	5600.	0.000E+00
1.17	53.5	0.110E+02	5900.	5800.	0.000E+00
1.33	53.5	0.913E+01	6100.	5900.	0.000E+00
1.50	53.5	0.765E+01	6200.	6000.	0.000E+00
1.67	53.5	0.641E+01	6300.	6200.	0.000E+00
1.83	53.5	0.544E+01	6500.	6300.	0.000E+00
2.00	53.5	0.462E+01	6600.	6400.	0.000E+00
2.17	53.5	0.396E+01	6700.	6600.	0.000E+00
2.33	53.5	0.342E+01	6900.	6700.	0.000E+00
2.50	53.5	0.296E+01	7000.	6900.	0.000E+00
2.67	53.5	0.258E+01	7200.	7000.	0.000E+00
2.83	53.5	0.225E+01	7300.	7100.	0.269E+00
3.00	53.5	0.198E+01	7400.	7300.	0.430E+00
3.17	53.5	0.175E+01	7600.	7400.	0.599E+00
3.33	53.5	0.155E+01	7700.	7600.	0.749E+00
3.50	53.5	0.138E+01	7900.	7700.	0.862E+00
3.67	53.5	0.123E+01	8000.	7800.	0.925E+00
3.83	53.5	0.110E+01	8100.	8000.	0.943E+00
4.00	53.5	0.985E+00	8300.	8100.	0.921E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-4ST

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: NODS - Thimble Shoal Parallel Tunnel TS-4ST

Placement Volume (cy): 37,000

Tier III - Water Column Toxicity

Species: *Mytilis*

LPC: 1

Dilution Required: 99

Dilution Achieved: 100

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	8.41E-19	1.19E+20
4.0	15	3.15E-10	3.17E+11
4.0	30	2.96E-04	3.38E+05
4.0	45	3.50E-01	2.85E+02
4.0	65	1.35E-01	7.40E+02
4.0	53.4	9.95E-01	9.95E+01

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.29E-01	7.74E+02
53.4	3.83	9.54E-01	1.04E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-4ST

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-4ST

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

0.17	45.0	0.954E-05	5100.	4900.	0.000E+00
0.33	45.0	0.522E-04	5200.	5100.	0.000E+00
0.50	45.0	0.219E-03	5400.	5200.	0.000E+00
0.67	45.0	0.730E-03	5500.	5300.	0.000E+00
0.83	45.0	0.198E-02	5600.	5500.	0.000E+00
1.00	45.0	0.466E-02	5800.	5600.	0.000E+00
1.17	45.0	0.946E-02	5900.	5800.	0.000E+00
1.33	45.0	0.174E-01	6100.	5900.	0.000E+00
1.50	45.0	0.292E-01	6200.	6000.	0.000E+00
1.67	45.0	0.451E-01	6300.	6200.	0.000E+00
1.83	45.0	0.655E-01	6500.	6300.	0.000E+00
2.00	45.0	0.894E-01	6600.	6400.	0.000E+00
2.17	45.0	0.117E+00	6700.	6600.	0.000E+00
2.33	45.0	0.146E+00	6900.	6700.	0.000E+00
2.50	45.0	0.176E+00	7000.	6900.	0.000E+00
2.67	45.0	0.207E+00	7200.	7000.	0.000E+00
2.83	45.0	0.235E+00	7300.	7100.	0.296E-01
3.00	45.0	0.262E+00	7400.	7300.	0.589E-01
3.17	45.0	0.286E+00	7600.	7400.	0.100E+00
3.33	45.0	0.305E+00	7700.	7600.	0.150E+00
3.50	45.0	0.322E+00	7900.	7700.	0.204E+00
3.67	45.0	0.335E+00	8000.	7800.	0.254E+00
3.83	45.0	0.344E+00	8100.	8000.	0.296E+00
4.00	45.0	0.350E+00	8300.	8100.	0.327E+00

0.17	65.0	0.579E+01	5100.	4900.	0.000E+00
0.33	65.0	0.438E+01	5200.	5100.	0.000E+00
0.50	65.0	0.345E+01	5400.	5200.	0.000E+00
0.67	65.0	0.276E+01	5500.	5300.	0.000E+00
0.83	65.0	0.220E+01	5600.	5500.	0.000E+00
1.00	65.0	0.180E+01	5800.	5600.	0.000E+00
1.17	65.0	0.147E+01	5900.	5800.	0.000E+00
1.33	65.0	0.122E+01	6100.	5900.	0.000E+00
1.50	65.0	0.102E+01	6200.	6000.	0.000E+00
1.67	65.0	0.859E+00	6300.	6200.	0.000E+00
1.83	65.0	0.730E+00	6500.	6300.	0.000E+00
2.00	65.0	0.621E+00	6600.	6400.	0.000E+00
2.17	65.0	0.533E+00	6700.	6600.	0.000E+00
2.33	65.0	0.462E+00	6900.	6700.	0.000E+00
2.50	65.0	0.400E+00	7000.	6900.	0.000E+00
2.67	65.0	0.349E+00	7200.	7000.	0.000E+00
2.83	65.0	0.306E+00	7300.	7100.	0.385E-01
3.00	65.0	0.269E+00	7400.	7300.	0.606E-01
3.17	65.0	0.238E+00	7600.	7400.	0.835E-01
3.33	65.0	0.211E+00	7700.	7600.	0.104E+00
3.50	65.0	0.188E+00	7900.	7700.	0.119E+00
3.67	65.0	0.167E+00	8000.	7800.	0.127E+00
3.83	65.0	0.150E+00	8100.	8000.	0.129E+00
4.00	65.0	0.135E+00	8300.	8100.	0.126E+00

0.17	53.4	0.428E+02	5100.	4900.	0.000E+00
0.33	53.4	0.324E+02	5200.	5100.	0.000E+00
0.50	53.4	0.255E+02	5400.	5200.	0.000E+00
0.67	53.4	0.204E+02	5500.	5300.	0.000E+00
0.83	53.4	0.163E+02	5600.	5500.	0.000E+00
1.00	53.4	0.133E+02	5800.	5600.	0.000E+00
1.17	53.4	0.108E+02	5900.	5800.	0.000E+00
1.33	53.4	0.900E+01	6100.	5900.	0.000E+00
1.50	53.4	0.756E+01	6200.	6000.	0.000E+00
1.67	53.4	0.635E+01	6300.	6200.	0.000E+00
1.83	53.4	0.540E+01	6500.	6300.	0.000E+00
2.00	53.4	0.459E+01	6600.	6400.	0.000E+00
2.17	53.4	0.394E+01	6700.	6600.	0.000E+00
2.33	53.4	0.341E+01	6900.	6700.	0.000E+00
2.50	53.4	0.296E+01	7000.	6900.	0.000E+00
2.67	53.4	0.258E+01	7200.	7000.	0.000E+00
2.83	53.4	0.226E+01	7300.	7100.	0.285E+00
3.00	53.4	0.199E+01	7400.	7300.	0.448E+00
3.17	53.4	0.176E+01	7600.	7400.	0.617E+00
3.33	53.4	0.156E+01	7700.	7600.	0.765E+00
3.50	53.4	0.139E+01	7900.	7700.	0.877E+00
3.67	53.4	0.124E+01	8000.	7800.	0.938E+00
3.83	53.4	0.111E+01	8100.	8000.	0.954E+00
4.00	53.4	0.995E+00	8300.	8100.	0.931E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-4MT

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: NODS - Thimble Shoal Parallel Tunnel TS-4MT

Placement Volume (cy): 35,000

Tier III - Water Column Toxicity

Species: *Mytilis*

LPC: 1

Dilution Required: 99

Dilution Achieved: 99

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	3.25E-19	3.08E+20
4.0	15	1.86E-10	5.38E+11
4.0	30	2.37E-04	4.22E+05
4.0	45	3.36E-01	2.97E+02
4.0	65	1.35E-01	7.40E+02
4.0	53.5	1.00E+00	9.90E+01

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.30E-01	7.68E+02
53.5	3.83	9.57E-01	1.03E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-4MT

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-4MT

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

0.83	30.0	0.154E-16	5600.	5500.	0.000E+00
1.00	30.0	0.770E-15	5800.	5600.	0.000E+00
1.17	30.0	0.228E-13	5900.	5800.	0.000E+00
1.33	30.0	0.444E-12	6100.	5900.	0.000E+00
1.50	30.0	0.603E-11	6200.	6000.	0.000E+00
1.67	30.0	0.596E-10	6300.	6200.	0.000E+00
1.83	30.0	0.454E-09	6500.	6300.	0.000E+00
2.00	30.0	0.274E-08	6600.	6400.	0.000E+00
2.17	30.0	0.136E-07	6700.	6600.	0.000E+00
2.33	30.0	0.568E-07	6900.	6700.	0.000E+00
2.50	30.0	0.203E-06	7000.	6900.	0.000E+00
2.67	30.0	0.639E-06	7200.	7000.	0.000E+00
2.83	30.0	0.179E-05	7300.	7100.	0.216E-06
3.00	30.0	0.451E-05	7400.	7300.	0.989E-06
3.17	30.0	0.104E-04	7600.	7400.	0.359E-05
3.33	30.0	0.221E-04	7700.	7600.	0.107E-04
3.50	30.0	0.438E-04	7900.	7700.	0.275E-04
3.67	30.0	0.813E-04	8000.	7800.	0.614E-04
3.83	30.0	0.142E-03	8100.	8000.	0.122E-03
4.00	30.0	0.237E-03	8300.	8100.	0.222E-03

0.17	45.0	0.421E-05	5100.	4900.	0.000E+00
0.33	45.0	0.262E-04	5200.	5100.	0.000E+00
0.50	45.0	0.123E-03	5400.	5200.	0.000E+00
0.67	45.0	0.445E-03	5500.	5300.	0.000E+00
0.83	45.0	0.130E-02	5600.	5500.	0.000E+00
1.00	45.0	0.324E-02	5800.	5600.	0.000E+00
1.17	45.0	0.691E-02	5900.	5800.	0.000E+00
1.33	45.0	0.132E-01	6100.	5900.	0.000E+00
1.50	45.0	0.231E-01	6200.	6000.	0.000E+00
1.67	45.0	0.367E-01	6300.	6200.	0.000E+00
1.83	45.0	0.546E-01	6500.	6300.	0.000E+00
2.00	45.0	0.762E-01	6600.	6400.	0.000E+00
2.17	45.0	0.101E+00	6700.	6600.	0.000E+00
2.33	45.0	0.129E+00	6900.	6700.	0.000E+00
2.50	45.0	0.158E+00	7000.	6900.	0.000E+00
2.67	45.0	0.187E+00	7200.	7000.	0.000E+00
2.83	45.0	0.215E+00	7300.	7100.	0.261E-01
3.00	45.0	0.242E+00	7400.	7300.	0.530E-01
3.17	45.0	0.266E+00	7600.	7400.	0.916E-01
3.33	45.0	0.287E+00	7700.	7600.	0.139E+00
3.50	45.0	0.304E+00	7900.	7700.	0.191E+00
3.67	45.0	0.318E+00	8000.	7800.	0.240E+00
3.83	45.0	0.328E+00	8100.	8000.	0.282E+00
4.00	45.0	0.336E+00	8300.	8100.	0.314E+00

0.17	65.0	0.603E+01	5100.	4900.	0.000E+00
0.33	65.0	0.455E+01	5200.	5100.	0.000E+00
0.50	65.0	0.357E+01	5400.	5200.	0.000E+00
0.67	65.0	0.284E+01	5500.	5300.	0.000E+00
0.83	65.0	0.227E+01	5600.	5500.	0.000E+00
1.00	65.0	0.185E+01	5800.	5600.	0.000E+00
1.17	65.0	0.150E+01	5900.	5800.	0.000E+00
1.33	65.0	0.125E+01	6100.	5900.	0.000E+00
1.50	65.0	0.104E+01	6200.	6000.	0.000E+00
1.67	65.0	0.875E+00	6300.	6200.	0.000E+00
1.83	65.0	0.743E+00	6500.	6300.	0.000E+00
2.00	65.0	0.631E+00	6600.	6400.	0.000E+00
2.17	65.0	0.541E+00	6700.	6600.	0.000E+00
2.33	65.0	0.468E+00	6900.	6700.	0.000E+00
2.50	65.0	0.405E+00	7000.	6900.	0.000E+00
2.67	65.0	0.353E+00	7200.	7000.	0.000E+00
2.83	65.0	0.309E+00	7300.	7100.	0.374E-01
3.00	65.0	0.271E+00	7400.	7300.	0.595E-01
3.17	65.0	0.240E+00	7600.	7400.	0.826E-01
3.33	65.0	0.212E+00	7700.	7600.	0.103E+00
3.50	65.0	0.189E+00	7900.	7700.	0.119E+00
3.67	65.0	0.168E+00	8000.	7800.	0.127E+00
3.83	65.0	0.151E+00	8100.	8000.	0.130E+00
4.00	65.0	0.135E+00	8300.	8100.	0.126E+00

0.17	53.5	0.446E+02	5100.	4900.	0.000E+00
0.33	53.5	0.336E+02	5200.	5100.	0.000E+00
0.50	53.5	0.264E+02	5400.	5200.	0.000E+00
0.67	53.5	0.210E+02	5500.	5300.	0.000E+00
0.83	53.5	0.168E+02	5600.	5500.	0.000E+00
1.00	53.5	0.137E+02	5800.	5600.	0.000E+00
1.17	53.5	0.111E+02	5900.	5800.	0.000E+00

1.33	53.5	0.920E+01	6100.	5900.	0.000E+00
1.50	53.5	0.772E+01	6200.	6000.	0.000E+00
1.67	53.5	0.647E+01	6300.	6200.	0.000E+00
1.83	53.5	0.549E+01	6500.	6300.	0.000E+00
2.00	53.5	0.466E+01	6600.	6400.	0.000E+00
2.17	53.5	0.400E+01	6700.	6600.	0.000E+00
2.33	53.5	0.346E+01	6900.	6700.	0.000E+00
2.50	53.5	0.299E+01	7000.	6900.	0.000E+00
2.67	53.5	0.261E+01	7200.	7000.	0.000E+00
2.83	53.5	0.228E+01	7300.	7100.	0.276E+00
3.00	53.5	0.201E+01	7400.	7300.	0.440E+00
3.17	53.5	0.177E+01	7600.	7400.	0.610E+00
3.33	53.5	0.157E+01	7700.	7600.	0.762E+00
3.50	53.5	0.139E+01	7900.	7700.	0.876E+00
3.67	53.5	0.124E+01	8000.	7800.	0.939E+00
3.83	53.5	0.111E+01	8100.	8000.	0.957E+00
4.00	53.5	0.100E+01	8300.	8100.	0.934E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-4NT

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: NODS - Thimble Shoal Parallel Tunnel TS-4NT

Placement Volume (cy): 26,000

Tier III - Water Column Toxicity

Species: *Mytilis*

LPC: 1

Dilution Required: 99

Dilution Achieved: 100

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	1.52E-21	6.58E+22
4.0	15	9.43E-12	1.06E+13
4.0	30	6.54E-05	1.53E+06
4.0	45	2.53E-01	3.94E+02
4.0	65	1.33E-01	7.51E+02
4.0	54	9.86E-01	1.00E+02

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.27E-01	7.86E+02
54	3.83	9.38E-01	1.06E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-4NT

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-4NT

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

2.17	30.0	0.359E-09	6800.	6600.	0.000E+00
2.33	30.0	0.218E-08	6900.	6700.	0.000E+00
2.50	30.0	0.108E-07	7000.	6900.	0.000E+00
2.67	30.0	0.451E-07	7200.	7000.	0.000E+00
2.83	30.0	0.162E-06	7300.	7100.	0.160E-07
3.00	30.0	0.509E-06	7400.	7300.	0.969E-07
3.17	30.0	0.143E-05	7600.	7400.	0.448E-06
3.33	30.0	0.361E-05	7700.	7600.	0.165E-05
3.50	30.0	0.834E-05	7900.	7700.	0.504E-05
3.67	30.0	0.177E-04	8000.	7800.	0.131E-04
3.83	30.0	0.351E-04	8100.	8000.	0.299E-04
4.00	30.0	0.654E-04	8300.	8100.	0.609E-04

0.17	45.0	0.210E-07	5100.	4900.	0.000E+00
0.33	45.0	0.316E-06	5200.	5100.	0.000E+00
0.50	45.0	0.302E-05	5400.	5200.	0.000E+00
0.67	45.0	0.194E-04	5500.	5300.	0.000E+00
0.83	45.0	0.902E-04	5600.	5500.	0.000E+00
1.00	45.0	0.331E-03	5800.	5600.	0.000E+00
1.17	45.0	0.966E-03	5900.	5800.	0.000E+00
1.33	45.0	0.241E-02	6100.	5900.	0.000E+00
1.50	45.0	0.525E-02	6200.	6000.	0.000E+00
1.67	45.0	0.100E-01	6300.	6200.	0.000E+00
1.83	45.0	0.176E-01	6500.	6300.	0.000E+00
2.00	45.0	0.280E-01	6600.	6400.	0.000E+00
2.17	45.0	0.418E-01	6800.	6600.	0.000E+00
2.33	45.0	0.589E-01	6900.	6700.	0.000E+00
2.50	45.0	0.784E-01	7000.	6900.	0.000E+00
2.67	45.0	0.100E+00	7200.	7000.	0.000E+00
2.83	45.0	0.123E+00	7300.	7100.	0.121E-01
3.00	45.0	0.146E+00	7400.	7300.	0.278E-01
3.17	45.0	0.169E+00	7600.	7400.	0.530E-01
3.33	45.0	0.190E+00	7700.	7600.	0.869E-01
3.50	45.0	0.210E+00	7900.	7700.	0.127E+00
3.67	45.0	0.227E+00	8000.	7800.	0.168E+00
3.83	45.0	0.241E+00	8100.	8000.	0.205E+00
4.00	45.0	0.253E+00	8300.	8100.	0.236E+00

0.17	65.0	0.728E+01	5100.	4900.	0.000E+00
0.33	65.0	0.533E+01	5200.	5100.	0.000E+00
0.50	65.0	0.413E+01	5400.	5200.	0.000E+00
0.67	65.0	0.324E+01	5500.	5300.	0.000E+00
0.83	65.0	0.254E+01	5600.	5500.	0.000E+00
1.00	65.0	0.205E+01	5800.	5600.	0.000E+00
1.17	65.0	0.164E+01	5900.	5800.	0.000E+00
1.33	65.0	0.135E+01	6100.	5900.	0.000E+00
1.50	65.0	0.112E+01	6200.	6000.	0.000E+00
1.67	65.0	0.930E+00	6300.	6200.	0.000E+00
1.83	65.0	0.784E+00	6500.	6300.	0.000E+00
2.00	65.0	0.660E+00	6600.	6400.	0.000E+00
2.17	65.0	0.562E+00	6800.	6600.	0.000E+00
2.33	65.0	0.484E+00	6900.	6700.	0.000E+00
2.50	65.0	0.416E+00	7000.	6900.	0.000E+00
2.67	65.0	0.361E+00	7200.	7000.	0.000E+00
2.83	65.0	0.314E+00	7300.	7100.	0.309E-01
3.00	65.0	0.274E+00	7400.	7300.	0.522E-01
3.17	65.0	0.241E+00	7600.	7400.	0.756E-01
3.33	65.0	0.213E+00	7700.	7600.	0.971E-01
3.50	65.0	0.188E+00	7900.	7700.	0.114E+00
3.67	65.0	0.167E+00	8000.	7800.	0.124E+00
3.83	65.0	0.149E+00	8100.	8000.	0.127E+00
4.00	65.0	0.133E+00	8300.	8100.	0.124E+00

0.17	54.0	0.538E+02	5100.	4900.	0.000E+00
0.33	54.0	0.394E+02	5200.	5100.	0.000E+00
0.50	54.0	0.305E+02	5400.	5200.	0.000E+00
0.67	54.0	0.239E+02	5500.	5300.	0.000E+00
0.83	54.0	0.187E+02	5600.	5500.	0.000E+00
1.00	54.0	0.152E+02	5800.	5600.	0.000E+00
1.17	54.0	0.121E+02	5900.	5800.	0.000E+00
1.33	54.0	0.997E+01	6100.	5900.	0.000E+00
1.50	54.0	0.828E+01	6200.	6000.	0.000E+00
1.67	54.0	0.687E+01	6300.	6200.	0.000E+00
1.83	54.0	0.579E+01	6500.	6300.	0.000E+00
2.00	54.0	0.488E+01	6600.	6400.	0.000E+00
2.17	54.0	0.415E+01	6800.	6600.	0.000E+00
2.33	54.0	0.357E+01	6900.	6700.	0.000E+00
2.50	54.0	0.307E+01	7000.	6900.	0.000E+00

2.67	54.0	0.267E+01	7200.	7000.	0.000E+00
2.83	54.0	0.232E+01	7300.	7100.	0.229E+00
3.00	54.0	0.203E+01	7400.	7300.	0.386E+00
3.17	54.0	0.178E+01	7600.	7400.	0.559E+00
3.33	54.0	0.157E+01	7700.	7600.	0.718E+00
3.50	54.0	0.139E+01	7900.	7700.	0.842E+00
3.67	54.0	0.124E+01	8000.	7800.	0.914E+00
3.83	54.0	0.110E+01	8100.	8000.	0.938E+00
4.00	54.0	0.986E+00	8300.	8100.	0.918E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

TIER 3 STFATE MODEL RESULTS SUMMARY: NODS - Thimble Shoal Parallel Tunnel TS-4NB

PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA (APRIL 2015)

Scenario: **NODS - Thimble Shoal Parallel Tunnel TS-4NB**

Placement Volume (cy): 37,000

Tier III - Water Column Toxicity

Species: ***Mytilis***

LPC: 1

Dilution Required: 99

Dilution Achieved: 100

Toxicity Initial Mixing Computation Results: 4-Hour Criterion

Time (hours)	Depth (ft)	Maximum Contaminant Concentration (C_{tox}) on Grid	Dilution on Grid ($D_{a\text{-}tox}$)
4.0	0	8.41E-19	1.19E+20
4.0	15	3.15E-10	3.17E+11
4.0	30	2.96E-04	3.38E+05
4.0	45	3.50E-01	2.85E+02
4.0	65	1.35E-01	7.40E+02
4.0	53.4	9.95E-01	9.95E+01

Toxicity Initial Mixing Computation Results: Disposal Site Boundary Criterion

Depth (ft)	Time Corresponding to C_{tox} Outside Disposal Site (hours)	Maximum Contaminant Concentration (C_{tox}) Outside Disposal Site (percent)	Dilution Outside Disposal Site ($D_{a\text{-}tox}$)
0	NA	NA	NA
15	NA	NA	NA
30	NA	NA	NA
45	NA	NA	NA
65	3.83	1.29E-01	7.74E+02
53.4	3.83	9.54E-01	1.04E+02

$D_{a\text{-}tox}$ = $(100 - C_{tox}) / C_{tox}$

Shaded row = depth of maximum concentration

1. Concentration outside disposal site (Ctox - C_{ds}) = 0.

NODS - Thimble Shoal Parallel Tunnel TS-4NB

MODEL: SHORT-TERM FATE OF DREDGED MATERIAL FROM SPLIT HULL BARGE OR HOPPER DREDGE
(PC Version 5.01 MAY, 1993)
(Extended Memory Modification: December, 1997)
This Version Supports Grid Sizes up to 96 x 96 Points

TITLE: NODS - Thimble Shoal Parallel Tunnel TS-4NB

FILE: TmpFile .DUE

AREA: THE PROJECT AREA IS DESCRIBED BY A 96 X 96 GRID.

THERE ARE 96 GRID POINTS (NMAX) IN THE Z-DIRECTION (FROM LEFT TO RIGHT)
AND 96 GRID POINTS (MMAX) IN THE X-DIRECTION (FROM TOP TO BOTTOM).

SITE: THE DISPOSAL SITE IS REPRESENTED AS A RECTANGLE ON THE SITE GRID.

THE TOPMOST BOUNDARY IS LOCATED AT POINT # 6 (MDS1) FROM THE TOP OF THE GRID.

THE BOTTOMMOST BOUNDARY IS LOCATED AT POINT #87 (MDS2) FROM THE TOP OF THE GRID.

THE LEFTMOST BOUNDARY IS LOCATED AT POINT # 6 (NDS1) FROM THE LEFT OF THE GRID.

THE RIGHTMOST BOUNDARY IS LOCATED AT POINT #87 (NDS2) FROM THE LEFT OF THE GRID.

EXECUTION PARAMETERS:

MODEL COEFFICIENTS SPECIFIED IN INPUT DATA (KEY1 = 1).

VERTICAL DIFFUSION COEFFICIENT (AKY0) COMPUTED FROM PRITCHARD EQUATION (IPRIT = 1).

PERFORM COMPLETE ANALYSIS INCLUDING DESCENT, COLLAPSE, AND TRANSPORT-DIFFUSION (KEY2 = 0).

PERFORM TIER III OCEAN DUMPING INITIAL MIXING EVALUATION
TO COMPARE WITH TOXICITY CRITERIA (KEY3 = 3).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF CONVECTIVE DESCENT RESULTS NOT REQUESTED (IPCN = 0).

PRINTING OF DYNAMIC COLLAPSE RESULTS NOT REQUESTED (IPCL = 0).

QUARTERLY PRINTING OF LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED (IPLT = 0).

LONG-TERM TRANSPORT DIFFUSION RESULTS REQUESTED AT THE FOLLOWING 5 DEPTH(S):
0.00 FT
15.00 FT
30.00 FT
45.00 FT
65.00 FT

GRID: NUMBER OF LONG TERM GRID POINTS IN Z-DIRECTION (NMAX) = 96

NUMBER OF LONG TERM GRID POINTS IN X-DIRECTION (MMAX) = 96

GRID SPACING IN Z-DIRECTION (DZ) = 100.00000 FT

GRID SPACING IN X-DIRECTION (DX) = 100.00000 FT

CONSTANT DEPTH GRID SPECIFIED HAVING A DEPTH (DEPC) OF 65.00000 FT.

DEPTH GRID, FEET:

M N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
2	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
3	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
4	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
5	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
6	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
7	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
8	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
9	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
10	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
11	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.
12	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.	65.

0.17	45.0	0.954E-05	5100.	4900.	0.000E+00
0.33	45.0	0.522E-04	5200.	5100.	0.000E+00
0.50	45.0	0.219E-03	5400.	5200.	0.000E+00
0.67	45.0	0.730E-03	5500.	5300.	0.000E+00
0.83	45.0	0.198E-02	5600.	5500.	0.000E+00
1.00	45.0	0.466E-02	5800.	5600.	0.000E+00
1.17	45.0	0.946E-02	5900.	5800.	0.000E+00
1.33	45.0	0.174E-01	6100.	5900.	0.000E+00
1.50	45.0	0.292E-01	6200.	6000.	0.000E+00
1.67	45.0	0.451E-01	6300.	6200.	0.000E+00
1.83	45.0	0.655E-01	6500.	6300.	0.000E+00
2.00	45.0	0.894E-01	6600.	6400.	0.000E+00
2.17	45.0	0.117E+00	6700.	6600.	0.000E+00
2.33	45.0	0.146E+00	6900.	6700.	0.000E+00
2.50	45.0	0.176E+00	7000.	6900.	0.000E+00
2.67	45.0	0.207E+00	7200.	7000.	0.000E+00
2.83	45.0	0.235E+00	7300.	7100.	0.296E-01
3.00	45.0	0.262E+00	7400.	7300.	0.589E-01
3.17	45.0	0.286E+00	7600.	7400.	0.100E+00
3.33	45.0	0.305E+00	7700.	7600.	0.150E+00
3.50	45.0	0.322E+00	7900.	7700.	0.204E+00
3.67	45.0	0.335E+00	8000.	7800.	0.254E+00
3.83	45.0	0.344E+00	8100.	8000.	0.296E+00
4.00	45.0	0.350E+00	8300.	8100.	0.327E+00

0.17	65.0	0.579E+01	5100.	4900.	0.000E+00
0.33	65.0	0.438E+01	5200.	5100.	0.000E+00
0.50	65.0	0.345E+01	5400.	5200.	0.000E+00
0.67	65.0	0.276E+01	5500.	5300.	0.000E+00
0.83	65.0	0.220E+01	5600.	5500.	0.000E+00
1.00	65.0	0.180E+01	5800.	5600.	0.000E+00
1.17	65.0	0.147E+01	5900.	5800.	0.000E+00
1.33	65.0	0.122E+01	6100.	5900.	0.000E+00
1.50	65.0	0.102E+01	6200.	6000.	0.000E+00
1.67	65.0	0.859E+00	6300.	6200.	0.000E+00
1.83	65.0	0.730E+00	6500.	6300.	0.000E+00
2.00	65.0	0.621E+00	6600.	6400.	0.000E+00
2.17	65.0	0.533E+00	6700.	6600.	0.000E+00
2.33	65.0	0.462E+00	6900.	6700.	0.000E+00
2.50	65.0	0.400E+00	7000.	6900.	0.000E+00
2.67	65.0	0.349E+00	7200.	7000.	0.000E+00
2.83	65.0	0.306E+00	7300.	7100.	0.385E-01
3.00	65.0	0.269E+00	7400.	7300.	0.606E-01
3.17	65.0	0.238E+00	7600.	7400.	0.835E-01
3.33	65.0	0.211E+00	7700.	7600.	0.104E+00
3.50	65.0	0.188E+00	7900.	7700.	0.119E+00
3.67	65.0	0.167E+00	8000.	7800.	0.127E+00
3.83	65.0	0.150E+00	8100.	8000.	0.129E+00
4.00	65.0	0.135E+00	8300.	8100.	0.126E+00

0.17	53.4	0.428E+02	5100.	4900.	0.000E+00
0.33	53.4	0.324E+02	5200.	5100.	0.000E+00
0.50	53.4	0.255E+02	5400.	5200.	0.000E+00
0.67	53.4	0.204E+02	5500.	5300.	0.000E+00
0.83	53.4	0.163E+02	5600.	5500.	0.000E+00
1.00	53.4	0.133E+02	5800.	5600.	0.000E+00
1.17	53.4	0.108E+02	5900.	5800.	0.000E+00
1.33	53.4	0.900E+01	6100.	5900.	0.000E+00
1.50	53.4	0.756E+01	6200.	6000.	0.000E+00
1.67	53.4	0.635E+01	6300.	6200.	0.000E+00
1.83	53.4	0.540E+01	6500.	6300.	0.000E+00
2.00	53.4	0.459E+01	6600.	6400.	0.000E+00
2.17	53.4	0.394E+01	6700.	6600.	0.000E+00
2.33	53.4	0.341E+01	6900.	6700.	0.000E+00
2.50	53.4	0.296E+01	7000.	6900.	0.000E+00
2.67	53.4	0.258E+01	7200.	7000.	0.000E+00
2.83	53.4	0.226E+01	7300.	7100.	0.285E+00
3.00	53.4	0.199E+01	7400.	7300.	0.448E+00
3.17	53.4	0.176E+01	7600.	7400.	0.617E+00
3.33	53.4	0.156E+01	7700.	7600.	0.765E+00
3.50	53.4	0.139E+01	7900.	7700.	0.877E+00
3.67	53.4	0.124E+01	8000.	7800.	0.938E+00
3.83	53.4	0.111E+01	8100.	8000.	0.954E+00
4.00	53.4	0.995E+00	8300.	8100.	0.931E+00

RESULT: THE TOXICITY CRITERIA FOR THE DISPOSAL SITE WAS NOT VIOLATED.

*** RUN COMPLETED ***

ATTACHMENT IV

ECOTOXICOLOGICAL REPORT

WATER COLUMN BIOASSAYS

ECOTOXICOLOGICAL TESTING
WATER COLUMN BIOASSAYS
PARALLEL THIMBLE SHOAL TUNNEL PROJECT, VIRGINIA

Prepared for

Jacobs Engineering Group
4500 Main Street, Suite 310
Virginia Beach, Virginia 23462

On Behalf of

Chesapeake Bay Bridge and Tunnel District
32386 Lankford Highway
Cape Charles, Virginia 23310

Prepared by:

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Results relate only to the items tested or to the samples as received by the laboratory.

This report shall not be reproduced, except in full, without written approval of EA Engineering, Science, and Technology, Inc., PBC

This report contains 20 pages plus 5 attachments.

16 July 2015

Wayne L. McCulloch
Laboratory Director

Date

EA Project Number 1520401

ACCREDITED IN ACCORDANCE WITH nelac ID# E87550

EA Report Number 7126

1. INTRODUCTION

At the request of the Jacobs Engineering Group, Norfolk District, EA Engineering, Science, and Technology performed water column toxicity testing on sediment samples collected from the Parallel Thimble Shoal Tunnel project footprint, which extends from Wise Point on the eastern shore of Virginia to the Virginia Beach area. The purpose of this study was to evaluate the toxicity of standard elutriates prepared from the sediment samples.

The toxicity testing program consisted of acute water column bioassays with *Mytilus galloprovincialis* (west coast blue mussel), *Americamysis bahia* (opossum shrimp), and *Menidia beryllina* (inland silverside). The acute water column bioassays evaluated the effects of exposure to the sediment elutriates on survival or normal embryo development (*Mytilus*) of the test organisms.

2. MATERIALS AND METHODS

2.1 SAMPLE RECEIPT AND PREPARATION

Fifteen sediment samples from the location of the Parallel Thimble Shoal Tunnel project were collected and composited by EA personnel. In addition, one sample of site water was collected from the sediment sample locations. The composited Parallel Thimble Shoal Tunnel sediment samples were placed into 5-gallon pails. The samples were held at ≤4°C and were hand delivered to EA's Ecotoxicology Laboratory in Hunt Valley, Maryland. Upon receipt at EA, the sediment samples were logged in and assigned EA laboratory accession numbers, and were stored in the dark in a secured walk-in cooler at ≤4°C until used for testing. Table 1 summarizes the sample identification, accession numbers, and collection/receipt information for the sediment samples and site water. Chain-of-custody records are included in Attachment I.

2.2 TOXICITY TEST METHODS

All toxicity testing was conducted following EA's standard operating procedures (EA 2013) which are in accordance with USEPA/USACE guidance (1991, 1998) and USEPA guidance (2000, 2002).

2.2.1 Water Column Toxicity Testing

Elutriates were prepared from the sediment composite samples using the site water. A subsample of homogenized sediment was combined with site water in a 1:4 sediment to water ratio, on a volume/volume basis. The sediment/water combination was vigorously mixed by aeration and manual stirring for 30 minutes, and was then allowed to settle for a minimum of one hour. After settling, the supernatant was siphoned off and adjusted, if necessary, to 30 ppt salinity using Crystal Sea Bioassay Grade synthetic sea salts. The elutriates were used for the water column acute toxicity testing within 24 hours of preparation. Elutriate ammonia concentrations were measured on samples for each testing event and are included in Table 2.

Static, non-renewal bioassays were conducted on the prepared elutriates using *Americamysis bahia* (opossum shrimp) and *Menidia beryllina* (inland silverside). The west coast blue mussel (*Mytilus galloprovincialis)* was used as the test species for the bivalve embryo development tests. The test organisms were acquired from outside vendors. Acquired lots of organisms were gradually acclimated to test temperature and salinity prior to use in testing.

Test concentrations of 100, 50, 10, and 1 percent elutriate were prepared by measuring aliquots of elutriate in a graduated cylinder and bringing to final volume with 30 ppt artificial sea water. A dilution water control of artificial seawater and a secondary control of undiluted site water were also prepared. The artificial seawater was prepared by mixing Crystal Sea synthetic sea salts with laboratory water to a final salinity of 30 ppt. The source of the laboratory water was the City of Baltimore municipal tap water that was passed through a high-capacity, activated carbon filtration system. This synthetic seawater formulation has proven acceptable for aquatic toxicological studies, and has been used successfully at EA for maintaining multigeneration cultures of *Americamysis bahia*, and for holding healthy populations of estuarine and marine species. Batches of artificial seawater were aerated and aged at least 24 hours prior to use in testing.

2.2.1.1 *Mytilus galloprovincialis* Water Column Toxicity Testing

Larval development tests were conducted with the west coast blue mussel (*Mytilus* galloprovincialis). Adult mussels were acquired from Carlsbad Aquafarm (Carlsbad, California). The supplier divided Lot ME-051 in two batches and shipped each batch separately. Lot ME-051a was received at EA on 5 May 2015. Lot ME-051b was received on 6 May 2015. Upon receipt at EA, the adult mussels were visually inspected, were scrubbed clean (e.g., barnacles removed) and were placed in 30 ppt artificial seawater at <12ºC overnight (Lot ME-051a) or for several hours (Lot ME-051b). The collection of mussel eggs and sperm, and preparation of gamete suspension were performed according to EA's standard operating procedures (EA 2013) which follow guidelines in USEPA/USACE (1998). Spawning was temperature induced by placing the mussels into individual 200 ml cups containing 30 ppt artificial seawater and slowly raising and lowering the temperature of the water between 12ºC and 20ºC. Care was taken to keep male and female gametes completely separate, to avoid

accidental fertilization during gamete preparation. Gametes were microscopically inspected to determine normality of eggs and motility of sperm. Gametes that were determined to be acceptable for testing were pooled from a minimum of three males and three females, and were used to prepare the sperm and egg suspensions for the fertilization procedures. Only combined gamete preparations that had achieved a minimum of 90 percent fertilization were used in testing. Toxicity tests were initiated within 4 hours of egg fertilization.

Test chambers were 30-ml scintillation vials with screw caps. Each test concentration and control had five replicate test chambers containing 10 ml of test solution. At test initiation, on 6 May, 100 µl of fertilized gamete preparation (approximately 2,400 embryos per ml) was delivered into each test chamber containing test dilution. Extra replicates of controls were prepared to monitor embryo counts at test initiation and termination. The tests were maintained at a target temperature of 16±1°C with a 16-hour light/8-hour dark photoperiod. Water quality parameters (temperature, pH, dissolved oxygen, and salinity) were measured in separate water quality cups at test initiation and daily during the 48-hour exposure period. Summaries of water quality parameters can be found in Table 3.

The toxicity tests were terminated at 48 hours by adding 250 µl of 37 percent buffered formalin to each test chamber. The preserved samples were subsequently observed microscopically to determine the percent survival of control organisms, and the percentage of embryos in each test treatment and control that had normally developed (C-shaped, hinged, prodissoconch larvae) shells.

In order to evaluate the toxicity of ammonia to *Mytilus*, a separate toxicity test was conducted in which the *Mytilus* embryos were exposed to a graded concentration of ammonia, administered as ammonium chloride (NH_4Cl). Copies of the data sheets from all mussel toxicity tests are included in Attachment II.

2.2.1.2 ***Americamysis bahia*** **and** ***Menidia beryllina*** **Water Column Toxicity Testing**

The *A. bahia* and *M. beryllina* were acquired from Aquatic BioSystems (Fort Collins, Colorado).

A. bahia lot AB-863 was received at EA on 28 April 2015 and was used to initiate toxicity tests on the same day. *M. beryllina* lot MS-193 was received at EA on 2 May 2015 and was used to initiate toxicity tests on the same day. The opossum shrimp and silversides were fed *Artemia* sp. nauplii (<24 hours old) during holding, prior to use in testing.

The *A. bahia* and *M. beryllina* testing was conducted in 1-L beakers. Each beaker contained 200 ml of test solution, with five replicate beakers per test concentration. Ten organisms were randomly introduced into each replicate for a total of 50 organisms per concentration. The test chambers were maintained at 20±1°C with a 16-hour light/8-hour dark photoperiod. The *A. bahia* and *M. beryllina* were fed a small ration of brine shrimp nauplii (*Artemia* sp.) daily to prevent starvation and cannibalism (*A. bahia*). Temperature, pH, dissolved oxygen, and salinity were measured daily in one replicate of each concentration of the *A. bahia* and *M. beryllina* toxicity tests during the 96-hour exposure period. Summaries of water quality parameters measured during the toxicity tests are presented in Tables 4 (*A. bahia*) and 5 (*M. beryllina*). The number of live organisms in each test chamber were counted daily and recorded on the test data sheets. Copies of the *A. bahia* and *M. beryllina* acute toxicity test data sheets are included in Attachments III and IV, respectively.

2.2.2 Data Analysis

Statistical analyses were performed on the water column test data according to USEPA/USACE (1998) guidance and using the ToxCalc statistical software package (Version 5.0, Tidepool Scientific Software). For the elutriate testing, an EC50 (median effective concentration) or LC50 (median lethal concentration) was calculated for each test species using the linear interpolation, Spearman-Karber, Trimmed Spearman-Karber, or probit method. Additionally, if normal development or survival in the 100 percent elutriate concentration was at least 10 percent lower than the dilution water control, then a statistical comparison (t-Test) was performed between the 100 percent elutriate concentration and the control. The t-test was based on the assumptions that the observations were independent and normally distributed as determined by the Shapiro-Wilk's test. The F-Test was used to test for homogeneity of variance. When the data did not meet the normality assumption, the nonparametric test, Wilcoxon's Two- Sample Test, was used to

analyze the data. An arc sine (square root [Y]) transformation was performed on the survival percentages.

The results of the water column testing are summarized in Tables 6 through 9.

2.2.3 Reference Toxicant Testing

In conformance with EA's quality assurance/quality control program requirements, reference toxicant testing was performed by EA on the acquired lot of *Mytilus*. Reference toxicant data for the *A. bahia* and *M. beryllina*, acquired from Aquatic BioSystems, were obtained from the organism supplier. The reference toxicant tests consisted of a graded concentration series of a specific toxicant. The results of the reference toxicant tests were compared to established control chart limits. Table 10 presents the results of the reference toxicant testing.

2.3 ARCHIVES

Original data sheets, records, memoranda, notes, and computer printouts are archived at EA's Office in Hunt Valley, Maryland. These data will be retained for a period of 5 years unless a longer period of time is requested by Jacobs Engineering Group.

3. RESULTS AND DISCUSSION

This bioassay study with elutriates prepared from the composited sediments from the Parallel Thimble Shoal Tunnel project was designed and conducted to meet the requirements of the USEPA/USACE dredged material testing program. The results of these toxicity tests met the current NELAC standards, where applicable.

3.1 WATER COLUMN TOXICITY TESTING

3.1.1 *Mytilus galloprovincialis* Water Column Testing

In order to evaluate the toxicity of ammonia to *Mytilus*, a separate toxicity test was conducted in which the test organisms were exposed to a graded concentration of ammonia, administered as ammonium chloride (NH_4Cl). The results of this ammonia study are summarized in Table 6. The 48-hour EC50 value for *Mytilus* was 9.6 mg/L NH_3-N.

The combined controls from the *Mytilus* water column tests initiated on the Parallel Thimble Shoal Tunnel elutriates had a mean survival of 78 percent and a mean percent normal embryo development of 75 percent, which met the minimum acceptable control criteria of 70 percent survival and 70 percent normal embryo development (US EPA/USACE, 1998).

The results of the *Mytilus* toxicity tests conducted on the elutriate samples are presented in Table 7. All of the Parallel Thimble Shoal Tunnel elutriates had 48-hour EC50 values >100 percent elutriate for *Mytilus.* Two of the elutriates, TS-3ST-SED and TS-3NT-SED, had statistically significant (p=0.05) differences in percent normal embryo development in the 100 percent test concentrations when compared to the combined laboratory controls. The site water used to prepare the Parallel Thimble Shoal Tunnel elutriates had 68 to 75 percent normal embryo development.

3.1.2 *Americamysis bahia* Water Column Testing

Table 8 summarizes the results of the elutriate testing with *A. bahia.* The laboratory controls had 90 to 100 percent survival after 96 hours of exposure. All of the Parallel Thimble Shoal Tunnel

elutriates had 96-hour LC50 values >100 percent elutriate for *A. bahia*, and all had 90 to 100 percent survival in the 100 percent test concentrations. The site water had 98 to 100 percent survival.

3.1.3 *Menidia beryllina* Water Column Testing

The *M. beryllina* water column test results are presented in Table 9. Survival in the laboratory controls ranged from 94 to 100 percent. All of the tests had 96-hour LC50 values >100 percent elutriate, and all had 97 to 100 percent survival in the 100 percent test concentrations. The site water had 98 to 100 percent survival.

3.2 REFERENCE TOXICANT TESTS

The results of the reference toxicant tests are summarized in Table 10. All of the reference toxicant test results fell within the established laboratory control chart limits.

4. REFERENCES CITED

EA. 2013. EA Ecotoxicology Laboratory Quality Assurance and Standard Operating Procedures Manual. EA Manual ATS-102. Internal document prepared by EA's Ecotoxicology Laboratory, EA Engineering, Science, and Technology, Inc., Hunt Valley, Maryland.

USEPA. 2000. Mid-Atlantic Regional Implementation Manual: Dredged Material Evaluation for Norfolk and Dam Neck Ocean Disposal Sites. USEPA-Region 3.

USEPA. 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms. Fifth Edition. EPA-821-R-02-012. U.S. Environmental Protection Agency, Office of Water, Washington, D.C.

USEPA and USACE. 1991. Evaluation of Dredged Material Proposal for Ocean Disposal, Testing Manual (commonly called "The Green Book").

USEPA and USACE. 1998. Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S.-Inland Testing Manual. EPA/823/B-94/004. U.S. Environmental Protection Agency, Office of Water, Washington, D.C. and Department of the Army, U.S. Army Corps of Engineers, Washington, D.C.

TABLE 1 SUMMARY OF COLLECTION AND RECEIPT INFORMATION FOR SEDIMENT AND SITEWATER SAMPLES – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Sample Identification	EA Accession Number	Composite Time and Date	Receipt Time and Date
TS-1-SED	AT5-075	1400, 6 April 2015	1830, 19 April 2015
TS-2ST-SED	AT5-076	1600, 6 April 2015	1830, 19 April 2015
TS-2SB-SED	AT5-077	1145, 8 April 2015	1830, 19 April 2015
TS-2MT-SED	AT5-078	1045, 7 April 2015	1830, 19 April 2015
TS-2NT-SED	AT5-079	1400, 7 April 2015	1830, 19 April 2015
TS-2NB-SED	AT5-080	1130, 9 April 2015	1830, 19 April 2015
TS-3ST-SED	AT5-081	1600, 7 April 2015	1830, 19 April 2015
TS-3SB-SED	AT5-082	1330, 10 April 2015	1830, 19 April 2015
TS-3NT-SED	AT5-083	1500, 8 April 2015	1830, 19 April 2015
TS-3NB-SED	AT5-084	1130, 14 April 2015	1830, 19 April 2015
TS-4ST-SED	AT5-085	1530, 13 April 2015	1830, 19 April 2015
TS-4SB-SED	AT5-086	1130, 13 April 2015	1830, 19 April 2015
TS-4MT-SED	AT5-087	1600, 10 April 2015	1830, 19 April 2015
TS-4NT-SED	AT5-088	1445, 9 April 2015	1830, 19 April 2015
TS-4NB-SED	AT5-089	1350, 13 April 2015	1830, 19 April 2015

Sample Identification	EA Accession Number	Collection Time and Date	Receipt Time and Date
Sitewater:			
TS-WAT	AT5-093	1000, 17 April 2015	1830, 19 April 2015

TABLE 2 AMMONIA CONCENTRATIONS MEASURED ON ELUTRIATES PRIOR TO WATER COLUMN TOXICITY TESTING – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

		Ammonia (mg/L NH_3-N)		
Sediment Identification	**EA Accession Number**	**Elutriate** (*M. galloprovincialis*)	**Elutriate** (*A. bahia*)	**Elutriate** (*M. beryllina*)
TS-1-SED	AT5-075	0.33	0.25	0.21
TS-2ST-SED	AT5-076	<0.1	<0.1	<0.1
TS-2SB-SED	AT5-077	0.16	<0.1	<0.1
TS-2MT-SED	AT5-078	<0.1	<0.1	<0.1
TS-2NT-SED	AT5-079	<0.1	<0.1	<0.1
TS-2NB-SED	AT5-080	0.22	0.15	0.18
TS-3ST-SED	AT5-081	<0.1	<0.1	<0.1
TS-3SB-SED	AT5-082	<0.1	<0.1	<0.1
TS-3NT-SED	AT5-083	<0.1	<0.1	<0.1
TS-3NB-SED	AT5-084	0.27	0.16	0.20
TS-4ST-SED	AT5-085	<0.1	<0.1	<0.1
TS-4SB-SED	AT5-086	0.18	0.15	0.13
TS-4MT-SED	AT5-087	<0.1	<0.1	<0.1
TS-4NT-SED	AT5-088	0.12	<0.1	<0.1
TS-4NB-SED	AT5-089	0.11	<0.1	<0.1

TABLE 3 SUMMARY OF WATER QUALITY PARAMETERS MEASURED DURING ELUTRIATE BIOASSAY TESTING WITH *Mytilus galloprovincialis* – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Sediment Sample Identification	EA Accession Number	Test Number	Range			
			Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Salinity (ppt)
TS-1-SED	AT5-075	TN-15-115	15.0 – 17.0	7.8 – 8.4	7.6 – 8.3	27.2 – 30.3
TS-2ST-SED	AT5-076	TN-15-116	15.0 – 17.0	7.8 – 8.4	7.5 – 8.3	27.6 – 30.3
TS-2SB-SED	AT5-077	TN-15-117	15.0 – 17.0	7.8 – 8.4	7.6 – 8.3	27.6 – 30.3
TS-2MT-SED	AT5-078	TN-15-118	15.0 – 17.0	7.8 – 8.4	7.6 – 8.4	28.3 – 30.3
TS-2NT-SED	AT5-079	TN-15-119	15.0 – 16.9	7.8 – 8.4	7.7 – 8.2	27.8 – 30.6
TS-2NB-SED	AT5-080	TN-15-120	15.0 – 17.0	7.8 – 8.4	7.7 – 8.3	28.5 – 30.3
TS-3ST-SED	AT5-081	TN-15-121	15.0 – 16.9	7.8 – 8.4	7.8 – 8.3	27.2 – 30.2
TS-3SB-SED	AT5-082	TN-15-122	15.0 – 17.0	7.8 – 8.4	7.7 – 8.2	27.9 – 30.2
TS-3NT-SED	AT5-083	TN-15-123	15.0 – 17.0	7.8 – 8.4	7.5 – 8.3	28.6 – 30.2
TS-3NB-SED	AT5-084	TN-15-124	15.0 – 16.9	7.8 – 8.4	7.8 – 8.2	29.5 – 30.3
TS-4ST-SED	AT5-085	TN-15-125	15.0 – 17.0	7.8 – 8.4	7.6 – 8.2	29.3 – 30.2
TS-4SB-SED	AT5-086	TN-15-126	15.0 – 17.0	7.8 – 8.4	7.7 – 8.1	27.8 – 30.2
TS-4MT-SED	AT5-087	TN-15-127	15.0 – 17.0	7.8 – 8.4	7.6 – 8.2	28.2 – 30.2
TS-4NT-SED	AT5-088	TN-15-128	15.0 – 17.0	7.8 – 8.4	7.7 – 8.2	29.6 – 30.8
TS-4NB-SED	AT5-089	TN-15-129	15.0 – 16.9	7.8 – 8.4	7.8 – 8.2	27.4 – 30.2

TABLE 4 SUMMARY OF WATER QUALITY PARAMETERS MEASURED DURING ELUTRIATE BIOASSAY TESTING WITH *Americamysis bahia* – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Sediment Sample Identification	EA Accession Number	Test Number	Range			
			Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Salinity (ppt)
TS-1-SED	AT5-075	TN-15-085	20.8 – 21.0	7.6 – 8.3	6.3 – 7.5	28.5 – 30.6
TS-2ST-SED	AT5-076	TN-15-086	20.6 – 21.0	7.8 – 8.3	6.5 – 7.5	28.1 – 30.9
TS-2SB-SED	AT5-077	TN-15-087	20.3 – 21.0	7.9 – 8.3	6.7 – 7.5	28.3 – 31.7
TS-2MT-SED	AT5-078	TN-15-088	20.7 – 21.0	7.9 – 8.3	5.9 – 7.5	28.1 – 31.7
TS-2NT-SED	AT5-079	TN-15-089	20.8 – 21.0	7.8 – 8.3	6.7 – 7.6	28.5 – 31.9
TS-2NB-SED	AT5-080	TN-15-090	21.0 – 21.0	7.6 – 8.3	6.1 – 7.4	27.8 – 31.4
TS-3ST-SED	AT5-081	TN-15-091	20.7 – 21.0	8.0 – 8.3	6.4 – 7.7	28.2 – 31.6
TS-3SB-SED	AT5-082	TN-15-092	21.0 – 21.0	8.1 – 8.4	6.3 – 7.5	28.3 – 31.1
TS-3NT-SED	AT5-083	TN-15-093	20.7 – 21.0	8.1 – 8.3	6.5 – 7.5	28.1 – 31.0
TS-3NB-SED	AT5-084	TN-15-094	20.8 – 21.0	8.1 – 8.4	6.5 – 7.4	27.7 – 30.7
TS-4ST-SED	AT5-085	TN-15-095	20.6 – 21.0	8.0 – 8.3	6.6 – 7.4	28.5 – 31.1
TS-4SB-SED	AT5-086	TN-15-096	20.4 – 21.0	7.8 – 8.3	6.3 – 7.5	28.2 – 30.4
TS-4MT-SED	AT5-087	TN-15-097	20.5 – 21.0	8.1 – 8.3	6.6 – 7.8	27.8 – 31.0
TS-4NT-SED	AT5-088	TN-15-098	20.7 – 21.0	8.2 – 8.3	6.3 – 7.5	28.5 – 31.5
TS-4NB-SED	AT5-089	TN-15-099	20.7 – 21.0	8.1 – 8.3	6.9 – 7.6	27.5 – 31.3

TABLE 5 SUMMARY OF WATER QUALITY PARAMETERS MEASURED DURING ELUTRIATE BIOASSAY TESTING WITH *Menidia beryllina* – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Sediment Sample Identification	EA Accession Number	Test Number	Range			
			Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Salinity (ppt)
TS-1-SED	AT5-075	TN-15-100	19.4 – 21.1	7.3 – 8.3	6.5 – 9.0	27.0 – 30.3
TS-2ST-SED	AT5-076	TN-15-101	19.8 – 21.0	7.7 – 8.3	6.5 – 9.0	27.0 – 30.4
TS-2SB-SED	AT5-077	TN-15-102	19.7 – 21.0	7.8 – 8.3	6.4 – 9.0	28.2 – 30.5
TS-2MT-SED	AT5-078	TN-15-103	19.9 – 21.0	7.9 – 8.3	6.5 – 9.1	27.0 – 30.4
TS-2NT-SED	AT5-079	TN-15-104	19.9 – 21.3	7.9 – 8.3	6.4 – 9.0	27.0 – 31.1
TS-2NB-SED	AT5-080	TN-15-105	20.0 – 21.2	8.0 – 8.3	6.5 – 9.0	28.1 – 31.0
TS-3ST-SED	AT5-081	TN-15-106	20.3 – 21.3	7.4 – 8.3	6.3 – 8.9	28.3 – 31.2
TS-3SB-SED	AT5-082	TN-15-107	20.2 – 21.4	7.9 – 8.3	6.4 – 9.3	29.6 – 30.8
TS-3NT-SED	AT5-083	TN-15-108	20.1 – 21.2	8.0 – 8.3	6.5 – 9.1	29.8 – 31.4
TS-3NB-SED	AT5-084	TN-15-109	20.2 – 21.2	8.1 – 8.3	6.5 – 9.1	29.8 – 31.0
TS-4ST-SED	AT5-085	TN-15-110	19.8 – 21.0	8.0 – 8.4	6.6 – 9.1	29.4 – 30.8
TS-4SB-SED	AT5-086	TN-15-111	19.4 – 21.0	7.9 – 8.3	6.3 – 9.1	29.2 – 31.7
TS-4MT-SED	AT5-087	TN-15-112	20.0 – 21.1	8.0 – 8.3	6.4 – 9.1	29.7 – 31.0
TS-4NT-SED	AT5-088	TN-15-113	19.9 – 21.1	8.2 – 8.3	6.4 – 9.2	29.5 – 30.6
TS-4NB-SED	AT5-089	TN-15-114	19.8 – 21.0	8.1 – 8.3	6.5 – 9.0	29.2 – 31.0

TABLE 6 RESULTS OF AMMONIA (NH_4Cl) TOXICITY TESTING WITH *Mytilus galloprovincialis* - PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Organism Lot #	Testing Date	Test Number	48-Hour Normal Development (%)						48-hour EC50 (mg/L NH_3-N)
				mg/L NH_3-N					
			Lab Control	50 mg/L	10 mg/L	3.7 mg/L	1.5 mg/L	0.65 mg/L	
ME-051	5/6/2015	TN-15-144	80	0	37	73	75	80	9.6 (8.9-10.2)[(a)]

(a) Values in parentheses represent the 95 percent confidence limits.

TABLE 7 RESULTS OF TOXICITY TESTING WITH *Mytilus galloprovincialis* ON ELUTRIATES FROM FROM PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Test initiation: 5/6/15

Test termination: 5/8/15

Sample Identification	EA Accession Number	Test Number	Percent Control Survival	48-Hour Normal Embryo Development (%)						
				Site Water[a]	Lab Control[b]	Percent Elutriate				48-hour EC50 (% elutriate)
						100%	50%	10%	1%	
TS-1-SED	AT5-075	TN-15-115	78	75	75	73	80	72	81	>100
TS-2ST-SED	AT5-076	TN-15-116	78	75	75	76	78	81	77	>100
TS-2SB-SED	AT5-077	TN-15-117	78	70	75	69	69	71	71	>100
TS-2MT-SED	AT5-078	TN-15-118	78	68	75	71	65[c]	64[c]	73	>100
TS-2NT-SED	AT5-079	TN-15-119	78		75	67	71	70	69	>100
TS-2NB-SED	AT5-080	TN-15-120	78	71	75	72	71	70	70	>100
TS-3ST-SED	AT5-081	TN-15-121	78		75	66[c]	70	71	66[c]	>100
TS-3SB-SED	AT5-082	TN-15-122	78		75	69	76	73	68	>100
TS-3NT-SED	AT5-083	TN-15-123	78		75	66[c]	68	74	71	>100
TS-3NB-SED	AT5-084	TN-15-124	78		75	68	70	72	77	>100
TS-4ST-SED	AT5-085	TN-15-125	78		75	79	73	73	75	>100
TS-4SB-SED	AT5-086	TN-15-126	78		75	69	78	81	77	>100
TS-4MT-SED	AT5-087	TN-15-127	78		75	77	76	79	77	>100
TS-4NT-SED	AT5-088	TN-15-128	78		75	78	79	76	80	>100
TS-4NB-SED	AT5-089	TN-15-129	78		75	70	83	85	73	>100

(a) The site water was included with 5 tests.
(b) Percent normal development data from all lab controls was combined for statistical analyses.
(c) Significantly different (p=0.05) from combined lab controls.

TABLE 8 RESULTS OF TOXICITY TESTING WITH *Americamysis bahia* ON ELUTRIATES FROM PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Test initiation: 4/28/15
Test termination: 5/2/15

Sample Identification	EA Accession Number	Test Number	96-Hour Survival (%)						
			Site Water[(a)]	Lab Control	Percent Elutriate				96-hour LC50 (% elutriate)
					100%	50%	10%	1%	
TS-1-SED	AT5-075	TN-15-085	90	98	100	96	100	96	>100
TS-2ST-SED	AT5-076	TN-15-086	98	98	100	98	92	94	>100
TS-2SB-SED	AT5-077	TN-15-087	98	94	98	96	100	100	>100
TS-2MT-SED	AT5-078	TN-15-088	98	96	100	100	98	98	>100
TS-2NT-SED	AT5-079	TN-15-089	98	100	100	98	100	98	>100
TS-2NB-SED	AT5-080	TN-15-090		100	100	98	100	100	>100
TS-3ST-SED	AT5-081	TN-15-091		98	96	100	96	94	>100
TS-3SB-SED	AT5-082	TN-15-092		100	98	100	88	92	>100
TS-3NT-SED	AT5-083	TN-15-093		90	100	90	100	96	>100
TS-3NB-SED	AT5-084	TN-15-094		94	98	98	98	94	>100
TS-4ST-SED	AT5-085	TN-15-095		100	90	90	100	94	>100
TS-4SB-SED	AT5-086	TN-15-096		90	100	100	96	90	>100
TS-4MT-SED	AT5-087	TN-15-097		100	96	100	96	100	>100
TS-4NT-SED	AT5-088	TN-15-098		100	100	90	100	98	>100
TS-4NB-SED	AT5-089	TN-15-099		100	100	100	96	100	>100

(a) Site water was included with 5 tests.

TABLE 9 RESULTS OF TOXICITY TESTING WITH *Menidia beryllina* ON ELUTRIATES FROM PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Test initiation: 5/12/15
Test termination: 5/16/15

Sample Identification	EA Accession Number	Test Number	96-Hour Survival (%)						
			Site Water[(a)]	Lab Control	Percent Elutriate				96-hour LC50 (% elutriate)
					100%	50%	10%	1%	
TS-1-SED	AT5-075	TN-15-100	100	98	100	100	100	96	>100
TS-2ST-SED	AT5-076	TN-15-101	100	98	100	100	98	98	>100
TS-2SB-SED	AT5-077	TN-15-102		98	100	100	98	100	>100
TS-2MT-SED	AT5-078	TN-15-103	98	98	98	98	96	100	>100
TS-2NT-SED	AT5-079	TN-15-104	100	98	98	96	94	98	>100
TS-2NB-SED	AT5-080	TN-15-105		100	96	98	98	98	>100
TS-3ST-SED	AT5-081	TN-15-106		98	86	94	100	98	>100
TS-3SB-SED	AT5-082	TN-15-107		94	96	98	98	94	>100
TS-3NT-SED	AT5-083	TN-15-108		96	96	98	96	98	>100
TS-3NB-SED	AT5-084	TN-15-109		92	94	94	96	94	>100
TS-4ST-SED	AT5-085	TN-15-110		92	100	96	92	100	>100
TS-4SB-SED	AT5-086	TN-15-111		98	96	98	98	96	>100
TS-4MT-SED	AT5-087	TN-15-112		96	98	98	94	96	>100
TS-4NT-SED	AT5-088	TN-15-113		94	96	98	96	100	>100
TS-4NB-SED	AT5-089	TN-15-114		100	98	96	100	100	>100

(a) Site water was included with 4 tests.

TABLE 10 RESULTS OF REFERENCE TOXICANT TESTING ON ACQUIRED LOTS OF TEST ORGANISMS – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Test Species	Organism Lot Number	Reference Toxicant	Test Endpoint	Acceptable Control Chart Limits
Mytilus galloprovincialis	ME-051	Copper chloride ($CuCl_2$)	48-Hour EC50: 5.9 µg/L Cu	2.4 – 11.2 µg/L Cu
Americamysis bahia	AB-863	Potassium chloride (KCl)	96-Hour LC50: 660 mg/L KCl[(a)]	407 – 803 mg/L KCl[(a)]
Menidia beryllina	MS-193	Potassium chloride (KCl)	96-Hour LC50: 1,385 mg/L KCl[(a)]	1,146 – 1, 524 mg/L KCl[(a)]

(a) Reference toxicant test information provided by organism supplier.

ATTACHMENT I

Chain-of-Custody Records
(3 pages)

Chain-of-Custody Record

EA Engineering, Science, and Technology

EA Ecotoxicology Laboratory
231 Schilling Circle
Hunt Valley, Maryland 21031
Telephone: 410-584-7000
Fax: 410-584-1057

Sample Shipped By: (circle)
Fed. Ex. UPS (Other:) HAND
Tracking #: _____

Client: JACOBS/CBBT Project No.: 152401.0007

NPDES Number: _____ Client Purchase Order Number: _____

City/State Collected: VA BEACH, VA / HUNT VALLEY, MD

PLEASE READ SAMPLING INSTRUCTIONS ON BACK OF FORM

Accession Number (office use only)	Grab	Composite	Collection ~~Start~~ Date/~~Time~~	Collection ~~End~~ ~~Date~~/Time	Sample Description (including Site, Station Number, and Outfall Number)	Number/Volume of Container
~~TS-079~~		X	4/10/15	1400	TS-1-SED	12
076		X	4/10/15	1600	TS-2ST-SED	12
077		X	4/8/15	1145	TS-2SB-SED	17
078		X	4/7/15	1045	TS-2MT-SED	13
079		X	4/7/15	1400	TS-2NT-SED	15
080		X	4/9/15	1130	TS-2NB-SED	25
081		X	4/7/15	1600	TS-3ST-SED	14
082		X	4/10/15	1330	TS-3SB-SED	26
083		X	4/8/15	1500	TS-3NT-SED	13
084		X	4/14/15	1130	TS-3NB-SED	23
085		X	4/13/15	1530	TS-4ST-SED	13
086		X	4/13/15	1130	TS-4SB-SED	23

Sampled By:	Date/Time	Received By:	Date/Time
Sampler's Printed Name: MORGAN GELINAS	Title: SCIENTIST	Relinquished By:	Date/Time
Relinquished By:	Date/Time 4/19/15 1830	Received By Laboratory	Date/Time 4/19/15 1830

Was Sample Chilled During Collection? (Yes) No

Comments:
5 containers to be used for testing of each sample; all remaining to be held as archive until released by P. Derrick

Sample Collection Parameters
Visual Description:
Temperature (°C):
pH:
TRC (mg/L):
Other:

White-Report Production
EA 0534 F&B Rev.9/12

Yellow-Laboratory

Pink-Client/Sampler

Chain-of-Custody Record

EA Engineering, Science, and Technology

EA Ecotoxicology Laboratory
231 Schilling Circle
Hunt Valley, Maryland 21031
Telephone: 410-584-7000
Fax: 410-584-1057

Sample Shipped By: (circle)
Fed. Ex. UPS (Other: HAND)
Tracking #: —

Client: JACOBS/CBBT Project No.: 15204O1.0007

NPDES Number: _____ Client Purchase Order Number: _____

City/State Collected: VA BEACH, VA / HUNT VALLEY, MD

PLEASE READ SAMPLING INSTRUCTIONS ON BACK OF FORM

Accession Number (office use only)	Grab	Composite	Collection Start Date/Time	Collection End Date/Time	Sample Description (including Site, Station Number, and Outfall Number)	Number/Volume of Container
ATS-087		X	4/10/15	1600	TS-4MT-SED	13
088		X	4/9/15	1445	TS-4NT-SED	12
089		X	4/13/15	1350	TS-4NB-SED	13
090		X	4/16/15	1100	WBREF-T-SED	9
091		X	4/6/15	1100	WBREF-B-SED	12
092		X	4/18/15	1145	OCREF-SED	9
162		X	4/10/15	1400	CBCON-SED	5
		8 mg				
093	WATER		4/17/15	1000	TS-WAT	31

Sampled By:	Date/Time	Received By:	Date/Time
Morgan Gelinas	4/19/15 1800		
Sampler's Printed Name: MORGAN GELINAS	Title: SCIENTIST	Relinquished By:	Date/Time
Relinquished By:	Date/Time	Received By Laboratory	Date/Time
	4/19/15 1830		4/19/15 1830

Was Sample Chilled During Collection? (Yes) / No

Comments:
5 containers to be used for testing of each sample; all remaining to be held as archive until released by P. Derrick.

Sample Collection Parameters
Visual Description:
Temperature (°C):
pH:
TRC (mg/L):
Other:

ATTACHMENT II

Mytilus galloprovincialis 48-Hour Elutriate Toxicity Tests
Data Sheets and Statistical Analyses
(113 pages)

Bivalve Larval Survival and Development Test-Proportion Alive

Start Date:	5/6/2015	Test ID: Controls	Sample ID: Thimble Shoals
End Date:	5/8/2015	Lab ID:	Sample Type: Elutriate
Sample Date:		Protocol: ASTM 87	Test Species: MS-Mytilus sp
Comments:			

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9778	1.0000	0.7556	0.7500	0.8222	0.8944	0.9722	0.8444	0.8556	0.8611
Control	0.7556	0.7722	0.7333	0.7111	0.7944	0.7167	0.6944	0.7500	0.7389	0.6778
Control	0.7556	0.7167	0.7500	0.7000	0.7889	0.7389	0.8167	0.7778	0.7444	0.7000
Control	0.7000	0.8000	0.7556	0.7167	0.7278	0.7667	0.7722	0.7389	0.7389	0.7556
Control	0.6667	0.8556	0.7222	0.8111	0.7444	0.8333	0.6944	0.6667	0.7889	0.7722
Control	0.8611	0.8556	0.6833	0.8111	0.8667	0.7944	0.8222	0.8833	0.8500	0.7944
Control	0.7444	0.8333	0.8444	0.6833	0.7944	0.8722	0.8833	0.5889	0.7611	0.7556
Control	0.7556	0.8333	0.8444	0.9056	0.8611					

Conc-%	Mean
Control	0.7837

Reviewed by: 7/7

Bivalve Larval Survival and Development Test-Proportion Normal per Surviving

Start Date:	5/6/2015	Test ID: Controls	Sample ID: Thimble Shoals
End Date:	5/8/2015	Lab ID:	Sample Type: Elutriate
Sample Date:		Protocol: ASTM 87	Test Species: MS-Mytilis sp.
Comments:			

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9716	0.9538	0.9632	0.9778	0.9662	0.9627	0.9600	0.9408	0.9481	0.9613
Control	0.9412	0.9640	0.9394	1.0000	0.9720	0.9302	0.9280	0.9259	0.9549	0.9590
Control	0.9265	0.9690	0.9630	0.9683	0.9577	0.9474	0.9524	0.9571	0.9552	0.9286
Control	0.9444	0.9583	0.9412	0.9535	0.9542	0.9275	0.9424	0.9549	0.9323	0.9485
Control	0.9750	0.9481	0.9538	0.9452	0.9328	0.9600	0.9600	0.9583	0.9648	0.9568
Control	0.9548	0.8766	0.9350	0.9521	0.9231	0.9441	0.9797	0.9497	0.9673	0.9790
Control	0.9478	0.9533	0.9342	0.9675	0.9301	0.9682	0.9686	0.9340	0.9781	0.9853
Control	0.9265	0.9600	0.9539	0.9571	0.9484					

Conc-%	Mean
Control	0.9524

Reviewed by: 7/7/15

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID: TN-15-115	Sample ID: Thimble Shoals
End Date:	5/8/2015	Lab ID: AT5-075	Sample Type: Elutriate
Sample Date:		Protocol: ASTM 87	Test Species: MS-Mytilis sp.
Comments:			

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
Site Water	0.7667	0.7111	0.7556	0.7222	0.7833					
1	0.8389	0.8500	0.7778	0.9389	0.6667					
10	0.6389	0.7278	0.8167	0.7167	0.7222					
50	0.8167	0.8222	0.8278	0.7500	0.7833					
100	0.7000	0.7278	0.7500	0.7111	0.7500					

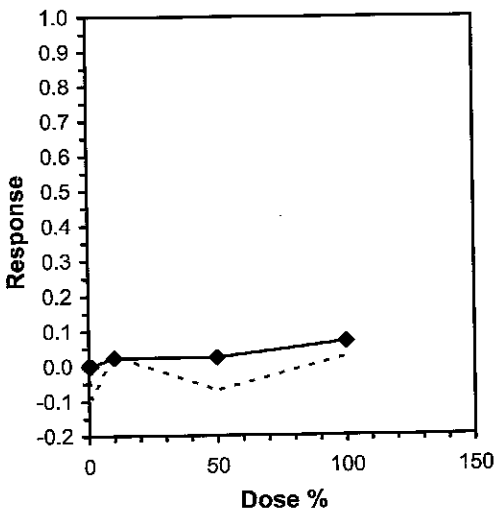
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7472	0.9992	1.0511	0.8355	1.5335	9.817	75				0.7808	1.0000
Site Water	0.7478	1.0000	1.0452	1.0033	1.0866	3.339	5					
1	0.8144	1.0892	1.1374	0.9553	1.3210	11.784	5	-1.880	2.280	0.1047	0.7808	1.0000
10	0.7244	0.9688	1.0203	0.9261	1.1283	7.047	5	0.671	2.280	0.1047	0.7622	0.9762
50	0.8000	1.0698	1.1081	1.0472	1.1429	3.649	5	-1.242	2.280	0.1047	0.7622	0.9762
100	0.7278	0.9733	1.0222	0.9912	1.0472	2.479	5	0.630	2.280	0.1047	0.7278	0.9321

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.97582	1.035	1.67104	6.32269
Bartlett's Test indicates equal variances (p = 0.02)	11.8392	13.2767		
The control means are not significantly different (p = 0.90)	0.12691	1.99085		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test	100	>100		1	0.09511	0.12625	0.01515	0.00988	0.19944	4, 90

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	79.683			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7 MM

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID: TN-15-116	Sample ID: Thimble Shoals
End Date:	5/8/2015	Lab ID: AT5-076	Sample Type: Elutriate
Sample Date:		Protocol: ASTM 87	Test Species: MS-Mytilis sp.
Comments:			

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
Site Water	0.8667	0.6611	0.7722	0.7222	0.7333					
1	0.8056	0.7611	0.6667	0.8500	0.7889					
10	0.8500	0.8444	0.8611	0.8222	0.6889					
50	0.7611	0.8167	0.7667	0.8333	0.7278					
100	0.7389	0.7000	0.7056	0.8444	0.8222					

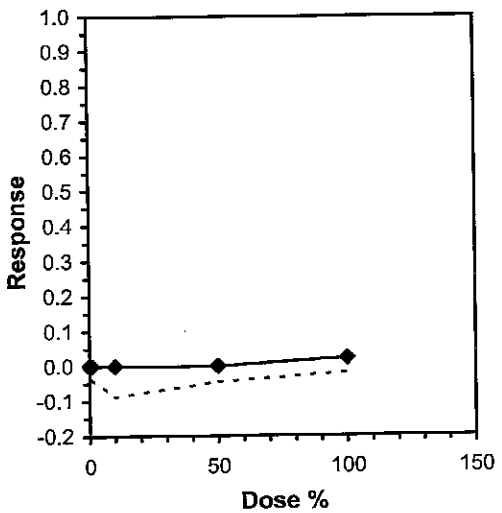
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7472	0.9948	1.0511	0.8355	1.5335	9.817	75				0.7790	1.0000
Site Water	0.7511	1.0000	1.0527	0.9494	1.1970	8.743	5					
1	0.7744	1.0311	1.0792	0.9553	1.1731	7.463	5	-0.615	2.280	0.1041	0.7790	1.0000
10	0.8133	1.0828	1.1284	0.9791	1.1889	7.594	5	-1.692	2.280	0.1041	0.7790	1.0000
50	0.7811	1.0399	1.0855	1.0219	1.1503	4.847	5	-0.752	2.280	0.1041	0.7790	1.0000
100	0.7622	1.0148	1.0648	0.9912	1.1654	7.576	5	-0.299	2.280	0.1041	0.7622	0.9784

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.83372	1.035	1.65471	6.33584
Bartlett's Test indicates equal variances (p = 0.57)	2.9461	13.2767		
The control means are not significantly different (p = 0.97)	0.0339	1.99085		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test	100	>100		1	0.0946	0.12557	0.00862	0.00978	0.47867	4, 90

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID: TN-15-117	Sample ID: Thimble Shoals
End Date:	5/8/2015	Lab ID: AT5-077	Sample Type: Elutriate
Sample Date:		Protocol: ASTM 87	Test Species: MS-Mytilis sp.
Comments:			

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
Site Water	0.7444	0.6500	0.6778	0.6889	0.7444					
1	0.6556	0.8278	0.6611	0.6444	0.7500					
10	0.7889	0.6444	0.6611	0.7500	0.6889					
50	0.6667	0.6556	0.8000	0.6944	0.6444					
100	0.6333	0.7056	0.6611	0.7333	0.7333					

			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7472	1.0657	1.0511	0.8355	1.5335	9.817	75				0.7472	1.0000
Site Water	0.7011	1.0000	0.9931	0.9377	1.0408	4.638	5					
1	0.7078	1.0095	1.0030	0.9319	1.1429	9.051	5	1.060	2.280	0.1035	0.7078	0.9473
10	0.7067	1.0079	1.0002	0.9319	1.0934	6.814	5	1.121	2.280	0.1035	0.7067	0.9458
50	0.6922	0.9873	0.9846	0.9319	1.1071	7.241	5	1.465	2.280	0.1035	0.6928	0.9272
100	0.6933	0.9889	0.9847	0.9204	1.0282	4.901	5	1.464	2.280	0.1035	0.6928	0.9272

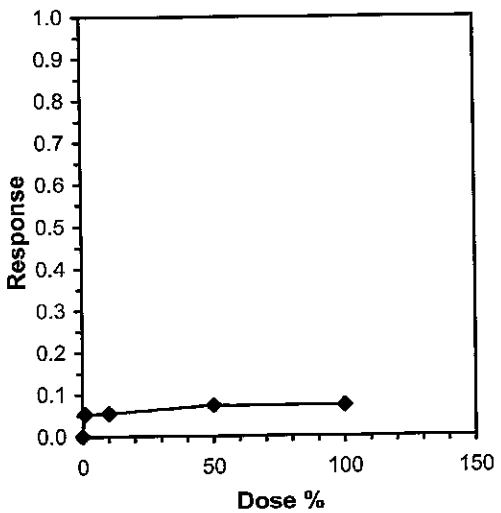
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.98752	1.035	1.77613	6.54883
Bartlett's Test indicates equal variances (p = 0.37)	4.23623	13.2767		
The control means are not significantly different (p = 0.22)	1.24227	1.99085		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test	100	>100		1	0.09397	0.12473	0.01363	0.00966	0.23653	4, 90

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05*	0.9480			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			

* indicates IC estimate less than the lowest concentration



Reviewed by:

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID:	TN-15-118	Sample ID:	Thimble Shoals
End Date:	5/8/2015	Lab ID:	AT5-078	Sample Type:	Elutriate
Sample Date:		Protocol:	ASTM 87	Test Species:	MS-Mytilis sp.
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
Site Water	0.5833	0.7000	0.6056	0.8000	0.7167					
1	0.7167	0.6889	0.7389	0.7778	0.7111					
10	0.6056	0.5833	0.7500	0.7056	0.5778					
50	0.6722	0.6278	0.6056	0.6500	0.6778					
100	0.6722	0.7778	0.7333	0.7000	0.6833					

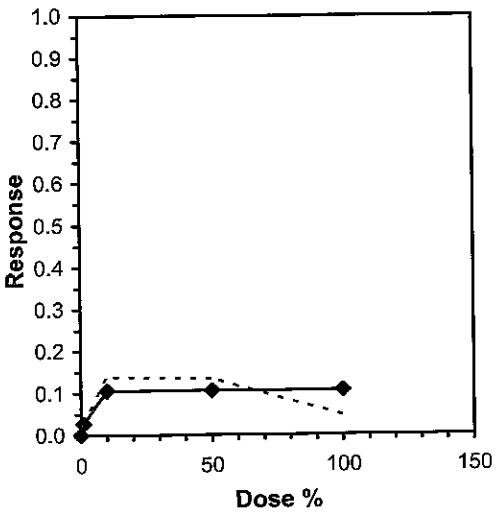
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7472	1.0970	1.0511	0.8355	1.5335	9.817	75				0.7472	1.0000
Site Water	0.6811	1.0000	0.9737	0.8691	1.1071	9.883	5					
1	0.7267	1.0669	1.0213	0.9791	1.0799	3.745	5	0.671	2.280	0.1014	0.7267	0.9725
*10	0.6444	0.9462	0.9338	0.8635	1.0472	8.924	5	2.638	2.280	0.1014	0.6681	0.8942
*50	0.6467	0.9494	0.9345	0.8918	0.9672	3.390	5	2.621	2.280	0.1014	0.6681	0.8942
100	0.7133	1.0473	1.0067	0.9612	1.0799	4.779	5	0.998	2.280	0.1014	0.6681	0.8942

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.996	1.035	1.85253	7.2825
Bartlett's Test indicates equal variances (p = 0.02)	11.8023	13.2767		
The control means are not significantly different (p = 0.11)	1.6287	1.99085		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test	1	10	3.16228	100	0.09201	0.12214	0.03153	0.00928	0.01228	4, 90

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL		Skew
IC05	3.5901	3.0415	0.8076	7.3598	4.9985
IC10	9.3358				
IC15	>100				
IC20	>100				
IC25	>100				
IC40	>100				
IC50	>100				



Reviewed by: 7/7

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID:	TN-15-119	Sample ID:	Thimble Shoals
End Date:	5/8/2015	Lab ID:	AT5-079	Sample Type:	Elutriate
Sample Date:		Protocol:	ASTM 87	Test Species:	MS-Mytilis sp.
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
1	0.7056	0.6667	0.7389	0.6667	0.6889					
10	0.6611	0.7667	0.6833	0.7167	0.6556					
50	0.7167	0.6222	0.7444	0.7444	0.7111					
100	0.6611	0.6111	0.6944	0.7389	0.6389					

			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7472	1.0000	1.0511	0.8355	1.5335	9.817	75				0.7472	1.0000
1	0.6933	0.9279	0.9843	0.9553	1.0345	3.366	5	1.510	2.280	0.1008	0.6993	0.9359
10	0.6967	0.9324	0.9885	0.9436	1.0667	5.142	5	1.416	2.280	0.1008	0.6993	0.9359
50	0.7078	0.9473	1.0007	0.9089	1.0408	5.413	5	1.140	2.280	0.1008	0.6993	0.9359
100	0.6689	0.8952	0.9585	0.8974	1.0345	5.554	5	2.093	2.280	0.1008	0.6689	0.8952

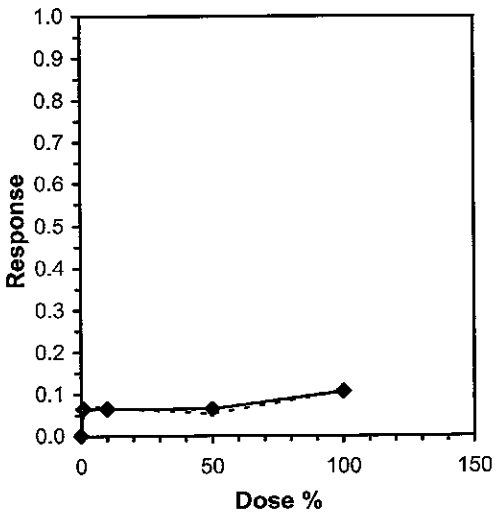
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.87487	1.035	1.86459	7.49743
Bartlett's Test indicates equal variances (p = 0.03)	10.8954	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test	100	>100		1	0.09149	0.12144	0.01949	0.00917	0.08416	4, 90

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05*	0.780			
IC10	94.110			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			

* indicates IC estimate less than the lowest concentration



Reviewed by: 7/7

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID:	TN-15-120	Sample ID:	Thimble Shoals
End Date:	5/8/2015	Lab ID:	AT5-080	Sample Type:	Elutriate
Sample Date:		Protocol:	ASTM 87	Test Species:	MS-Mytilis sp.
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
Site Water	0.6833	0.7167	0.7000	0.7278	0.7389					
1	0.6722	0.7889	0.6444	0.6889	0.7167					
10	0.6889	0.6778	0.6722	0.7444	0.7222					
50	0.7222	0.6833	0.7111	0.7333	0.7222					
100	0.6944	0.6889	0.7722	0.6889	0.7389					

			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.7472	1.0475	1.0511	0.8355	1.5335	9.817	75			0.7472	1.0000
Site Water	0.7133	1.0000	1.0060	0.9731	1.0345	2.423	5				
1	0.7022	0.9844	0.9950	0.9319	1.0934	6.208	5	127.50	90.00	0.7086	0.9484
10	0.7011	0.9829	0.9928	0.9612	1.0408	3.442	5	124.50	90.00	0.7086	0.9484
50	0.7144	1.0016	1.0072	0.9731	1.0282	2.083	5	156.00	90.00	0.7086	0.9484
100	0.7167	1.0047	1.0102	0.9791	1.0733	4.179	5	148.00	90.00	0.7086	0.9484

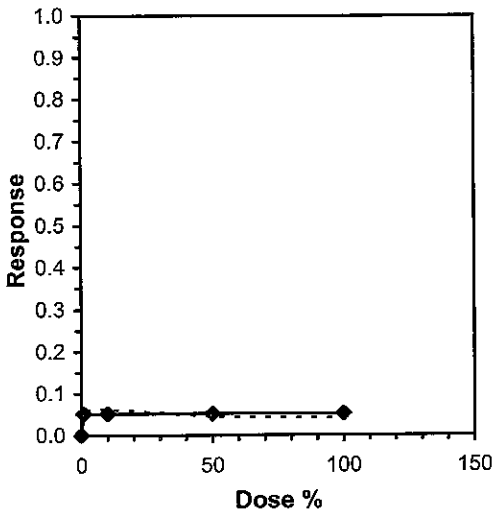
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	1.03086	1.035	1.90783	7.72551
Bartlett's Test indicates unequal variances (p = 1.90E-03)	17.0347	13.2767		
The control means are not significantly different (p = 0.34)	0.96955	1.99085		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Wilcoxon Rank Sum Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05*	0.9685			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			

* indicates IC estimate less than the lowest concentration



Reviewed by:

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID:	TN-15-121	Sample ID:	Thimble Shoals
End Date:	5/8/2015	Lab ID:	AT5-081	Sample Type:	Elutriate
Sample Date:		Protocol:	ASTM 87	Test Species:	MS-Mytilis sp.
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
1	0.6333	0.6722	0.6889	0.6944	0.6333					
10	0.6889	0.7222	0.7056	0.6944	0.7222					
50	0.7500	0.7111	0.6778	0.6722	0.6833					
100	0.6333	0.6556	0.6611	0.6500	0.7167					

			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.7472	1.0000	1.0511	0.8355	1.5335	9.817	75			0.7472	1.0000
*1	0.6644	0.8893	0.9532	0.9204	0.9851	3.280	5	60.50	90.00	0.6900	0.9235
10	0.7067	0.9458	0.9986	0.9791	1.0157	1.696	5	137.00	90.00	0.6900	0.9235
50	0.6989	0.9354	0.9904	0.9612	1.0472	3.600	5	121.00	90.00	0.6900	0.9235
*100	0.6633	0.8878	0.9521	0.9204	1.0095	3.557	5	67.50	90.00	0.6633	0.8878

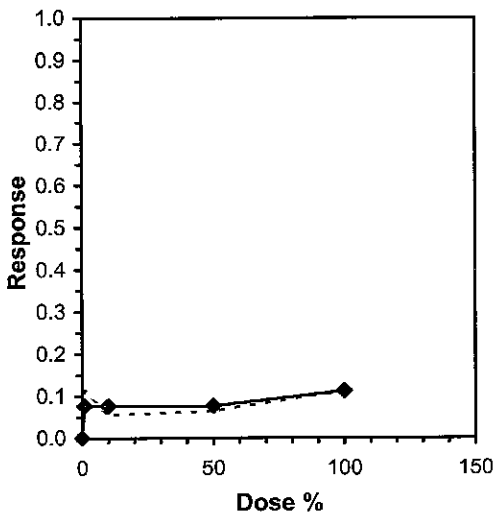
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	1.02076	1.035	1.94981	8.09186
Bartlett's Test indicates unequal variances (p = 1.00E-04)	23.5111	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Wilcoxon Rank Sum Test	<1	1		

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL		Skew
IC05*	0.653	11.444	0.492	51.324	4.9802
IC10	82.875				
IC15	>100				
IC20	>100				
IC25	>100				
IC40	>100				
IC50	>100				

* indicates IC estimate less than the lowest concentration



Reviewed by: 7/7/[illegible]

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID:	TN-15-122	Sample ID:	Thimble Shoals
End Date:	5/8/2015	Lab ID:	AT5-082	Sample Type:	Elutriate
Sample Date:		Protocol:	ASTM 87	Test Species:	MS-Mytilis sp.
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
1	0.6611	0.6667	0.6833	0.6500	0.7333					
10	0.7389	0.7667	0.6722	0.6944	0.7611					
50	0.6611	0.7889	0.7667	0.7889	0.8000					
100	0.6389	0.7556	0.7167	0.6722	0.6444					

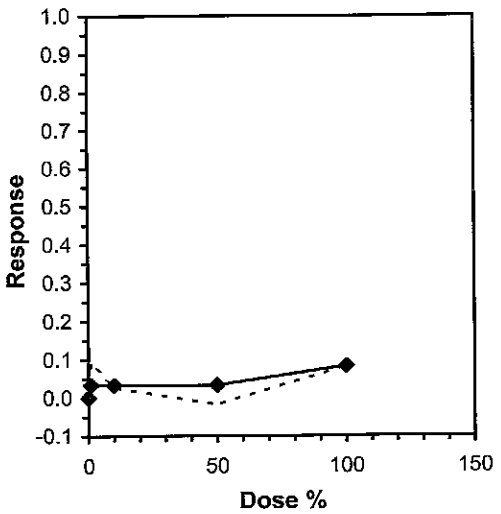
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7472	1.0000	1.0511	0.8355	1.5335	9.817	75				0.7472	1.0000
1	0.6789	0.9086	0.9688	0.9377	1.0282	3.673	5	1.856	2.280	0.1011	0.7222	0.9666
10	0.7267	0.9725	1.0215	0.9612	1.0667	4.554	5	0.667	2.280	0.1011	0.7222	0.9666
50	0.7611	1.0186	1.0620	0.9494	1.1071	6.085	5	-0.246	2.280	0.1011	0.7222	0.9666
100	0.6856	0.9175	0.9765	0.9261	1.0536	5.561	5	1.682	2.280	0.1011	0.6856	0.9175

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.91666	1.035	1.83782	7.39517
Bartlett's Test indicates equal variances (p = 0.04)	10.0156	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test	100	>100		1	0.09174	0.12178	0.01465	0.00922	0.18429	4, 90

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	66.904			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID:	TN-15-123	Sample ID:	Thimble Shoals
End Date:	5/8/2015	Lab ID:	AT5-083	Sample Type:	Elutriate
Sample Date:		Protocol:	ASTM 87	Test Species:	MS-Mytilis sp.
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
1	0.6611	0.7444	0.7278	0.7278	0.7056					
10	0.6500	0.7444	0.7778	0.7889	0.7167					
50	0.7444	0.6889	0.6556	0.6833	0.6444					
100	0.6222	0.6500	0.6611	0.6389	0.7167					

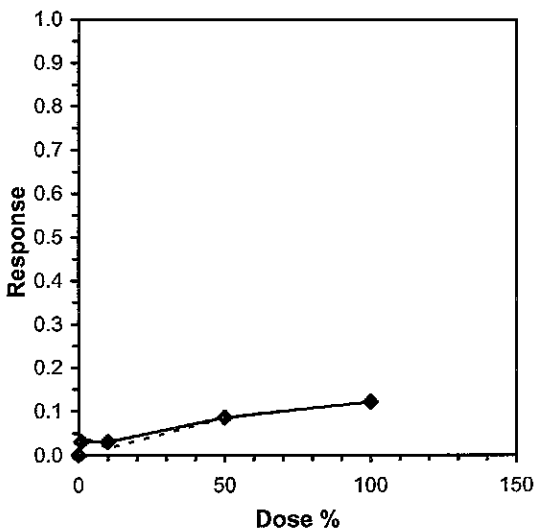
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7472	1.0000	1.0511	0.8355	1.5335	9.817	75				0.7472	1.0000
1	0.7133	0.9547	1.0063	0.9494	1.0408	3.511	5	1.016	2.280	0.1006	0.7244	0.9696
10	0.7356	0.9844	1.0323	0.9377	1.0934	6.037	5	0.427	2.280	0.1006	0.7244	0.9696
50	0.6833	0.9145	0.9737	0.9319	1.0408	4.353	5	1.754	2.280	0.1006	0.6833	0.9145
*100	0.6578	0.8803	0.9463	0.9089	1.0095	4.053	5	2.374	2.280	0.1006	0.6578	0.8803

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.986313	1.035	1.875879	7.60247
Bartlett's Test indicates equal variances (p = 0.01)	12.72365	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test	50	100	70.71068	2	0.091246	0.121117	0.020188	0.009128	0.07396	4, 90

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL		Skew
IC05	24.223	14.698	0.772	53.369	0.4253
IC10	71.261				
IC15	>100				
IC20	>100				
IC25	>100				
IC40	>100				
IC50	>100				



Reviewed by: 7/7

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID: TN-15-124	Sample ID: Thimble Shoals
End Date:	5/8/2015	Lab ID: AT5-084	Sample Type: Elutriate
Sample Date:		Protocol: ASTM 87	Test Species: MS-Mytilis sp.
Comments:			

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
1	0.7667	0.8333	0.7944	0.7444	0.7000					
10	0.8444	0.7667	0.6722	0.6722	0.6667					
50	0.7056	0.7389	0.6833	0.6667	0.7000					
100	0.6389	0.6444	0.6778	0.6611	0.7778					

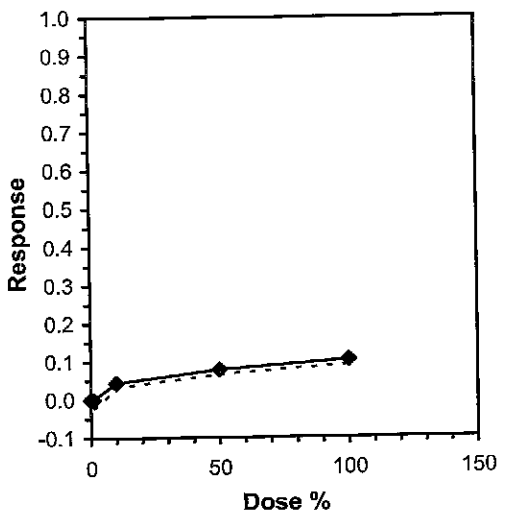
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7472	1.0000	1.0511	0.8355	1.5335	9.817	75				0.7575	1.0000
1	0.7678	1.0276	1.0698	0.9912	1.1503	5.615	5	-0.416	2.280	0.1027	0.7575	1.0000
10	0.7244	0.9696	1.0220	0.9553	1.1654	9.073	5	0.647	2.280	0.1027	0.7244	0.9564
50	0.6989	0.9354	0.9903	0.9553	1.0345	2.995	5	1.351	2.280	0.1027	0.6989	0.9226
100	0.6800	0.9101	0.9709	0.9261	1.0799	6.490	5	1.780	2.280	0.1027	0.6800	0.8977

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	1.00873	1.035	1.81036	6.83033
Bartlett's Test indicates equal variances (p = 0.08)	8.26999	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test	100	>100		1	0.09323	0.12375	0.01266	0.00951	0.2648	4, 90

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	17.571			
IC10	95.412			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/2015

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID:	TN-15-125	Sample ID:	Thimble Shoals
End Date:	5/8/2015	Lab ID:	AT5-085	Sample Type:	Elutriate
Sample Date:		Protocol:	ASTM 87	Test Species:	MS-Mytilis sp.
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
1	0.7278	0.7944	0.8444	0.7333	0.6611					
10	0.8556	0.7889	0.6833	0.6722	0.6556					
50	0.8056	0.7778	0.7056	0.7444	0.6111					
100	0.8333	0.7389	0.8833	0.8611	0.6389					

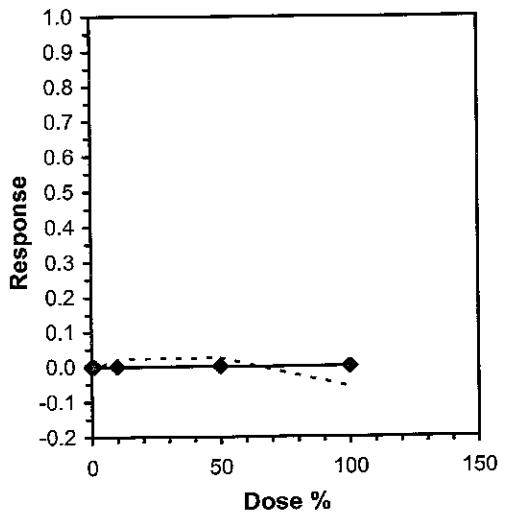
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7472	1.0000	1.0511	0.8355	1.5335	9.817	75				0.7501	1.0000
1	0.7522	1.0067	1.0530	0.9494	1.1654	7.827	5	-0.041	2.280	0.1079	0.7501	1.0000
10	0.7311	0.9785	1.0304	0.9436	1.1809	9.972	5	0.436	2.280	0.1079	0.7501	1.0000
50	0.7289	0.9755	1.0259	0.8974	1.1141	8.191	5	0.532	2.280	0.1079	0.7501	1.0000
100	0.7911	1.0588	1.1044	0.9261	1.2222	11.071	5	-1.126	2.280	0.1079	0.7501	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.86692	1.035	1.4996	5.24816
Bartlett's Test indicates equal variances (p = 0.93)	0.82674	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test	100	>100		1	0.09818	0.13033	0.00488	0.0105	0.76184	4, 90

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID:	TN-15-126	Sample ID:	Thimble Shoals
End Date:	5/8/2015	Lab ID:	AT5-086	Sample Type:	Elutriate
Sample Date:		Protocol:	ASTM 87	Test Species:	MS-Mytilis sp.
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
1	0.8333	0.7500	0.7889	0.7056	0.7722					
10	0.8278	0.8056	0.8389	0.8389	0.7222					
50	0.8389	0.6833	0.8278	0.7500	0.8111					
100	0.7667	0.6389	0.6389	0.6500	0.7667					

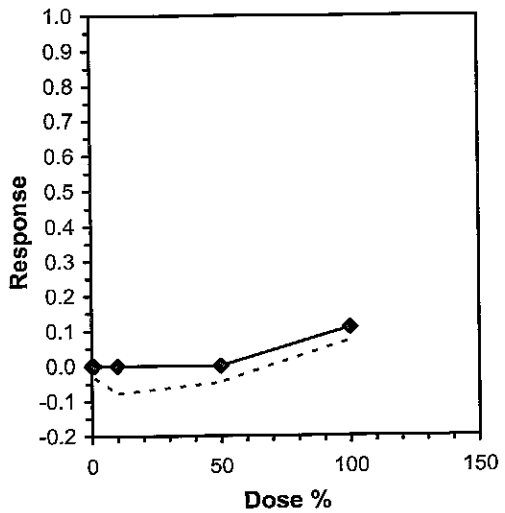
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7472	1.0000	1.0511	0.8355	1.5335	9.817	75				0.7765	1.0000
1	0.7700	1.0305	1.0723	0.9972	1.1503	5.273	5	-0.469	2.280	0.1030	0.7765	1.0000
10	0.8067	1.0796	1.1176	1.0157	1.1578	5.343	5	-1.473	2.280	0.1030	0.7765	1.0000
50	0.7822	1.0469	1.0884	0.9731	1.1578	7.093	5	-0.826	2.280	0.1030	0.7765	1.0000
100	0.6922	0.9264	0.9847	0.9261	1.0667	7.617	5	1.470	2.280	0.1030	0.6922	0.8914

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.92444	1.035	1.73395	6.68512
Bartlett's Test indicates equal variances (p = 0.39)	4.11563	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test	100	>100		1	0.09353	0.12414	0.01313	0.00957	0.25012	4, 90

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	73.029			
IC10	96.059			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID:	TN-15-127	Sample ID:	Thimble Shoals
End Date:	5/8/2015	Lab ID:	AT5-087	Sample Type:	Elutriate
Sample Date:		Protocol:	ASTM 87	Test Species:	MS-Mytilis sp.
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
1	0.8056	0.8056	0.7056	0.7722	0.7833					
10	0.8389	0.7611	0.7333	0.8667	0.7500					
50	0.7333	0.7889	0.6889	0.8056	0.8000					
100	0.9000	0.6556	0.8056	0.7611	0.7111					

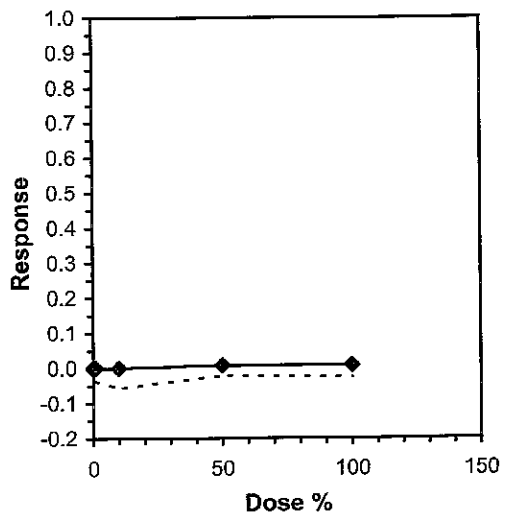
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7472	1.0000	1.0511	0.8355	1.5335	9.817	75				0.7705	1.0000
1	0.7744	1.0365	1.0771	0.9972	1.1141	4.459	5	-0.566	2.280	0.1046	0.7705	1.0000
10	0.7900	1.0573	1.0981	1.0282	1.1970	6.795	5	-1.024	2.280	0.1046	0.7705	1.0000
50	0.7633	1.0216	1.0644	0.9791	1.1141	5.505	5	-0.290	2.280	0.1046	0.7650	0.9928
100	0.7667	1.0261	1.0740	0.9436	1.2490	10.862	5	-0.500	2.280	0.1046	0.7650	0.9928

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.88283	1.035	1.70488	6.24056
Bartlett's Test indicates equal variances (p = 0.29)	4.94768	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test	100	>100		1	0.095	0.12611	0.00369	0.00986	0.82625	4, 90

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID:	TN-15-128	Sample ID:	Thimble Shoals
End Date:	5/8/2015	Lab ID:	AT5-088	Sample Type:	Elutriate
Sample Date:		Protocol:	ASTM 87	Test Species:	MS-Mytilis sp.
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
1	0.6778	0.8278	0.7389	0.7944	0.9556					
10	0.8222	0.8333	0.7333	0.6667	0.7556					
50	0.8167	0.8278	0.7944	0.7389	0.7944					
100	0.8833	0.8000	0.7778	0.7611	0.6944					

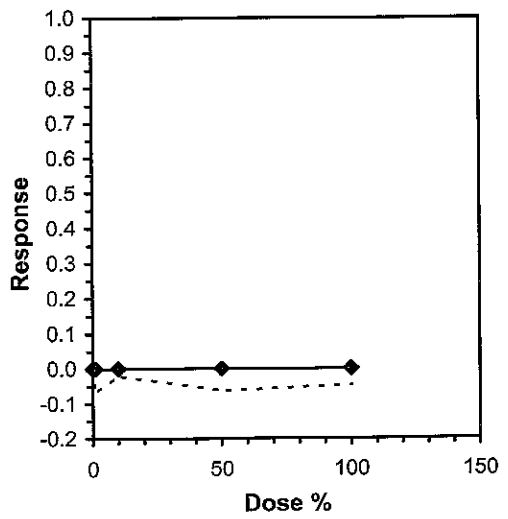
			Transform: Arcsin Square Root					1-Tailed			Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
Control	0.7472	1.0000	1.0511	0.8355	1.5335	9.817	75				0.7772	1.0000
1	0.7989	1.0692	1.1206	0.9672	1.3584	13.267	5	-1.474	2.280	0.1075	0.7772	1.0000
10	0.7622	1.0201	1.0646	0.9553	1.1503	7.538	5	-0.286	2.280	0.1075	0.7772	1.0000
50	0.7944	1.0632	1.1012	1.0345	1.1429	3.779	5	-1.063	2.280	0.1075	0.7772	1.0000
100	0.7833	1.0484	1.0909	0.9851	1.2222	7.908	5	-0.844	2.280	0.1075	0.7772	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.9176	1.035	1.64373	5.58742
Bartlett's Test indicates equal variances (p = 0.24)	5.47989	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test	100	>100		1	0.09783	0.12985	0.00942	0.01043	0.46562	4, 90

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: _____

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID:	TN-15-129	Sample ID:	Thimble Shoals
End Date:	5/8/2015	Lab ID:	AT5-089	Sample Type:	Elutriate
Sample Date:		Protocol:	ASTM 87	Test Species:	MS-Mytilis sp.
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	0.9500	1.0000	0.7278	0.7333	0.7944	0.8611	0.9333	0.7944	0.8111	0.8278
Control	0.7111	0.7444	0.6889	0.7167	0.7722	0.6667	0.6444	0.6944	0.7056	0.6500
Control	0.7000	0.6944	0.7222	0.6778	0.7556	0.7000	0.7778	0.7444	0.7111	0.6500
Control	0.6611	0.7667	0.7111	0.6833	0.6944	0.7111	0.7278	0.7056	0.6889	0.7167
Control	0.6500	0.8111	0.6889	0.7667	0.6944	0.8000	0.6667	0.6389	0.7611	0.7389
Control	0.8222	0.7500	0.6389	0.7722	0.8000	0.7500	0.8056	0.8389	0.8222	0.7778
Control	0.7056	0.7944	0.7889	0.6611	0.7389	0.8444	0.8556	0.5500	0.7444	0.7444
Control	0.7000	0.8000	0.8056	0.8667	0.8167					
1	0.7333	0.7833	0.6722	0.7167	0.7667					
10	0.8500	0.8556	0.8278	0.8667	0.8556					
50	0.8833	0.8278	0.8778	0.7778	0.7833					
100	0.6833	0.7056	0.6722	0.7556	0.6944					

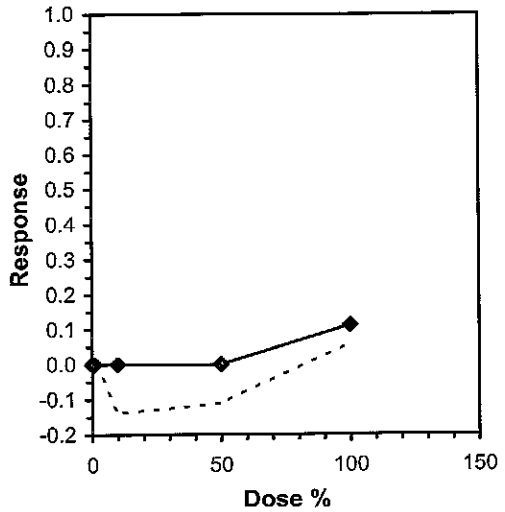
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.7472	1.0000	1.0511	0.8355	1.5335	9.817	75			0.7907	1.0000
1	0.7344	0.9829	1.0304	0.9612	1.0866	4.780	5	191.50	90.00	0.7907	1.0000
10	0.8511	1.1391	1.1750	1.1429	1.1970	1.698	5	361.00	90.00	0.7907	1.0000
50	0.8300	1.1108	1.1491	1.0799	1.2222	5.877	5	328.50	90.00	0.7907	1.0000
100	0.7022	0.9398	0.9941	0.9612	1.0536	3.612	5	125.50	90.00	0.7022	0.8881

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.93926	1.035	1.87713	7.57105
Bartlett's Test indicates unequal variances (p = 3.24E-03)	15.8393	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Wilcoxon Rank Sum Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL		Skew
IC05	72.345	4.534	67.453	84.677	1.8165
IC10	94.690				
IC15	>100				
IC20	>100				
IC25	>100				
IC40	>100				
IC50	>100				



Reviewed by: 7/7

BIVALVE LARVAL DEVELOPMENT TEST
SPERM / EGG DILUTION WORKSHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number(s): TW-15-115-9121/MH/ET-15-037/038

Date: 5/6/15 Initials: MK

Time of spawning (mean): 1130

Test Species

Scientific Name: Mytilus sp.

Lot Number: ME-051

Source: Carlsbad aquafarms

EGG DILUTION PREPARATION –

(1 ml pulled egg stock diluted to 100 ml with 30 ppt FF)

Number of eggs counted: 114
120

Mean: 117

Egg stock as eggs/ml (mean x 100): 11,700

Final egg count (5,000 – 8,000 eggs/ml)-

$$V_1 = \frac{d_2 \times v_2}{d_1}$$

Final egg count 5900 eggs/ml

FERTILIZATION:

Time of fertilization 1320
Time of observation 1455

	Percent fertilization:	Observation:
1 ml sperm/100 ml egg stock	90	
3 ml sperm/100 ml egg stock	91	
10 ml sperm/100 ml egg stock	97	

Embryo suspension used for testing: 10ml

Embryo suspension density (1,500 – 3,000 embryos/ml):

Initial embryo suspension density 5600 embryos/ml
Final embryo suspension density 2400 embryos/ml

TEST INITIATION:

Time of initiation 1610

BIVALVE DEVELOPMENT TEST
INITIAL EMBRYO OBSERVATION DATA SHEET

Project Number: 70005-15 Test Species

Client: Tronble Shoals Scientific Name: Mytilus sp.

QC Test Number: TW-15-115 → 129/144/RT-15-037 → 038

Embryos counted (date, time, initials): 5/6/15 1640

Initial Controls
186
173
177
185

Mean initial embryo count: 180

BIVALVE DEVELOPMENT TEST
SPAWNING WORKSHEET

Project Number: 70005.15

Client: Thimble Shoal

QC Test Number(s): TW-15-1157129/144/RT-15-037/38

Date: 5/6/15 Initials: MK

Test Species

Scientific Name: Mytilus sp.

Lot Number: ME-051

Source: Carlsbad Aquafarm

Individual Number	Time of Spawning	Sex (M/F)	Accepted? (comments)
1	1032	M	
2	1055	M	
3	1055	M	
4	1055	M	
5	1055	M	
6	1100	M*	
7	1100	M	
8	1102	M	
9	1102	F	
10	1105	M	
11	1105	M	
12	1108	M	
13	1115	F	
14	1115	F	
15	1118	M	
16	1118	M	
17	1120	F	yes
18	1120	F	NO
19	1120	M	
20	1120	M	
21	1127	F	yes
22	1127	F	yes
23	1128	F	yes
24	1135	F	
25	1140	M	yes

OBSERVATIONS:

BIVALVE DEVELOPMENT TEST
SPAWNING WORKSHEET

Project Number: 70005.15

Client: Thimble Shoal

QC Test Number(s): TW-15-115→120/124/RT-15-037/038

Date: 5/6/15 Initials: MRE

Test Species

Scientific Name: Mytilus sp.

Lot Number: ME-051

Source: Carlsbad Aquafarm

Individual Number	Time of Spawning	Sex (M/F)	Accepted? (comments)
♂ 26	1140	M	yes
♀ 27	1140	M	yes
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

OBSERVATIONS:

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-115

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME-051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 24hrs

Culture Water (T/S): 15.8 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1030	MM	Dilutions Made
	1530	WLM/JM	Test Vessels Filled
	1610	MK	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5-075

Dilution Number: 30 ppt C.S. (LD5-208)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml
1%	1 ml	
10%	10 ml	
50%	50 ml	
100%	100 ml	
Site Water (AT5-093)	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-115 Elutriate TS-1-SED

Initial number of embryos 180 Accession Number: AT5-075

Embryos counted (date, initials): 6/9/15 WG

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	176	171	5
	B	195	186	9
	C	136	131	5
	D	135	132	3
	E	148	143	5
1%	A	155	151	4
	B	163	153	10
	C	145	140	5
	D	174	169	5
	E	126	120	6
10%	A	125	115	10
	B	138	131	7
	C	155	147	8
	D	141	129	12
	E	135	130	5
50%	A	153	147	6
	B	158	148	10
	C	152	149	3
	D	137	135	2
	E	149	141	8

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-115 Elutriate TS-1-SED

Initial number of embryos 180 Accession Number: AT5-075

Embryos counted (date, initials): 6/9/15 VMS

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	133	126	7
	B	143	131	12
	C	145	135	10
	D	139	128	11
	E	145	135	10
Site Water	A	144	138	6
AT5-093	B	137	128	9
	C	144	136	8
	D	133	130	3
	E	154	141	13

TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-115
Test Material: ELUTRIATE
Accession Number: AT5-075
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*
TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/8/15 Time: 1840
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	17.0	16.7			8.3	7.9	7.8			8.2	8.0	7.8			30.2	30.2	29.6		
1%							15.1	17.0	16.7			8.4	7.9	7.8			8.2	8.0	7.8			30.2	30.2	29.6		
10%							15.1	17.0	16.9			8.4	8.0	7.8			8.2	8.0	7.8			29.9	29.8	29.6		
50%							15.1	17.0	16.8			8.4	8.0	7.8			8.2	8.0	7.8			28.9	28.9	28.4		
100%							15.0	17.0	16.9			8.4	8.0	7.9			8.2	8.0	7.8			27.6	27.6	27.2		
Site Water							15.4	17.0	16.9			8.3	8.0	7.9			8.3	7.6	7.9			30.3	30.0	29.8		
AT5-093																										
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1315	1425	0930			1315	1425	0930			1315	1425	0930			1315	1425	0930		
Initials							IM	IM	MM			IM	IM	MM			IM	IM	MM			IM	IM	MM		

578
MM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 115

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-116

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME- 051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24h-s Age: 24h-s

Culture Water (T/S): 15.0 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1033	MM	Dilutions Made
↓	1530	MM/IM	Test Vessels Filled
	1610	MK	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5-076

Dilution Number: 30 ppt C.S. (LD5-209)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml
1%	1 ml	↓
10%	10 ml	
50%	50 ml	
100%	100 ml	
Site Water (AT5-093)	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-116 Elutriate TS-2ST-SED

Initial number of embryos 180 Accession Number: AT5-0716

Embryos counted (date, initials): 6/11/15 MK

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	161	155	6
	B	175	168	7
	C	152	143	9
	D	154	146	8
	E	155	149	6
1%	A	152	145	7
	B	145	137	8
	C	127	120	7
	D	159	153	6
	E	148	142	6
10%	A	161	153	8
	B	159	152	7
	C	166	155	11
	D	159	148	11
	E	137	124	13
50%	A	147	137	10
	B	154	147	7
	C	146	138	8
	D	155	150	5
	E	143	131	12

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN- 15-116 Elutriate T5-25T-5ED

Initial number of embryos 180 Accession Number: AT5- 076

Embryos counted (date, initials): 6/11/15 VMG

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	138	133	5
	B	131	126	5
	C	133	127	6
	D	160	152	8
	E	152	148	4
Site Water	A	164	156	8
AT5- 093	B	128	119	9
	C	144	139	5
	D	135	130	5
	E	136	132	4

TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-116
Test Material: ELUTRIATE
Accession Number: AT5-076
Dilution Water: 30 PPT C.S.
Accession Number: LD5-209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*

TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/8/15 Time: 1040
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	16.9	16.7			8.3	8.1	7.8			8.2	7.9	7.8			30.2	30.1	29.6		
1%							15.0	16.9	16.9			8.4	8.1	7.8			8.1	8.0	7.9			30.1	30.2	29.7		
10%							15.0	16.9	16.8			8.4	8.1	7.9			8.2	8.0	7.8			29.0	30.0	29.5		
50%							15.1	16.9	16.7			8.4	8.2	8.1			8.2	8.1	7.9			29.2	29.0	28.6		
100%							15.0	17.0	16.7			8.3	8.2	7.9			8.2	8.0	7.9			28.0	27.9	27.6		
Site Water							15.4	17.0	16.9			8.3	8.1	7.9			8.3	7.5	7.9			30.3	29.9	29.8		
AT5-093																										
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1317	1427	0931			1317	1429	0931			1317	1427	0931			1317	1427	0931		
Initials							IM	IM	MM			IM	IM	MM			IM	IM	MM			IM	IM	MM		

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-1116

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-117

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME- 051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 24hrs

Culture Water (T/S): 15.0 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1036	MM	Dilutions Made
↓	1530	WLA/JM	Test Vessels Filled
	1610	MM	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5-077

Dilution Number: 30 ppt C.S. (LD5-209)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml
1%	1 ml	↓
10%	10 ml	
50%	50 ml	
100%	100 ml	
Site Water (AT5-093)	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-117 Elutriate TS-25B-SED

Initial number of embryos 150 Accession Number: AT5-077

Embryos counted (date, initials): 6/9/15, HW

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal	
Control	A	136	128	8	
	B	139	134	5	
	C	132	124	8	
	D	128	129	9	
	E	143	139	4	
1%	A	124	118	6	
	B	~~123~~ 153	149	4	6/9
	C	124	119	5	
	D	124	116	8	
	E	138	135	3	
10%	A	150	142	8	
	B	122	116	6	
	C	125	119	6	
	D	143	135	8	
	E	132	124	8	
50%	A	127	120	7	
	B	126	118	8	
	C	149	144	5	
	D	135	125	10	
	E	122	116	6	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-117 Elutriate TS-ZSB-SED

Initial number of embryos 180 Accession Number: AT5-077

Embryos counted (date, initials): 6/9/15 HW

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	118	114	4
	B	135	127	8
	C	125	119	6
	D	135	132	3
	E	142	132	10
Site Water	A	142	134	8
AT5-093	B	125	117	8
	C	127	122	5
	D	131	124	7
	E	140	134	6

TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-117
Test Material: ELUTRIATE
Accession Number: AT5-077
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*

TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/8/15 Time: 1640
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	17.0	16.7			8.3	8.1	7.8			8.2	7.6	7.8			30.2	30.2	29.6		
1%		~~15.0~~					15.0	~~8.4~~ 16.7	16.7			~~8.1~~ 8.4	8.2	7.9			~~30.1~~ 8.1	7.9	7.9			30.1	30.2	29.8		
10%							15.1	16.8	16.6			8.4	8.2	7.9			8.2	8.0	7.9			29.9	29.9	29.5		
50%							15.0	16.8	16.6			8.4	8.2	7.9			8.2	8.0	7.9			29.0	29.0	28.7		
100%							15.0	16.9	16.6			8.3	8.2	7.8			8.2	8.0	7.9			27.9	27.9	27.6		
Site Water AT5-093							15.4	17.0	16.9			8.3	8.2	7.9			8.3	7.6	7.9			30.3	30.1	29.8		
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1319	1429	0932			1319	1429	0932			1319	1429	0932			1319	1429	0932		
Initials							IM	IM	[illegible]			IM	IM	[illegible]			IM	IM	[illegible]			IM	IM	[illegible]		

IM 5/6 IM 5/6 IM 5/6 IM 5/6

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-117

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-118

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME- 051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 24hrs

Culture Water (T/S): 15.8 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1039	MM	Dilutions Made
↓	1530	WLM/IM	Test Vessels Filled
	1610	MM	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5-078

Dilution Number: 30 ppt C.S. (LD5-209)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml
1%	1 ml	↓
10%	10 ml	
50%	50 ml	
100%	100 ml	
Site Water (AT5-093)	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-118 Elutriate TS-2MT-SED

Initial number of embryos 180 Accession Number: AT5-078

Embryos counted (date, initials): 6/15/15 HW

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	129	120	9
	B	125	116	9
	C	135	125	10
	D	133	127	6
	E	122	117	5
1%	A	134	129	5
	B	128	124	4
	C	141	133	8
	D	148	140	8
	E	136	128	8
10%	A	116	109	7
	B	113	105	8
	C	145	135	10
	D	132	127	5
	E	110	104	6
50%	A	128	121	7
	B	118	113	5
	C	116	109	7
	D	124	117	7
	E	128	122	6

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-118 Elutriate TS-2MT-SED

Initial number of embryos 180 Accession Number: AT5-078

Embryos counted (date, initials): 6/15/16 HW

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	128	121	7
	B	148	140	8
	C	139	132	7
	D	134	126	8
	E	131	123	8
Site Water	A	111	105	6
AT5-093	B	135	126	9
	C	114	109	5
	D	150	144	6
	E	136	129	7

TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-118
Test Material: ELUTRIATE
Accession Number: AT5-078
Dilution Water: 30 PPT C.S.
Accession Number: LD5-209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*
TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/9/15 Time: 1840
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	16.8	16.7			8.3	8.2	7.8			8.2	7.6	7.8			30.2	30.3	29.6		
1%							15.1	16.6	16.6			8.4	8.2	7.8			8.4	7.9	7.9			30.2	30.2	29.9		
10%							15.1	16.6	16.6			8.4	8.2	7.8			8.4	8.0	7.9			30.0	30.0	29.6		
50%							15.1	16.7	16.6			8.4	8.2	7.8			8.4	8.1	7.9			29.3	29.3	28.9		
100%							15.0	16.7	16.8			8.3	8.3	7.8			8.3	8.1	8.0			28.3	28.4	29.0		
Site Water							15.4	17.0	16.9			8.3	8.2	7.9			8.3	7.8	7.9			30.3	30.1	29.8		
AT5-093																										
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1321	1431	0933			1321	1431	0933			1321	1431	0933			1321	1431	0933		
Initials							IM	IM	MM			IM	IM	MM			IM	IM	MM			IM	IM	MM		

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-118

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-119

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME- 051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24h-s Age: 24h-s

Culture Water (T/S): 15.8 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15 ↓	1042	MK	Dilutions Made
	1530	WLM/IAM	Test Vessels Filled
	1600	MK	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5-079

Dilution Number: 30 ppt C.S. (LD5-209)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml ↓
1%	1 ml	
10%	10 ml	
50%	50 ml	
100%	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-119 Elutriate TS-2NT-SED

Initial number of embryos 180 Accession Number: AT5-079

Embryos counted (date, initials): 6/1/15 KB

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	136	126	10
	B	129	125	4
	C	135	130	5
	D	126	122	4
	E	142	136	6
1%	A	132	127	5
	B	124	120	4
	C	138	133	5
	D	126	120	6
	E	130	124	6
10%	A	127	119	8
	B	146	138	7
	C	128	123	5
	D	135	129	6
	E	121	118	3
50%	A	135	129	6
	B	120	112	8
	C	142	134	8
	D	140	134	6
	E	135	128	7

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN- 15-119 Elutriate TS-2NT-SED

Initial number of embryos 180 Accession Number: AT5- 079

Embryos counted (date, initials): 011115 KR

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	128	119	9
	B	123	110	13
	C	134	125	9
	D	143	133	10
	E	126	115	11

TOXICITY TEST DATA SHEET

Pr Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-119
Test Material: ELUTRIATE
Accession Number: AT5-079
Dilution Water: 30 PPT C.S.
Accession Number: LD5-209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*
TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/8/15 Time: 1840
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	16.6	16.7			8.3	8.2	7.8			8.2	7.7	7.8			30.2	30.6	29.6		
1%							15.1	16.4	16.8			8.4	8.3	7.9			8.2	8.0	8.0			30.1	30.4	30.4		
10%							15.1	16.4	16.9			8.4	8.3	7.9			8.2	8.1	8.0			29.9	30.0	29.6		
50%							15.0	16.5	16.9			8.4	8.3	7.9			8.2	8.1	7.9			29.1	29.2	28.9		
100%							15.1	16.6	16.9			8.3	8.3	7.9			8.2	8.1	7.9			27.9	28.1	27.8		
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1323	1433	0934			1323	1433	0934			1323	1433	0934			1323	1433	0934		
Initials							IM	IM	MM			IM	IM	MM			IM	IM	MM			IM	IM	MM		

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-119

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-120

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME-051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 24hrs

Culture Water (T/S): 15.8 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1045	MH	Dilutions Made
	1530	WM/JM	Test Vessels Filled
	1610	MH	Organisms Transferred
			Head Counts

TEST SET-UP

Sample Number: AT5-080

Dilution Number: 30 ppt C.S. (LD5-209)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml
1%	1 ml	
10%	10 ml	
50%	50 ml	
100%	100 ml	
Site Water (AT5-093)	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-120 Elutriate TS-2NB-SED

Initial number of embryos 180 Accession Number: AT5-080

Embryos counted (date, initials): 5/28/15 HW

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	133	126	7
	B	147	140	7
	C	140	134	6
	D	134	128	6
	E	126	117	9
1%	A	127	121	6
	B	150	142	8
	C	123	116	7
	D	129	124	5
	E	140	129	11
10%	A	130	124	6
	B	129	122	7
	C	129	121	8
	D	141	134	7
	E	138	130	8
50%	A	139	130	9
	B	133	123	10
	C	133	128	5
	D	136	132	4
	E	140	130	10

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN- 15-120 Elutriate T5-2NB-5ED

Initial number of embryos 160 Accession Number: AT5-080

Embryos counted (date, initials): 5/28/15 HW

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	137	125	12
	B	133	124	9
	C	145	139	6
	D	131	124	7
	E	139	133	6
Site Water	A	133	123	10
AT5-093	B	136	129	7
	C	131	126	5
	D	137	131	6
	E	138	133	5

TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-120
Test Material: ELUTRIATE
Accession Number: AT5-080
Dilution Water: 30 PPT C.S.
Accession Number: LD5-209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*

TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/8/15 Time: 1640
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	15.1	16.7			8.3	8.3	7.8			8.2	8.2	7.8			30.2	30.2	29.6		
1%							15.1	16.8	16.9			8.4	8.2	7.9			8.3	7.7	8.0			30.0	30.0	30.0		
10%							15.2	16.8	16.9			8.4	8.2	7.9			8.2	7.9	7.9			30.1	30.0	29.8		
50%							15.1	16.8	16.8			8.4	8.2	8.0			8.2	8.0	7.9			28.5	29.4	29.0		
100%							15.0	16.8	16.9			8.4	8.2	8.0			8.1	8.0	7.9			28.7	28.7	28.5		
Site Water							15.4	17.0	16.9			8.3	8.1	7.9			8.3	7.8	7.9			30.3	30.1	29.8		
AT5-093																										
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1325	1435	0935			1325	1435	0935			1325	1435	0935			1325	1435	0935		
Initials							IM	IM	[illegible]			IM	IM	[illegible]			IM	IM	[illegible]			IM	IM	[illegible]		

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 120

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-121

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME- 051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 24hrs

Culture Water (T/S): 15-3 °C 30-1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1098	MM	Dilutions Made
↓	1530	WLM/MM	Test Vessels Filled
	1610	MM	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5-081

Dilution Number: 30 ppt C.S. (LD5-209)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml
1%	1 ml	↓
10%	10 ml	
50%	50 ml	
100%	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-121 Elutriate TS-35T-SED

Initial number of embryos 180 Accession Number: AT5-081

Embryos counted (date, initials): 6/2/15 HW

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	126	119	7
	B	144	138	6
	C	136	128	8
	D	129	123	6
	E	131	125	6
1%	A	119	114	5
	B	125	121	4
	C	131	124	7
	D	130	125	5
	E	121	114	7
10%	A	135	124	11
	B	136	130	6
	C	133	127	6
	D	130	125	5
	E	139	130	9
50%	A	142	135	7
	B	136	128	8
	C	128	122	6
	D	127	121	6
	E	131	123	8

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-121 Elutriate TS-3ST-SED

Initial number of embryos 180 Accession Number: AT5-081

Embryos counted (date, initials): 6/2/15 HW

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	123	114	9
	B	125	118	7
	C	125	119	6
	D	125	117	8
	E	135	129	6

TOXICITY TEST DATA SHEET

Pr Project Number: 70005.15 | TEST ORGANISM | Beginning Date: 5/6/15 Time: 1610

Client: Thimble Shoals | Common Name: BLUE MUSSEL | Ending Date: 5/8/15 Time: 1840

QC Test Number: TN-15-121 | Scientific Name: *Mytilus galloprovincialis* | TEST TYPE: **Static** / Flowthrough

Test Material: ELUTRIATE | TARGET VALUES | Renewal / **Non-renewal**

Accession Number: AT5-081 | Temp: 16 °C | DO: ≥4.0 mg/L | Test Container: 30 ml vial

Dilution Water: 30 PPT C.S. | pH: 6.0 - 9.0 | Salinity: 30±3 ppt | Test Volume: 10 ml

Accession Number: LD5- 209 | Photoperiod: 16 ℓ, 8 d | Light Intensity: 50 - 100 fc | Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	15.1	16.7			8.3	8.3	7.8			8.2	8.2	7.8			30.2	30.2	29.6		
1%							15.1	16.8	16.9			8.4	8.3	8.0			8.2	8.0	8.0			30.1	30.1	29.9		
10%							15.1	16.8	16.9			8.4	8.3	8.0			8.3	8.0	7.9			29.8	29.8	29.5		
50%							15.1	16.8	16.9			8.4	8.3	8.0			8.2	8.0	7.9			28.7	28.7	28.4		
100%							15.1	16.8	16.8			8.3	8.3	8.0			8.1	8.0	7.9			27.2	27.3	27.3		
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1327	1437	0936			1327	1437	0936			1327	1437	0936			1327	1437	0936		
Initials							IM	IM	MM			IM	IM	MM			IM	IM	MM			IM	IM	MM		

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0

Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-121

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-122

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME-051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 24hrs

Culture Water (T/S): 15.8 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1051	[illegible]	Dilutions Made
	1530	WLA/[illegible]	Test Vessels Filled
	1610	[illegible]	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5-082

Dilution Number: 30 ppt C.S. (LD5-209)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml
1%	1 ml	
10%	10 ml	
50%	50 ml	
100%	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-122

Initial number of embryos 180

Embryos counted (date, initials): 6/3/15 HW

Test Species

Scientific Name: *M. galloprovincialis*

Elutriate TS-35B-SED

Accession Number: AT5-082

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	138	128	10
	B	139	131	8
	C	133	127	6
	D	133	124	9
	E	136	129	7
1%	A	127	119	8
	B	127	120	7
	C	131	123	8
	D	125	117	8
	E	141	132	9
10%	A	139	133	6
	B	145	138	7
	C	126	121	5
	D	131	125	6
	E	144	137	7
50%	A	125	119	6
	B	149	142	7
	C	145	138	7
	D	150	142	8
	E	153	144	9

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-122 Elutriate TS-3SB-SED

Initial number of embryos 180 Accession Number: AT5-082

Embryos counted (date, initials): 6/3/15 HW

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	125	115	10
	B	146	136	10
	C	137	129	8
	D	128	121	7
	E	122	116	6

TOXICITY TEST DATA SHEET

Pr Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-122
Test Material: ELUTRIATE
Accession Number: AT5-082
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*
TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/8/15 Time: 1840
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	15.1	16.7			8.3	8.3	7.8			8.2	8.2	7.8			30.2	30.2	29.6		
1%							15.1	17.0	16.9			8.4	8.3	8.0			8.1	7.7	7.9			30.1	30.0	29.8		
10%							15.1	16.8	16.9			8.4	8.3	8.0			8.2	7.9	7.9			29.9	29.9	29.6		
50%							15.1	16.8	16.9			8.4	8.3	8.0			8.2	8.0	7.9			29.0	29.1	28.8		
100%							15.0	16.8	16.9			8.3	8.3	8.0			8.1	7.9	7.7			27.9	28.0	27.4		
Meter Number							678	677	677			678	677	677			678	677 678	677			678	677	677		
Time							1329	1439	0936			1329	1439	0936			1329	1439 0936				1329	1439	0936		
Initials							IM	IM	VM			IM	IM	VM			IM	IM IM	VM			IM	IM	VM		

IM 5/6

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-122

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-123

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME- 051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24h-s Age: 24hs

Culture Water (T/S): 15-0 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1059	MLL	Dilutions Made
↓	1530	WLA/JM	Test Vessels Filled
	1610	MLL	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5-083

Dilution Number: 30 ppt C.S. (LD5-209)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml ↓
1%	1 ml	
10%	10 ml	
50%	50 ml	
100%	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 | Test Species

Client: Thimble Shoals | Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-123 | Elutriate TS-3NT-SED

Initial number of embryos 180 | Accession Number: AT5-083

Embryos counted (date, initials): 6/4/15. HW

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	120	117	3
	B	154	146	8
	C	130	124	6
	D	146	138	8
	E	134	125	9
1%	A	128	119	9
	B	140	134	6
	C	140	131	9
	D	140	131	9
	E	135	127	8
10%	A	126	117	9
	B	142	134	8
	C	147	140	7
	D	151	142	9
	E	137	129	8
50%	A	140	134	6
	B	134	124	10
	C	122	118	4
	D	130	123	7
	E	125	116	9

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-123 Elutriate TS-3NT-SED

Initial number of embryos 150 Accession Number: AT5-083

Embryos counted (date, initials): 6/4/15 HW

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	119	112	7
	B	122	117	5
	C	125	119	6
	D	123	115	8
	E	138	129	9

TOXICITY TEST DATA SHEET

Pr Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-123
Test Material: ELUTRIATE
Accession Number: AT5- 083
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*

TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/8/15 Time: 1640
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	15.1	16.7			8.3	8.3	7.8			8.2	8.2	7.8			30.2	30.2	29.4		
1%							15.4	17.0	16.9			8.4	8.2	~~7.5~~ 8.0			8.2	7.5	7.8			30.1	30.0	29.9		
10%							15.1	16.8	16.9			8.4	8.3	8.0			8.3	7.8	7.9			30.0	30.0	29.7		
50%							15.1	16.8	17.0			8.4	8.3	8.0			8.2	8.0	7.9			29.4	29.4	29.3		
100%							15.1	16.8	17.0			8.3	8.3	8.0			8.2	8.0	7.9			28.6	28.7	28.6		
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1331	1441	0937			1331	1441	0937			1331	1441	0937			1331	1441	0937		
Initials							IM	IM	MW			IM	IM	MW			IM	IM	MW			IM	IM	MW		

IM 5/7

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-123

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 124

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME- 051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 24hrs

Culture Water (T/S): 15.0 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1057	MKC	Dilutions Made
	1530	WCM/JM	Test Vessels Filled
	1610	MKC	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5-084

Dilution Number: 30 ppt C.S. (LD5- 209)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml
1%	1 ml	
10%	10 ml	
50%	50 ml	
100%	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-124

Initial number of embryos 180

Embryos counted (date, initials): 6/2/15 KB

Test Species

Scientific Name: *M. galloprovincialis*

Elutriate TS-3N13-SED

Accession Number: AT5-084

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	150	144	6
	B	125	120	5
	C	120	115	5
	D	142	137	5
	E	139	133	6
1%	A	144	138	6
	B	154	150	4
	C	147	143	4
	D	137	134	3
	E	133	126	7
10%	A	156	152	4
	B	142	138	4
	C	127	121	6
	D	125	121	4
	E	126	120	6
50%	A	133	127	6
	B	136	133	3
	C	129	123	6
	D	123	120	3
	E	130	126	4

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-124 Elutriate TS-3NB-SED

Initial number of embryos 160 Accession Number: AT5-084

Embryos counted (date, initials): 012115 KB

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	121	115	6
	B	121	116	5
	C	129	122	7
	D	126	119	7
	E	144	140	4

TOXICITY TEST DATA SHEET

Pr Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-124
Test Material: ELUTRIATE
Accession Number: AT5-084
Dilution Water: 30 PPT C.S.
Accession Number: LD5-209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*

TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/8/15 Time: 1840
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	15.1	16.7			8.3	8.3	7.8			8.2	8.2	7.8			30.2	30.2	29.6		
1%							15.1	16.6	16.9			8.4	8.3	8.0			8.1	8.2	7.9			30.1	30.3	30.1		
10%							15.1	16.7	16.9			8.4	8.3	8.0			8.1	8.2	8.0			30.1	30.1	29.6		
50%							15.1	16.7	16.9			8.4	8.3	8.1			8.1	8.1	7.9			30.0	30.1	29.8		
100%							15.0	16.8	16.9			8.3	8.3	8.1			8.1	8.1	8.0			29.5	29.8	29.9		
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1333	1443	0938			1333	1443	0938			1333	1443	0938			1333	1443	0938		
Initials							IM	IM	MM			IM	IM	MM			IM	IM	MM			IM	IM	MM		

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-124

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-125

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME-051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 24h-s

Culture Water (T/S): 15.8 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1100	MC	Dilutions Made
	1530	WLM/JM	Test Vessels Filled
	1610	MC	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5-085

Dilution Number: 30 ppt C.S. (LD5- 209)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml
1%	1 ml	
10%	10 ml	
50%	50 ml	
100%	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-125

Initial number of embryos 180

Embryos counted (date, initials): 5/21/15 VB

Test Species

Scientific Name: *M. galloprovincialis*

Elutriate TS-4ST-SED

Accession Number: AT5-085

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	155	148	7
	B	154	135	19
	C	123	115	8
	D	146	139	7
	E	156	144	12
1%	A	136	131	5
	B	149	143	6
	C	164	152	12
	D	140	132	8
	E	131	119	12
10%	A	164	154	10
	B	153	142	11
	C	131	123	8
	D	133	121	12
	E	128	118	10
50%	A	153	145	8
	B	147	140	7
	C	133	127	6
	D	144	134	10
	E	113	110	3

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-125

Initial number of embryos 160

Embryos counted (date, initials): 5/21/15 VR

Test Species

Scientific Name: *M. galloprovincialis*

Elutriate TS-9ST-SED

Accession Number: AT5-085

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	161	150	11
	B	141	133	8
	C	166	159	7
	D	163	155	8
	E	~~145~~ 129	115	14

VR 5/21

TOXICITY TEST DATA SHEET

Pr Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-125
Test Material: ELUTRIATE
Accession Number: AT5-085
Dilution Water: 30 PPT C.S.
Accession Number: LD5-209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*

TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/8/15 Time: 1840
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	15.1	16.7			8.3	8.3	7.8			8.2	8.2	7.8			30.2	30.2	29.6		
1%							15.1	17.0	17.0			8.3	8.3	8.1			8.1	7.6	7.9			30.1	30.2	29.9		
10%							15.1	16.8	16.8			8.4	8.3	8.1			8.1	7.9	7.9			30.1	30.2	30.0		
50%							15.1	16.8	16.8			8.3	8.3	8.1			8.1	8.0	7.9			29.8	29.9	29.6		
100%							15.0	16.9	16.9			8.2	8.3	8.1			8.1	8.0	7.9			29.4	29.5	29.3		
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1335	1445	0939			1335	1445	0939			1335	1445	0939			1335	1445	0939		
Initials							IM	IM	MM			IM	IM	MM			IM	IM	MM			IM	IM	MM		

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-125

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-126

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME- 051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 24hrs

Culture Water (T/S): 15.8 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1103	MK	Dilutions Made
	1530	WLM/JM	Test Vessels Filled
	1610	MK	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5- 086

Dilution Number: 30 ppt C.S. (LD5-209)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml
1%	1 ml	
10%	10 ml	
50%	50 ml	
100%	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-~~127~~126

Test Species

Scientific Name: *M. galloprovincialis*

Elutriate TS-4SB-SED

Initial number of embryos 160

Accession Number: AT5-~~087~~086 SIZ

Embryos counted (date, initials): 5|28|15 VS

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	143	135	8
	B	148	145	3
	C	159	151	8
	D	153	148	5
	E	143	140	3
1%	A	~~150~~155	150	5 SIZ
	B	138	135	3
	C	143	142	1
	D	129	127	2
	E	145	139	6
10%	A	151	149	2
	B	150	145	5
	C	157	151	6
	D	158	151	7
	E	138	130	8
50%	A	154	151	3
	B	127	123	4
	C	153	149	4
	D	139	135	4
	E	153	146	7

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-126 Elutriate TS-45B-SED

Initial number of embryos 180 Accession Number: AT5-086

Embryos counted (date, initials): 5/28/15 VR

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	148	138	10
	B	123	115	8
	C	126	115	11
	D	123	117	6
	E	142	138	4

TOXICITY TEST DATA SHEET

Pr Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-126
Test Material: ELUTRIATE
Accession Number: AT5-086
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*

TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 l, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/8/15 Time: 1840
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	15.1	16.7			8.3	8.3	7.8			8.2	8.2	7.8			30.2	30.2	29.6		
1%							15.1	16.9	~~16.9~~ 16.9			8.3	~~8.3~~ 8.3	8.1			8.0	7.7	7.9			30.1	30.1	29.9		
10%							15.0	16.8	16.9			8.4	8.3	8.1			8.1	7.8	7.9			29.8	29.9	29.6		
50%							15.0	16.9	16.9			8.3	8.3	8.1			8.1	7.9	7.9			28.9	28.9	28.7		
100%							15.0	16.9	17.0			8.2	8.3	8.1			8.1	7.8	7.9			27.9	28.0	27.8		
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1337	1447	0946			1337	1447	0946			1337	1447	0946			1337	1447	0946		
Initials							JM	JM	MM			JM	JM	MM			JM	JM	MM			JM	JM	MM		

5/8 MM IM 5/6

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____
Magna/pulex: 2021.0_____ Trout: 2019.0_____

Americamysis: 2007._____ Menidia:2006.0_____
Cyprinodon: 2004.0_____ OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-126

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-127

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME-051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24h-5 Age: 24h-5

Culture Water (T/S): 15.8 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1106	MM	Dilutions Made
	1530	MM/WM	Test Vessels Filled
	1610	MM	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5-087

Dilution Number: 30 ppt C.S. (LD5-209)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml
1%	1 ml	
10%	10 ml	
50%	50 ml	
100%	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-~~126~~127

Test Species

Scientific Name: *M. galloprovincialis*

Elutriate TS-4 MT-S ED

Initial number of embryos 180

Accession Number: AT5-~~086~~087 5/27

Embryos counted (date, initials): 5/27/15 MB

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	134	127	7
	B	150	143	7
	C	152	142	10
	D	~~119~~ 123	119	4
	E	143	133	10
1%	A	152	145	7
	B	148	145	3
	C	133	127	6
	D	~~139~~ 145	139	6
	E	146	141	5
10%	A	156	151	5
	B	149	137	12
	C	136	132	4
	D	162	156	6
	E	138	135	3
50%	A	141	132	9
	B	144	142	2
	C	131	124	7
	D	153	145	8
	E	151	144	7

5/27

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-127

Initial number of embryos 160

Embryos counted (date, initials): 5/27/15 VR

Test Species

Scientific Name: *M. galloprovincialis*

Elutriate TS-4MT-SED

Accession Number: AT5-087

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	169	162	7
	B	127	118	9
	C	148	145	3
	D	143	137	6
	E	133	128	5

TOXICITY TEST DATA SHEET

Pr Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-127
Test Material: ELUTRIATE
Accession Number: AT5-087
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*

TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1446
Ending Date: 5/8/15 Time: 1840
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	15.1	16.7			8.3	8.3	7.8			8.2	8.2	7.8			30.2	30.2	29.6		
1%							15.1	17.0	17.0			8.4	8.3	7.8			8.0	7.6	8.0			30.1	30.0	29.9		
10%							15.1	17.0	16.9			8.4	8.3	7.9			8.1	7.9	8.0			29.9	30.0	29.7		
50%							15.0	16.8	16.9			8.4	8.3	7.8			8.1	7.9	8.0			29.2	29.3	29.0		
100%							15.0	16.9	16.9			8.3	8.3	8.0			8.1	8.0	8.0			28.2	28.4	28.2		
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1339	1449	0844			1339	1449	0844			1339	1449	0844			1339	1449	0844		
Initials							IM	IM	MW			IM	IM	MW			IM	IM	MW			IM	IM	MW		

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-127

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-128

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME-051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24h-j Age: 24h-j

Culture Water (T/S): 15-8 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1109	MM	Dilutions Made
	1530	MM/JM	Test Vessels Filled
	1610	MKC	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5-088

Dilution Number: 30 ppt C.S. (LD5-201)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml
1%	1 ml	
10%	10 ml	
50%	50 ml	
100%	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-128 Elutriate TS-YNT-SED

Initial number of embryos 180 Accession Number: AT5-088

Embryos counted (date, initials): 6/3/15 MY

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	157	152	5
	B	159	154	5
	C	106	99	7
	D	137	134	3
	E	136	134	2
1%	A	131	122	9
	B	157	149	8
	C	141	133	8
	D	154	143	11
	E	176	172	4
10%	A	160	148	12
	B	156	150	6
	C	137	132	5
	D	129	120	9
	E	140	136	4
50%	A	163	147	16
	B	161	149	12
	C	151	143	8
	D	139	133	6
	E	145	143	2

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN-15-128 Elutriate TS-4NT-SED

Initial number of embryos 180 Accession Number: AT5-088

Embryos counted (date, initials): 6/3/15 WY

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	170	159	11
	B	149	144	5
	C	147	140	7
	D	152	137	15
	E	134	125	9

TOXICITY TEST DATA SHEET

Pr Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-128
Test Material: ELUTRIATE
Accession Number: AT5-088
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*

TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/6/15 Time: 1840
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	15.1	16.7			8.3	8.3	7.8			8.2	8.2	7.8			30.2	30.2	29.6		
1%							15.0	17.0	16.8			8.4	8.3	8.0			8.1	7.7	8.0			30.1	30.2	30.0		
10%							15.0	~~17.0~~ 16.8	16.8			8.4	8.3	8.1			8.1	7.9	8.0			30.1	30.3	30.0		
50%							15.0	16.8	16.8			8.3	8.3	8.1			8.1	8.0	8.0			30.4	30.5	30.1		
100%							15.1	16.9	16.9			8.3	8.3	8.1			8.1	8.0	8.0			30.6	30.8	30.6		
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1341	1451	0940			1341	1451	0940			1341	1451	0940			1341	1451	0940		
Initials							IM	IM	MM			IM	IM	MM			IM	IM	MM			IM	IM	MM		

IM 5/7

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 128

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-129

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL

Scientific Name: *Mytilus galloprovincialis*

Lot Number: ME- 051

Source: CARLSBAD AQUAFARM

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24h-s Age: 24h-s

Culture Water (T/S): 15.3 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15 ↓	1112	MM	Dilutions Made
	1530	WLM/MM	Test Vessels Filled
	1610	MM	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: AT5- 089

Dilution Number: 30 ppt C.S. (LD5- 209)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	100 ml ↓
1%	1 ml	
10%	10 ml	
50%	50 ml	
100%	100 ml	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-129

Initial number of embryos 180

Embryos counted (date, initials): 5/26/15, HW

Test Species

Scientific Name: *M. galloprovincialis*

Elutriate TS-4NB-SED

Accession Number: AT5-089

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
Control	A	136	126	10
	B	150	144	6
	C	152	145	7
	D	163	156	7
	E	155	147	8
1%	A	138	132	6
	B	150	141	9
	C	128	121	7
	D	135	129	6
	E	147	138	9
10%	A	162	153	9
	B	164	154	10
	C	157	149	8
	D	163	156	7
	E	164	154	10
50%	A	169	159	10
	B	158	149	9
	C	164	158	6
	D	151	140	11
	E	148	141	7

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *M. galloprovincialis*

QC Test Number: TN- 15-129 Elutriate TS-4NB-SED

Initial number of embryos 180 Accession Number: AT5- 089

Embryos counted (date, initials): 5/26/15, HW

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
100	A	132	123	9
	B	~~139~~ 136	127	9
	C	128	121	7
	D	146	136	10
	E	133	125	8

HW 5/26

TOXICITY TEST DATA SHEET

Pr Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-129
Test Material: ELUTRIATE
Accession Number: AT5-089
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus galloprovincialis*
TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/8/15 Time: 1840
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	15.1	16.7			8.3	8.3	7.8			8.2	8.2	7.8			30.2	30.2	29.6		
1%							15.1	16.9	16.8			8.4	8.3	8.1			8.1	7.9	8.0			30.1	30.1	30.0		
10%							15.1	16.9	16.8			8.4	8.4	8.1			8.1	8.0	8.0			29.8	29.9	29.6		
50%							15.1	16.9	16.8			8.4	8.4	8.1			8.1	8.0	8.0			28.7	28.8	28.6		
100%							15.2	16.9	16.8			8.3	8.4	8.1			8.1	8.0	8.0			27.4	27.5	27.8		
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1343	1453	0943			1343	1453	0943			1343	1453	0943			1343	1453	0943		
Initials							IM	IM	MM			IM	IM	MM			IM	IM	MM			IM	IM	MM		

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-129

Date/Time/Initials	Comments/Activity

Bivalve Larval Survival and Development Test-Proportion Normal

Start Date:	5/6/2015	Test ID:	TN-15-144	Sample ID:	Thimble Shoals
End Date:	5/8/2015	Lab ID:	SP5-019	Sample Type:	Ammonia
Sample Date:		Protocol:	ASTM 87	Test Species:	MS-Mytilus sp
Comments:					

Conc-mg/L	1	2	3	4	5
Control	0.7444	0.9056	0.7611	0.7556	0.8333
0.65	0.7389	0.8778	0.7000	0.8389	0.8444
1.5	0.7000	0.7000	0.8389	0.7611	0.7722
3.7	0.6333	0.7611	0.7167	0.7000	0.8222
10	0.3833	0.3611	0.3556	0.3889	0.3722
50	0.0167	0.0000	0.0056	0.0000	0.0111

			Transform: Arcsin Square Root					1-Tailed			Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
Control	0.8000	1.0000	1.1127	1.0408	1.2584	8.294	5				180	900
0.65	0.8000	1.0000	1.1125	0.9912	1.2136	8.515	5	0.004	2.360	0.1066	180	900
1.5	0.7544	0.9431	1.0547	0.9912	1.1578	6.547	5	1.283	2.360	0.1066	221	900
3.7	0.7267	0.9083	1.0233	0.9204	1.1355	7.844	5	1.977	2.360	0.1066	246	900
*10	0.3722	0.4653	0.6561	0.6389	0.6734	2.233	5	10.107	2.360	0.1066	565	900
*50	0.0067	0.0083	0.0768	0.0373	0.1295	53.386	5	22.934	2.360	0.1066	894	900

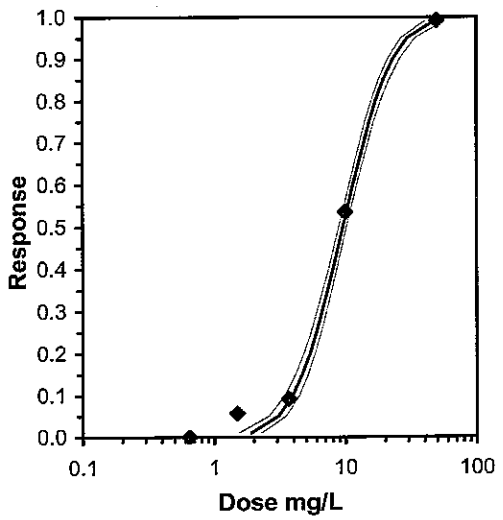
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.97914	0.9	0.32526	-0.2335
Bartlett's Test indicates equal variances (p = 0.05)	11.0527	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	3.7	10	6.08276		0.09082	0.1129	0.8445	0.0051	8.7E-18	5, 24

Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	3.33738	0.1802	2.98419	3.69057	0.2	5.79925	7.81473	0.12	0.98124	0.29964	5
Intercept	1.72523	0.1874	1.35793	2.09253							
TSCR	0.21284	0.00784	0.19748	0.22821							

Point	Probits	mg/L	95% Fiducial Limits	
EC01	2.674	1.9239	1.54994	2.29631
EC05	3.355	3.07881	2.61218	3.52669
EC10	3.718	3.95586	3.44605	4.43845
EC15	3.964	4.68476	4.15084	5.18768
EC20	4.158	5.3587	4.80896	5.87659
EC25	4.326	6.01365	5.45228	6.54471
EC40	4.747	8.04133	7.44753	8.62371
EC50	5.000	9.57722	8.94152	10.2291
EC60	5.253	11.4065	10.6825	12.1933
EC75	5.674	15.2525	14.2005	16.5092
EC80	5.842	17.1167	15.8507	18.6756
EC85	6.036	19.5791	17.9906	21.5945
EC90	6.282	23.1867	21.0635	25.9666
EC95	6.645	29.7918	26.5511	34.2016
EC99	7.326	47.6757	40.8379	57.5562



ToxCalc v5.0.23

Reviewed by: 7/7/15 MWD

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-144

TEST ORGANISM INFORMATION

Common Name: BLUE MUSSEL	Adults Isolated (Time, Date):
Scientific Name: *Mytilus sp.*	Neonates Pulled & Fed (Time, Date):
Lot Number: ME- 051	Acclimation: 24hrs Age: 24hrs
Source: CARLSBAD AQUAFARM	Culture Water (T/S): 15.8 °C 30.1 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/6/15	1415	[illegible]	Dilutions Made
↓	1550	WLM/[illegible]	Test Vessels Filled
	1610	MRC	Organisms Transferred
	—	—	Head Counts

TEST SET-UP

Sample Number: 1 g/L NH_3-N (0.383 g NH_4Cl / 100 mg DI) SPS-019

Dilution Number: 30 ppt C.S. LDS-209

Test Concentration	Volume Test Material	Final Volume
CONTROL	0 ml	200 ml
0.65 mg/L	0.13	↓
1.5	0.3	
3.7	0.74	
10.0	2.0	
50.0	10.0	

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *Mytilus sp.*

QC Test Number: TN-15-144 Test Material: 1 g/L NH_3-N

Initial number of embryos 180 Accession Number: SPS-019

Embryos counted (date, initials): 6/16/15 VK

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
CONTROL	A	138	134	4
	B	166	163	3
	C	139	137	2
	D	~~150~~ 143	~~152~~ 136	~~4~~ 7
	E	155	150	5
0.65 mg/L	A	135	133	2
	B	161	158	3
	C	131	126	5
	D	162	151	11
	E	156	152	4
1.5 mg/L	A	138	126	12
	B	139	126	13
	C	160	151	9
	D	144	137	7
	E	144	139	5
3.7 mg/L	A	126	114	12
	B	149	137	12
	C	137	129	8
	D	136	126	10
	E	153	148	5

BIVALVE DEVELOPMENT TEST
EMBRYO OBSERVATION DATA SHEET

Project Number: 70005.15 Test Species

Client: Thimble Shoals Scientific Name: *Mytilus sp.*

QC Test Number: TN-15-144 Test Material: 1 g/L NH_3-N

Initial number of embryos 180 Accession Number: SPS-019

Embryos counted (date, initials): 6/16/15 VK

Test Concentration	Replicate	Total # Surviving/ Counted	# Normal	# Abnormal
10 mg/L	A	75	69	6
	B	69	65	4
	C	67	64	3
	D	74	70	4
	E	72	67	5
50.0 mg/L	A	6	3	3
	B	5	0	5
	C	5	1	4
	D	5	0	5
	E	8	2	6

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-144
Test Material: 1 g/L NH_3-N
Accession Number: SPS-015
Dilution Water: 30 PPT C.S.
Accession Number: LDS-209

TEST ORGANISM
Common Name: BLUE MUSSEL
Scientific Name: *Mytilus edulis*

TARGET VALUES
Temp: 16 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/6/15 Time: 1610
Ending Date: 5/8/15 Time: 1840
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 30 ml vial
Test Volume: 10 ml
Test Duration: 48 hours

mg/L Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Control							15.1	15.1	16.7			8.3	8.3	7.8			8.2	8.2	7.8			30.2	30.2	29.6		
0.65							16.1	17.0	16.9			8.2	8.3	8.1			8.2	7.9	8.1			30.1	30.0	29.8		
1.5							16.2	17.0	16.9			8.2	8.3	8.2			8.2	8.0	7.9			30.1	30.1	29.7		
3.7							16.2	17.0	16.9			8.2	8.4	8.2			8.4	8.0	7.9			30.1	29.9	29.6		
10.0							16.2	17.0	17.0			8.3	8.4	8.2			8.3	8.0	7.9			29.9	29.9	29.6		
50.0							16.4	17.0	17.0			8.2	8.4	8.2			8.2	8.0	8.0			29.0	29.0	28.8		
Meter Number							678	677	677			678	677	677			678	677	677			678	677	677		
Time							1540	1455	0944			1540	1455	0944			1540	1455	0944			1540	1455	0944		
Initials							MKC	IM	MM			MKC	IM	MM			MKC	IM	MM			MKC	IM	MM		

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER: X

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-144

Date/Time/Initials	Comments/Activity

ATTACHMENT III

Americamysis bahia 96-Hour Elutriate Toxicity Tests
Data Sheets and Statistical Analyses
(91 pages)

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-085	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-075	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	0.9000	1.0000
Site Water	1.0000	1.0000	0.9000	0.9000	0.7000
1	0.9000	0.9000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000
50	0.9000	1.0000	0.9000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000

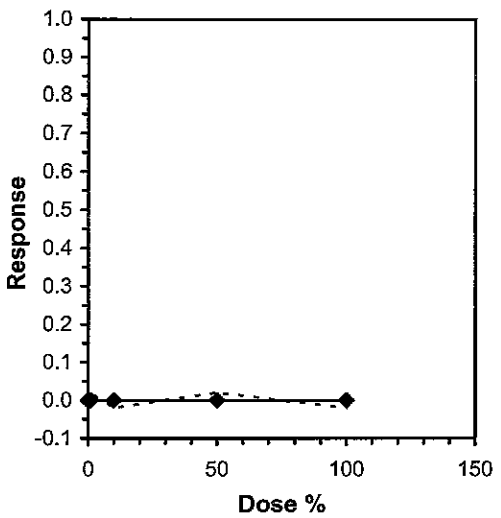
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9800	1.0889	1.3794	1.2490	1.4120	5.284	5			0.9800	1.0000
Site Water	0.9000	1.0000	1.2627	0.9912	1.4120	13.643	5				
1	0.9600	1.0667	1.3468	1.2490	1.4120	6.628	5	25.00	17.00	0.9800	1.0000
10	1.0000	1.1111	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9800	1.0000
50	0.9600	1.0667	1.3468	1.2490	1.4120	6.628	5	25.00	17.00	0.9800	1.0000
100	1.0000	1.1111	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9800	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.82926	0.888	-0.893	-0.1393
Equality of variance cannot be confirmed				
The control means are not significantly different (p = 0.20)	1.39589	2.306		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 5/7/15

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-086	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-076	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	0.9000	1.0000	1.0000
Site Water	0.9000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	0.9000	0.8000	1.0000
10	0.9000	1.0000	1.0000	0.8000	0.9000
50	1.0000	1.0000	1.0000	0.9000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000

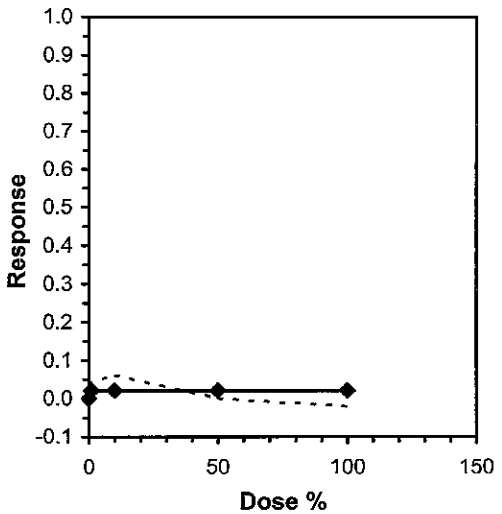
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5			0.9800	1.0000
Site Water	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5				
1	0.9400	0.9592	1.3184	1.1071	1.4120	10.436	5	24.50	17.00	0.9600	0.9796
10	0.9200	0.9388	1.2859	1.1071	1.4120	10.026	5	22.00	17.00	0.9600	0.9796
50	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5	27.50	17.00	0.9600	0.9796
100	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9600	0.9796

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.90174	0.888	-0.8893	0.52847
Equality of variance cannot be confirmed				
The control means are not significantly different (p = 1.00)	0	2.306		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 5/7/15

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-087	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-077	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	0.7000	1.0000
Site Water	1.0000	1.0000	0.9000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	0.9000	0.9000
100	1.0000	0.9000	1.0000	1.0000	1.0000

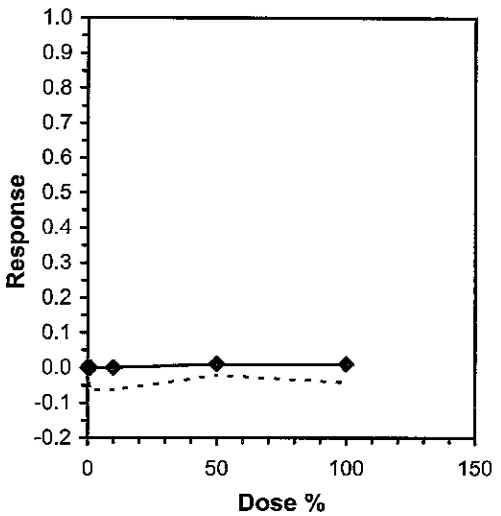
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9400	0.9592	1.3278	0.9912	1.4120	14.174	5			0.9800	1.0000
Site Water	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5				
1	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9800	1.0000
10	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9800	1.0000
50	0.9600	0.9796	1.3468	1.2490	1.4120	6.628	5	26.00	17.00	0.9700	0.9898
100	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5	28.00	17.00	0.9700	0.9898

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.73401	0.888	-2.4088	7.61727
Equality of variance cannot be confirmed				
The control means are not significantly different (p = 0.58)	0.57142	2.306		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-088	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-078	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	1.0000	0.8000
Site Water	0.9000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	0.9000	1.0000	1.0000
10	1.0000	1.0000	1.0000	0.9000	1.0000
50	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000

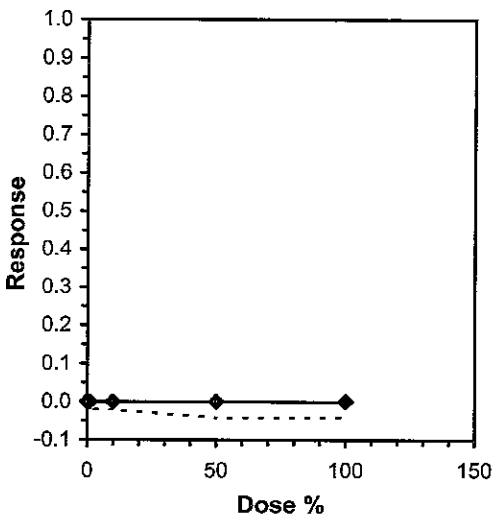
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9600	0.9796	1.3510	1.1071	1.4120	10.092	5			0.9840	1.0000
Site Water	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5				
1	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5	28.00	17.00	0.9840	1.0000
10	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5	28.00	17.00	0.9840	1.0000
50	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9840	1.0000
100	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9840	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.67734	0.888	-2.3672	6.02447
Equality of variance cannot be confirmed				
The control means are not significantly different (p = 0.69)	0.41047	2.306		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-089	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-079	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	1.0000	1.0000
Site Water	1.0000	1.0000	1.0000	0.9000	1.0000
1	1.0000	0.9000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	0.9000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000

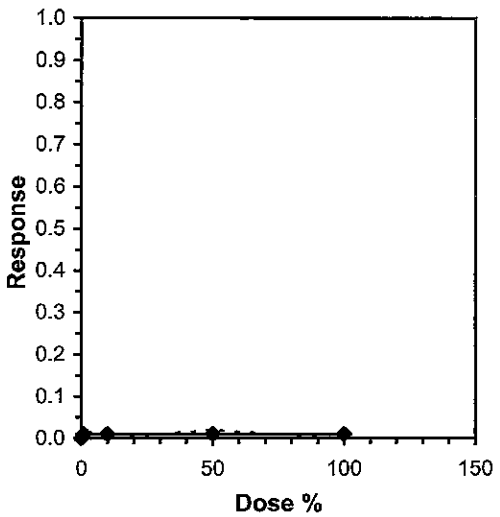
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5			1.0000	1.0000
Site Water	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5				
1	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5	25.00	17.00	0.9900	0.9900
10	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	0.9900	0.9900
50	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5	25.00	17.00	0.9900	0.9900
100	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	0.9900	0.9900

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.57542	0.888	-2.5259	6.60474
Equality of variance cannot be confirmed				
The control means are not significantly different (p = 0.35)	1	2.306		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 5/7/15 MWJ

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-090	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-080	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	0.9000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000

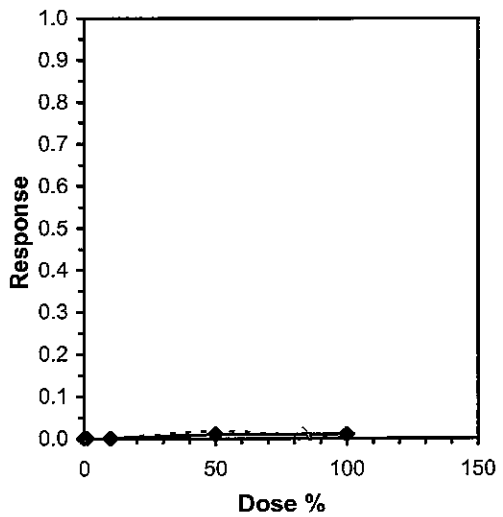
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5			1.0000	1.0000
1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	1.0000	1.0000
10	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	1.0000	1.0000
50	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5	25.00	17.00	0.9900	0.9900
100	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	0.9900	0.9900

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.4503	0.888	-3.5721	16.6245
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 9/7/15

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-091	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-081	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	0.9000	1.0000
1	1.0000	0.8000	0.9000	1.0000	1.0000
10	0.9000	1.0000	0.9000	1.0000	1.0000
50	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	0.9000	1.0000	1.0000	0.9000

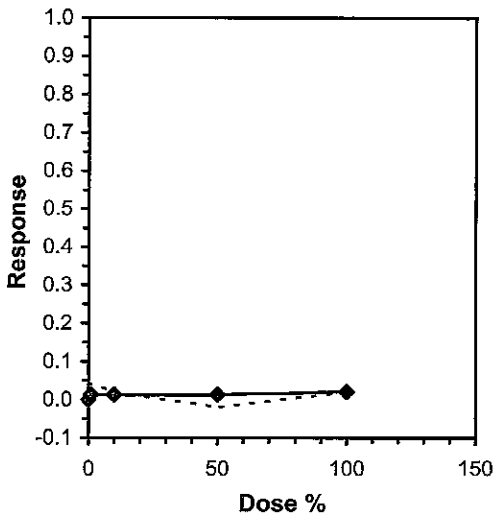
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5			0.9800	1.0000
1	0.9400	0.9592	1.3184	1.1071	1.4120	10.436	5	24.50	17.00	0.9667	0.9864
10	0.9600	0.9796	1.3468	1.2490	1.4120	6.628	5	25.00	17.00	0.9667	0.9864
50	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9667	0.9864
100	0.9600	0.9796	1.3468	1.2490	1.4120	6.628	5	25.00	17.00	0.9600	0.9796

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.88077	0.888	-0.9476	0.18237
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-092	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-082	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	1.0000	1.0000
1	0.9000	0.9000	1.0000	0.8000	1.0000
10	1.0000	0.6000	0.9000	0.9000	1.0000
50	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5			1.0000	1.0000
1	0.9200	0.9200	1.2859	1.1071	1.4120	10.026	5	20.00	17.00	0.9450	0.9450
10	0.8800	0.8800	1.2416	0.8861	1.4120	17.301	5	20.00	17.00	0.9450	0.9450
50	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	0.9450	0.9450
100	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5	25.00	17.00	0.9450	0.9450

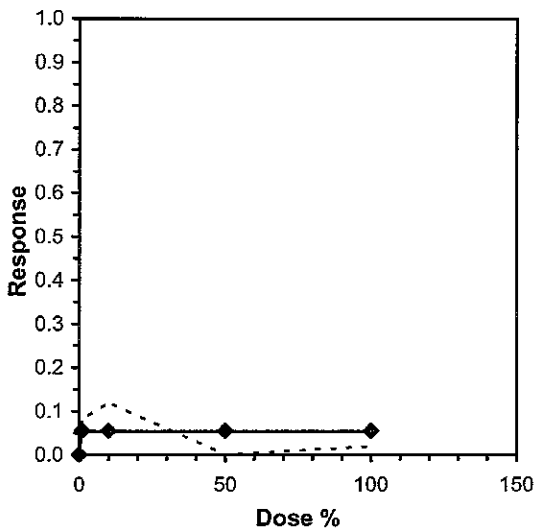
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.803381	0.888	-1.45871	4.688729
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05*	0.9091			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			

* indicates IC estimate less than the lowest concentration



Reviewed by: 7/7/15

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-093	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-083	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	0.9000	1.0000	0.9000	0.9000	0.8000
1	0.9000	1.0000	1.0000	1.0000	0.9000
10	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	0.8000	0.9000	0.9000	0.9000
100	1.0000	1.0000	1.0000	1.0000	1.0000

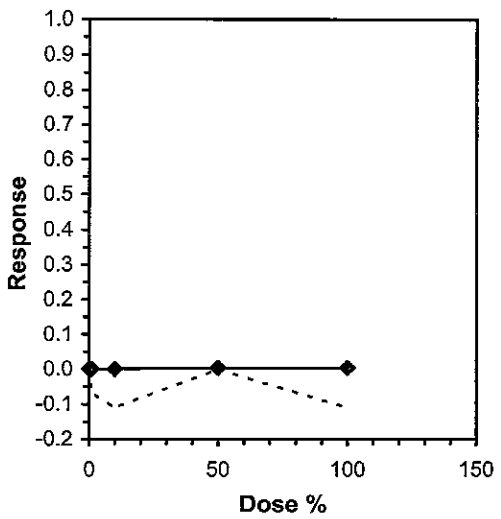
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9000	1.0000	1.2533	1.1071	1.4120	8.613	5			0.9533	1.0000
1	0.9600	1.0667	1.3468	1.2490	1.4120	6.628	5	33.50	17.00	0.9533	1.0000
10	1.0000	1.1111	1.4120	1.4120	1.4120	0.000	5	37.50	17.00	0.9533	1.0000
50	0.9000	1.0000	1.2533	1.1071	1.4120	8.613	5	27.50	17.00	0.9500	0.9965
100	1.0000	1.1111	1.4120	1.4120	1.4120	0.000	5	37.50	17.00	0.9500	0.9965

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.82152	0.888	0.08721	1.35165
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 5/7/15

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-094	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-084	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	0.8000	0.9000	1.0000
1	1.0000	0.9000	0.9000	1.0000	0.9000
10	1.0000	1.0000	1.0000	0.9000	1.0000
50	1.0000	1.0000	0.9000	1.0000	1.0000
100	1.0000	0.9000	1.0000	1.0000	1.0000

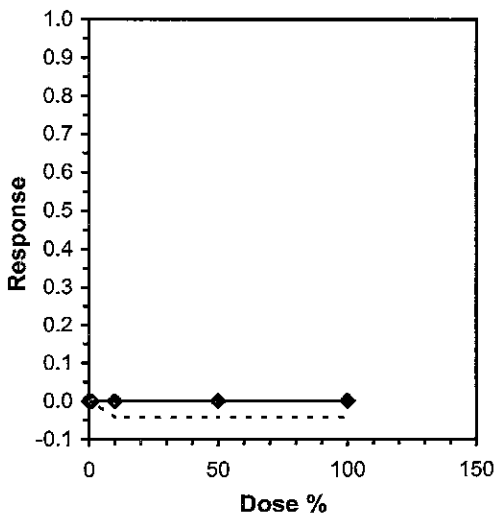
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9400	1.0000	1.3184	1.1071	1.4120	10.436	5			0.9640	1.0000
1	0.9400	1.0000	1.3142	1.2490	1.4120	6.792	5	26.50	17.00	0.9640	1.0000
10	0.9800	1.0426	1.3794	1.2490	1.4120	5.284	5	30.50	17.00	0.9640	1.0000
50	0.9800	1.0426	1.3794	1.2490	1.4120	5.284	5	30.50	17.00	0.9640	1.0000
100	0.9800	1.0426	1.3794	1.2490	1.4120	5.284	5	30.50	17.00	0.9640	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.84334	0.888	-0.9389	0.11752
Bartlett's Test indicates equal variances (p = 0.63)	2.59476	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 5/7/15

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-095	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-085	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	1.0000	1.0000
1	0.9000	1.0000	0.8000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000
50	0.9000	1.0000	0.9000	0.9000	0.8000
100	0.9000	0.8000	1.0000	1.0000	0.8000

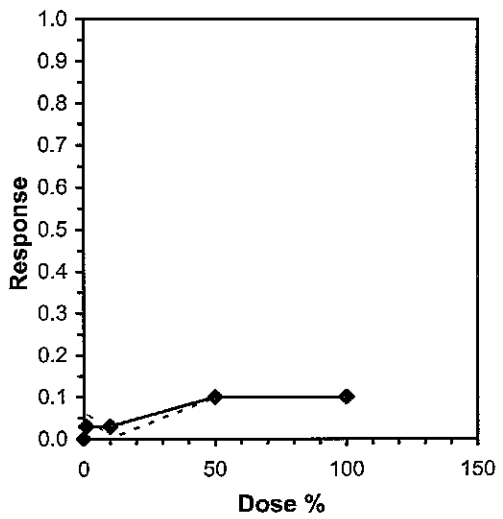
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5			1.0000	1.0000
1	0.9400	0.9400	1.3184	1.1071	1.4120	10.436	5	22.50	17.00	0.9700	0.9700
10	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	0.9700	0.9700
50	0.9000	0.9000	1.2533	1.1071	1.4120	8.613	5	17.50	17.00	0.9000	0.9000
100	0.9000	0.9000	1.2575	1.1071	1.4120	12.128	5	20.00	17.00	0.9000	0.9000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.87445	0.888	-0.3113	0.24051
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	21.429			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15 MD

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-096	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-086	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	0.8000	0.9000	0.9000
1	1.0000	0.8000	1.0000	0.8000	0.9000
10	1.0000	1.0000	1.0000	1.0000	0.8000
50	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000

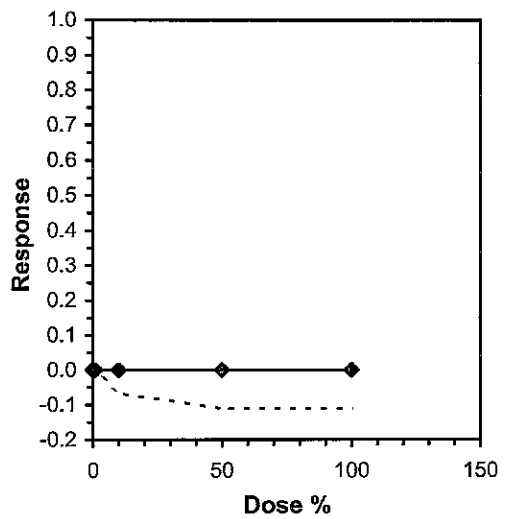
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9000	1.0000	1.2533	1.1071	1.4120	8.613	5			0.9520	1.0000
1	0.9000	1.0000	1.2575	1.1071	1.4120	12.128	5	27.50	17.00	0.9520	1.0000
10	0.9600	1.0667	1.3510	1.1071	1.4120	10.092	5	33.50	17.00	0.9520	1.0000
50	1.0000	1.1111	1.4120	1.4120	1.4120	0.000	5	37.50	17.00	0.9520	1.0000
100	1.0000	1.1111	1.4120	1.4120	1.4120	0.000	5	37.50	17.00	0.9520	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.84898	0.888	-0.6526	1.19453
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-097	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-087	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000
10	0.9000	0.9000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	0.8000	1.0000

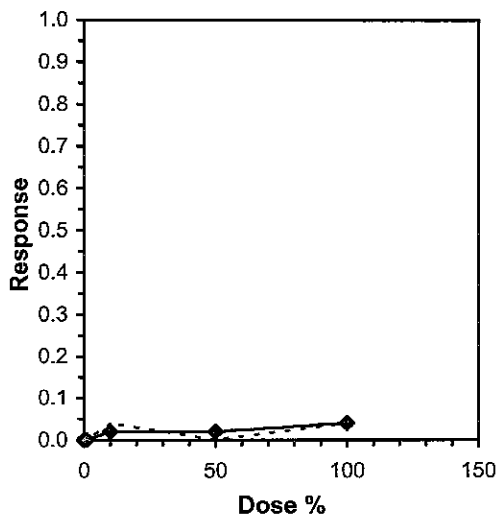
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5			1.0000	1.0000
1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	1.0000	1.0000
10	0.9600	0.9600	1.3468	1.2490	1.4120	6.628	5	22.50	17.00	0.9800	0.9800
50	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	0.9800	0.9800
100	0.9600	0.9600	1.3510	1.1071	1.4120	10.092	5	25.00	17.00	0.9600	0.9600

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.68837	0.888	-2.2517	7.05105
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-098	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-088	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	1.0000	1.0000
1	0.9000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	0.8000	0.8000	1.0000	0.9000
100	1.0000	1.0000	1.0000	1.0000	1.0000

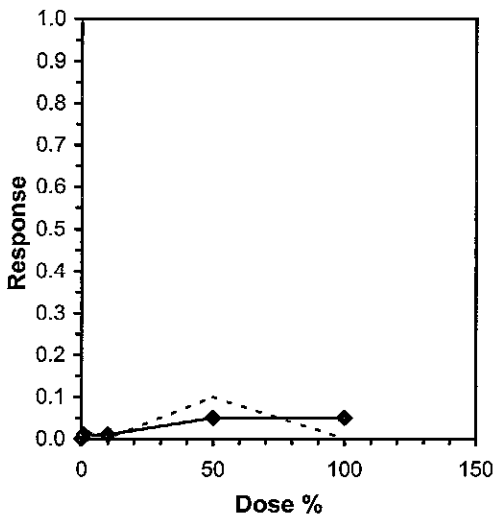
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5			1.0000	1.0000
1	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5	25.00	17.00	0.9900	0.9900
10	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	0.9900	0.9900
50	0.9000	0.9000	1.2575	1.1071	1.4120	12.128	5	20.00	17.00	0.9500	0.9500
100	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	0.9500	0.9500

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.73814	0.888	-0.2055	2.38173
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15 MMD

Acute Test-96 Hr Survival

Start Date:	4/28/2015	Test ID:	TN-15-099	Sample ID:	Thimble Shoals
End Date:	5/2/2015	Lab ID:	AT5-089	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AB-Americamysis bahia
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	0.8000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000

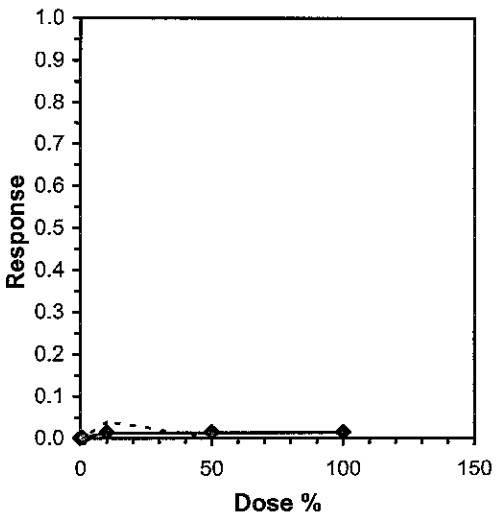
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5			1.0000	1.0000
1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	1.0000	1.0000
10	0.9600	0.9600	1.3510	1.1071	1.4120	10.092	5	25.00	17.00	0.9867	0.9867
50	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	0.9867	0.9867
100	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	0.9867	0.9867

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.4503	0.888	-3.5721	16.6245
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-085

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB-863

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: <24 hrs Age: 5days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/20/15	1000	MPL	Dilutions Made
↓	1000	MPL	Test Vessels Filled
	1351	MJ	Organisms Transferred
	1537	MJ	Head Counts

TEST SET-UP

Sample Number: AT5-075

Dilution Number: LD5-12 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	↓
10%	100 ml	
50%	500 ml	
100%	1,000 ml	
Site Water (AT5- 093)	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-085
Test Material: ELUTRIATE
Accession Number: ATS-075
Dilution Water: 30 PPT C.S.
Accession Number: 605-19L

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1351
Ending Date: 5/2/15 Time: 1357
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	21.0	20.8	21.0	21.0	21.0	8.2	8.2	7.6	8.0	8.2	7.4	7.5	7.0	7.5	7.4	29.2	29.1	28.9	29.3	30.3
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	9	9	9	9																				
	E	10	10	10	10	10																				
1%	A	10	10	10	9	9	21.0	20.9	21.0	21.0	21.0	8.2	8.2	7.7	8.1	8.2	7.3	6.8	6.6	7.4	7.1	29.2	28.9	28.9	29.5	30.6
	B	10	10	10	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							678	677	678	677	678	678	677	678	677	678	678	677	678	677	678	678	677	678	677	678
Time		1537	1304	1341	1302	1351	1303	0956	0853	0905	1038	1303	0956	0853	0905	1038	1303	0956	0853	0905	1038	1303	0956	0853	0905	1038
Initials		VY	MJ	MJ	MJ	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-085
Test Material: ELUTRIATE
Accession Number: AT5-075
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1351
Ending Date: 5/2/15 Time: 1357
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.3	8.2	7.7	8.1	8.3	7.2	6.8	6.6	7.4	6.9	29.2	28.8	28.8	29.3	30.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	9	9	21.0	21.0	21.0	21.0	21.0	8.2	8.2	7.7	8.2	8.2	7.2	6.8	6.5	7.4	6.9	29.1	28.6	28.6	29.2	30.4
	B	10	10	10	10	10																				
	C	10	10	10	9	9																				
	D	10	10	10	9 10	10																				
	E	10	10	10	10	10																				

BH MS

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-085
Test Material: ELUTRIATE
Accession Number: AT5-075
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C
pH: 6.0 - 9.0
Photoperiod: 16 ℓ, 8 d

Beginning Date: 4/28/15 Time: 1361
Ending Date: 5/2/15 Time: 1357
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
DO: ≥4.0 mg/L
Salinity: 30±3 ppt
Light Intensity: 50 - 100 fc
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.2	8.2	7.8	8.2	8.2	7.5	7.1	6.3	7.4	6.9	28.8	28.5	28.5	29.2	30.2
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Site Water	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.2	8.2	7.8	8.2	8.1	7.5	6.9	6.5	7.4	6.7	29.1	28.7	28.5	29.2	30.3
AT5-093	B	10	10	10	10	10																				
	C	10	10	10	9	9																				
	D	10	10	9	9	9																				
	E	10	9	7	7	7																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-085

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 086

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB- 868

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24 hrs Age: 5days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/29/15	1005		Dilutions Made
↓	1005		Test Vessels Filled
	1413	MJ	Organisms Transferred
	1545		Head Counts

TEST SET-UP

Sample Number: AT5-076

Dilution Number: LD5-112 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	↓
10%	100 ml	
50%	500 ml	
100%	1,000 ml	
Site Water (AT5- 093)	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-086
Test Material: ELUTRIATE
Accession Number: ATS-076
Dilution Water: 30 PPT C.S.
Accession Number: CDS-19L

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

Beginning Date: 4/28/15 Time: 1413
Ending Date: 5/2/15 Time: 1402

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	20.6	21.0	21.0	21.0	20.7	8.3	8.1	7.8	8.1	8.2	7.5	7.2	6.9	7.4	7.0	29.5	28.9	28.9	29.9	30.7
	B	10	10	10	10	10																				
	C	10	9	9	9	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	20.8	8.3	8.2	7.8	8.1	8.2	7.3	7.0	6.7	7.3	6.9	29.3	28.8	29.0	29.6	30.9
	B	10	10	10	10	10																				
	C	10	9	9	9	9																				
	D	10	9	9	8	8																				
	E	10	10	10	10	10																				
Meter Number							678	677	678	677	678	678	677	678	677	678	678	677	678	677	678	678	677	678	677	678
Time		1545	1322	1347	1317	1402	1307	0952	0857	0846	1040	1307	0952	0857	0846	1040	1307	0952	0857	0846	1040	1307	0952	0857	0846	1040
Initials		VY	MJ	MJ	MJ	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-086
Test Material: ELUTRIATE
Accession Number: AT5-076
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 l, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1413
Ending Date: 5/2/15 Time: 1402

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	9	9	21.0	21.0	21.0	21.0	20.9	8.3	8.2	7.9	8.2	8.2	7.3	7.0	6.6	7.4	6.8	29.3	28.7	28.8	29.5	30.6
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	8	8																				
	E	10	10	10	9	9																				
50%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	20.9	8.3	8.2	7.9	8.2	8.2	7.3	6.7	6.7	7.1	6.8	28.9	28.5	28.6	29.3	30.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	9	9																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15 | TEST ORGANISM | Beginning Date: 4/28/15 Time: 1413

Client: Thimble Shoals | Common Name: OPOSSUM SHRIMP | Ending Date: 5/2/15 Time: 1402

QC Test Number: TN-15-086 | Scientific Name: *Americamysis bahia* | TEST TYPE: **Static** / Flowthrough

Test Material: ELUTRIATE | TARGET VALUES | Renewal / **Non-renewal**

Accession Number: AT5-076 | Temp: 20±2 °C | DO: ≥4.0 mg/L | Test Container: 1-L BEAKER

Dilution Water: 30 PPT C.S. | pH: 6.0 - 9.0 | Salinity: 30±3 ppt | Test Volume: 200 ml

Accession Number: LD5- 192 | Photoperiod: 16 ℓ, 8 d | Light Intensity: 50 - 100 fc | Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.2	8.2	7.9	8.2	8.2	7.4	7.0	6.5	7.2	6.8	28.5	28.1	28.1	28.8	29.9
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Site Water	A	10	10	9	9	9	20.7	21.0	21.0	21.0	20.9	8.2	8.2	7.9	8.1	8.0	7.5	7.1	6.7	7.4	6.8	29.1	28.7	28.5	29.4	30.6
AT5-093	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____ Americamysis: 2007. X Menidia:2006.0_____

Magna/pulex: 2021.0_____ Trout: 2019.0_____ Cyprinodon: 2004.0_____ OTHER: _____

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-086

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-087

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB-863

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: <24hrs Age: 5days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
9/28/15	1010	[signature]	Dilutions Made
	1010	[signature]	Test Vessels Filled
	1435	MJ	Organisms Transferred
	1554	[signature]	Head Counts

TEST SET-UP

Sample Number: AT5-077

Dilution Number: LD5-192 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	
Site Water (AT5-093)	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-087
Test Material: ELUTRIATE
Accession Number: ATS-077
Dilution Water: 30 PPT C.S.
Accession Number: 105-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1435
Ending Date: 5/2/15 Time: 1408
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	20.8	20.9	21.0	21.0	20.3	8.3	8.1	7.9	8.0	8.2	7.4	7.3	7.1	7.4	7.4	29.4	28.9	28.9	29.5	31.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	9	8	7	7																				
	E	10	10	10	10	10																				
1%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	20.9	8.3	8.1	7.9	8.1	8.2	7.3	6.8	7.0	7.3	7.1	29.3	28.8	28.9	29.6	30.9
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							678	677	678	677	678	678	677	678	677	678	678	677	678	677	678	678	677	678	677	678
Time		1554	1344	1356	1351	1408	1311	0948	0900	0844	1042	1311	0948	0900	0844	1042	1311	0948	0900	0844	1042	1311	0948	0900	0844	1042
Initials		VY	MJ	MJ	MJ	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-087
Test Material: ELUTRIATE
Accession Number: AT5-077
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1435
Ending Date: 5/2/15 Time: 1408
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	20.8	8.3	8.2	7.9	8.1	8.2	7.2	7.0	6.9	7.3	7.0	29.3	28.8	28.9	29.9	31.1
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	20.8	8.2	8.2	7.9	8.2	8.2	7.3	6.9	6.8	7.1	7.0	29.1	28.6	28.7	29.4	30.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	9	9	9																				
	E	10	10	9	9	9																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-087
Test Material: ELUTRIATE
Accession Number: AT5-077
Dilution Water: 30 PPT C.S.
Accession Number: LD5-112

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1435
Ending Date: 5/2/15 Time: 1408

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.1	8.2	8.0	8.2	8.2	7.5	7.1	6.7	7.3	6.9	28.9	28.3	28.5	29.3	30.4
	B	10	9	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Site Water	A	10	10	10	10	10	20.8	21.0	21.0	21.0	20.9	8.1	8.2	7.9	8.1	8.1	7.5	6.9	6.8	7.3	6.9	30.5	30.0	29.8	30.3	31.1
AT5-093	B	10	10	10	10	10																				
	C	10	9	9	9	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-087

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-088

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB-8103

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: <24 hrs Age: 5 days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/28/15	1015	MK	Dilutions Made
	1015	MK	Test Vessels Filled
	1456	MJ	Organisms Transferred
	1601	MY	Head Counts

TEST SET-UP

Sample Number: AT5-078

Dilution Number: LD5-192 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	
Site Water (AT5- 093)	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-088
Test Material: ELUTRIATE
Accession Number: ATS-078
Dilution Water: 30 PPT C.S.
Accession Number: 105-92

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C
pH: 6.0 - 9.0
Photoperiod: 16 ℓ, 8 d

Beginning Date: 4/28/15 Time: 1450
Ending Date: 5/2/15 Time: 1414
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
DO: ≥4.0 mg/L
Salinity: 30±3 ppt
Light Intensity: 50 - 100 fc
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	20.9	21.0	20.9	21.0	20.7	8.3	8.0	7.9	8.1	8.2	7.4	7.0	7.1	7.4	7.1	29.4	28.8	28.9	29.7	30.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	8	8	8																				
1%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	20.7	8.3	8.1	7.9	8.1	8.3	7.3	6.9	7.0	7.4	7.0	29.4	28.8	29.1	29.6	30.9
	B	10	10	10	10	10																				
	C	10	9	9	9	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							678	677	678	677	678	678	677	678	677	678	678	677	678	677	678	678	677	678	677	678
Time		1601	1428	1403	1402	1414	1311	0945	0902	0842	1044	1311	0945	0902	0842	1044	1311	0945	0902	0842	1044	1311	0945	0902	0842	1044
Initials		VY	MB	MJ	MJ	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____ Americamysis: 2007. X Menidia:2006.0_____
Magna/pulex: 2021.0_____ Trout: 2019.0_____ Cyprinodon: 2004.0_____ OTHER: _____

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-088
Test Material: ELUTRIATE
Accession Number: AT5-078
Dilution Water: 30 PPT C.S.
Accession Number: LD5-112

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1456
Ending Date: 5/2/15 Time: 1414
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	20.7	8.3	8.1	8.0	8.2	8.3	7.3	6.8	6.9	7.4	7.0	29.3	28.8	29.2	29.8	31.1
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	9	9	9																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	20.9	8.3	8.2	8.0	8.2	8.2	7.3	6.6	7.0	7.3	6.9	29.0	28.5	28.7	29.3	30.6
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
			~~10~~	~~10~~	~~10~~	~~10~~																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-088
Test Material: ELUTRIATE
Accession Number: AT5-078
Dilution Water: 30 PPT C.S.
Accession Number: LD5-112

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*
TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1456
Ending Date: 5/2/15 Time: 1414
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.2	8.2	8.0	8.2	8.2	7.5	5.9	6.2	6.9	6.8	28.7	28.1	28.5	29.1	30.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Site Water	A	10	9	9	9	9	20.9	21.0	21.0	21.0	21.0	8.2	8.1	7.9	8.1	8.1	7.5	6.0	6.3	7.1	6.7	30.2	29.4	29.5	29.8	31.7
AT5-093	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-088

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-089

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB-863

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: <24 hrs Age: 5days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/28/15	1040	[illegible]	Dilutions Made
	1040	[illegible]	Test Vessels Filled
	1350	[illegible]	Organisms Transferred
	1520	93	Head Counts

TEST SET-UP

Sample Number: AT5-079

Dilution Number: LD5-192 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	
Site Water (AT5- 093)	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-089
Test Material: ELUTRIATE
Accession Number: ATS-079
Dilution Water: 30 PPT C.S.
Accession Number: 105-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1350
Ending Date: 5/2/15 Time: 1418
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	21.0	21.0	21.0	20.8	21.0	7.8	7.9	8.0	8.0	8.2	7.2	6.7	7.0	7.5	7.2	28.5	28.6	29.2	29.9	30.9
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	7.9	8.0	8.0	8.2	8.3	7.2	6.7	6.9	7.4	7.2	28.5	28.8	29.3	29.8	31.1
	B	10	9	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							677	677	678	677	678	677	677	678	677	678	677	677	678	677	678	677	677	678	677	678
Time		1520	1259	1411	1255	1418	1255	0912	0904	0930	1026	1255	0912	0904	0930	1026	1255	0912	0904	0930	1026	1255	0912	0904	0930	1026
Initials		CB	MJ	MJ	MJ	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____ Americamysis: 2007. X Menidia:2006.0_____
Magna/pulex: 2021.0_____ Trout: 2019.0_____ Cyprinodon: 2004.0_____ OTHER: _____

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-089
Test Material: ELUTRIATE
Accession Number: AT5-079
Dilution Water: 30 PPT C.S.
Accession Number: LD5-112

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1350
Ending Date: 5/2/15 Time: 1418
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	7.9	8.0	8.0	8.2	8.3	7.2	7.1	6.9	7.6	7.2	28.5	28.7	29.2	29.8	31.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.0	8.1	8.0	8.2	8.2	7.3	7.0	6.9	7.4	7.2	28.5	28.9	29.3	29.9	31.1
	B	10	10	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-089
Test Material: ELUTRIATE
Accession Number: AT5-079
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

Beginning Date: 4/28/15 Time: 1350
Ending Date: 5/2/15 Time: 1418
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.0	8.1	8.0	8.2	8.2	7.6	6.8	6.8	7.2	7.1	28.5	28.9	29.2	29.7	30.5
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Site Water	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	7.9	8.0	8.0	8.2	8.0	7.4	7.0	6.8	7.2	6.8	29.6	29.2	30.2	30.8	31.9
AT5-093	B	10	9X10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	9	9	9	9																				
	E	10	10	10	10	10																				

4/29 MS

4/29

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-089

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-090

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB-8103

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 424 hrs Age: 5days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/29/15	1045	MJL	Dilutions Made
	1045	MJL	Test Vessels Filled
	1400	MJL	Organisms Transferred
	1530	AB	Head Counts

TEST SET-UP

Sample Number: AT5-080

Dilution Number: LD5-112 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-090
Test Material: ELUTRIATE
Accession Number: AT5-080
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1410
Ending Date: 5/2/15 Time: 1422

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	7.6	7.9	8.0	8.2	8.2	7.1	6.5	6.5	7.4	7.2	28.3	28.9	29.1	29.6	30.7
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	7.7	8.0	8.0	8.2	8.3	7.2	6.1	6.5	7.1	7.1	28.4	29.0	29.3	30.0	31.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							677	677	678	677	678	677	677	678	677	678	677	677	678	677	678	677	677	678	677	678
Time		1530	1316	1416	1311	1422	1250	0907	0907	0932	1028	1250	0907	0907	0932	1028	1250	0907	0907	0932	1028	1250	0907	0907	0932	1028
Initials		GB	MJ	MJ	MJ	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-090
Test Material: ELUTRIATE
Accession Number: AT5-080
Dilution Water: 30 PPT C.S.
Accession Number: LD5-11L

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1410
Ending Date: 5/2/15 Time: 1422
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	7.8	8.0	8.1	8.3	8.3	7.2	6.4	6.6	7.2	7.0	28.3	28.8	29.1	29.8	31.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	7.8	8.0	8.1	8.3	8.2	7.3	6.7	6.6	7.2	7.0	28.1	28.6	28.8	29.5	31.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	9	9	9																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-090
Test Material: ELUTRIATE
Accession Number: AT5-080
Dilution Water: 30 PPT C.S.
Accession Number: LD5-19L

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C
pH: 6.0 - 9.0
Photoperiod: 16 ℓ, 8 d

Beginning Date: 4/28/15 Time: 1410
Ending Date: 5/2/15 Time: 1422

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

DO: ≥4.0 mg/L
Salinity: 30±3 ppt
Light Intensity: 50 - 100 fc

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	7.8	8.0	8.1	8.3	8.2	7.4	6.7	6.6	7.3	7.0	27.8	28.3	28.6	29.3	30.6
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 090

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-091

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB- 863

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: <24 hrs Age: 5 days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
7/23/15	1035	[signature]	Dilutions Made
↓	1055	[signature]	Test Vessels Filled
	1340	[signature]	Organisms Transferred
	1525	[signature]	Head Counts

TEST SET-UP

Sample Number: AT5- 081

Dilution Number: LD5-192 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	↓
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-091
Test Material: ELUTRIATE
Accession Number: AT5-081
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1340
Ending Date: 5/2/15 Time: 1420

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	21.0	20.8	21.0	21.0	20.9	8.0	8.0	8.0	8.3	8.1	7.1	7.7	6.9	7.2	7.2	28.5	29.0	29.4	30.1	31.1
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	9	9	9																				
	E	10	10	10	10	10																				
1%	A	10	10	10	10	10	21.0	20.8	21.0	21.0	21.0	8.0	8.1	8.0	8.3	8.2	7.2	7.7	6.7	7.2	7.1	28.4	29.0	29.1	29.8	30.9
	B	10	10	8	8	8																				
	C	10	10	9	9	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							677	677	678	677	678	677	677	678	677	678	677	677	678	677	678	677	677	678	677	678
Time		1525	1251	1326	1250	1426	1259	0915	0912	0942	1017	1259	0915	0912	0942	1017	1259	0915	0912	0942	1017	1259	0915	0912	0942	1017
Initials		—	MJ	VR	MJ	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____ Americamysis: 2007. X Menidia:2006.0_____
Mágna/pulex: 2021.0_____ Trout: 2019.0_____ Cyprinodon: 2004.0_____ OTHER: _____

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-091
Test Material: ELUTRIATE
Accession Number: AT5-081
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1340
Ending Date: 5/2/15 Time: 1426
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	16	9	9	9	21.0	21.0	21.0	21.0	21.0	8.1	8.1	8.1	8.3	8.2	7.3	7.5	6.6	7.0	7.1	28.4	28.9	29.2	30.0	31.6
	B	10	16	10	10	10																				
	C	10	10	9	9	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.1	8.1	8.1	8.3	8.2	7.4	7.4	6.5	7.0	7.1	28.3	29.0	29.6	30.3	31.5
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-091
Test Material: ELUTRIATE
Accession Number: AT5-081
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1340
Ending Date: 5/2/15 Time: 1426

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	20.7	21.0	21.0	21.0	8.1	8.1	8.1	8.3	8.1	7.4	7.5	6.4	7.1	7.2	28.2	28.9	29.0	29.9	31.0
	B	10	10	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	9	9	9																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-091

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-092

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB- 863

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: <24hrs Age: 5 days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/28/15	1056	GD	Dilutions Made
↓	↓	↓	Test Vessels Filled
	1400	MS	Organisms Transferred
↓	1530	[illegible]	Head Counts

TEST SET-UP

Sample Number: AT5- 082

Dilution Number: LD5-192 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	↓
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-092
Test Material: ELUTRIATE
Accession Number: AT5-082
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

Beginning Date: 4/28/15 Time: 1400
Ending Date: 5/2/15 Time: 1430
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.1	8.1	8.1	8.3	8.2	7.1	7.5	7.0	6.9	6.9	28.4	29.0	29.0	29.7	30.8
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	10	10	9	9	21.0	21.0	21.0	21.0	21.0	8.1	8.1	8.1	8.3	8.2	7.2	7.4	6.6	6.9	6.8	28.4	28.9	29.1	29.9	31.0
	B	10	10	10	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	8	8																				
	E	10	10	10	10	10																				
Meter Number							677	677	678	677	678	677	677	678	677	678	677	677	678	677	678	677	677	678	677	678
Time		1530	1310	1331	1307	1430	1301	0917	0914	0945	1019	1301	0917	0914	0945	1019	1301	0917	0914	0945	1019	1301	0917	0914	0945	1019
Initials		MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-092
Test Material: ELUTRIATE
Accession Number: AT5-082
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1400
Ending Date: 5/2/15 Time: 1436
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.2	8.2	8.1	8.3	8.2	7.3	7.1	6.8	6.9	6.7	28.4	28.9	29.1	29.7	30.8
	B	10	10	7	6	6																				
	C	10	10	9	9	9																				
	D	10	10	9	9	9																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.2	8.2	8.1	8.4	8.2	7.3	7.0	6.6	6.8	6.8	28.4	28.8	29.2	29.9	31.1
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-092
Test Material: ELUTRIATE
Accession Number: AT5-082
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C
pH: 6.0 - 9.0
Photoperiod: 16 ℓ, 8 d

DO: ≥4.0 mg/L
Salinity: 30±3 ppt
Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1400
Ending Date: 5/2/15 Time: 1430

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.1	8.1	8.1	8.3	8.1	7.5	10.5	6.3	6.8	6.8	28.3	28.9	29.2	29.8	30.9
	B	10	10	9	9	~~9~~																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

5/2 MS

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-092

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 093

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB- 863

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: < 24 hrs Age: 5 days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/28/15	1057	GB	Dilutions Made
↓	↓	↓	Test Vessels Filled
↓	1419	WG	Organisms Transferred
↓	1530	[illegible]	Head Counts

TEST SET-UP

Sample Number: AT5- 083

Dilution Number: LD5- 192 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	↓
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15 | TEST ORGANISM | Beginning Date: 4/28/15 Time: 1419

Client: Thimble Shoals | Common Name: OPOSSUM SHRIMP | Ending Date: 5/2/15 Time: 1434

QC Test Number: TN-15-093 | Scientific Name: *Americamysis bahia* | TEST TYPE: **Static** / Flowthrough

Test Material: ELUTRIATE | TARGET VALUES | Renewal / **Non-renewal**

Accession Number: AT5-083 | Temp: 20±2 °C | DO: ≥4.0 mg/L | Test Container: 1-L BEAKER

Dilution Water: 30 PPT C.S. | pH: 6.0 - 9.0 | Salinity: 30±3 ppt | Test Volume: 200 ml

Accession Number: LD5-192 | Photoperiod: 16 ℓ, 8 d | Light Intensity: 50 - 100 fc | Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	9	9	9	20.9	21.0	20.7	21.0	21.0	8.1	8.1	8.1	8.3	8.2	7.2	7.2	6.9	7.1	7.2	28.6	28.5	29.2	29.8	31.0
	B	10	10	10	10	10																				
	C	10	10	9	9	9																				
	D	10	10	9	9	9																				
	E	10	10	8	8	8																				
1%	A	10	10	9	9	9	21.0	21.0	21.0	21.0	21.0	8.1	8.1	8.1	8.3	8.3	7.2	7.4	6.6	7.2	7.0	28.5	28.9	29.1	29.8	30.9
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	9	9	9																				
Meter Number							677	677	678	677	678	677	677	678	677	678	677	677	678	677	678	677	677	678	677	678
Time		1540	1329	1336	1346	1434	1304	0920	0920	0947	1021	1304	0920	0920	0947	1021	1304	0920	0920	0947	1021	1304	0920	0920	0947	1021
Initials		MW	MJ	VV	MJ	MJ	VV	VV	MJ	VV	MJ	VV	VV	MJ	VV	MJ	VV	VV	MJ	VV	MJ	VV	VV	MJ	VV	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0

Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-093
Test Material: ELUTRIATE
Accession Number: AT5-083
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1419
Ending Date: 5/2/15 Time: 1434

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.2	8.1	8.2	8.3	8.3	7.3	7.5	6.6	7.2	6.9	28.4	28.9	29.1	29.3	31.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.2	8.2	8.2	8.3	8.2	7.3	7.3	6.6	7.2	6.8	28.3	28.8	28.3	29.7	30.9
	B	10	10	8	8	8																				
	C	10	10	9	9	9																				
	D	10	10	9	9	9																				
	E	10	9	9	9	9																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-093
Test Material: ELUTRIATE
Accession Number: AT5-083
Dilution Water: 30 PPT C.S.
Accession Number: LD5-197

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1419
Ending Date: 5/2/15 Time: 1434
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.2	8.2	8.2	8.3	8.2	7.3	7.0	6.5	7.1	6.8	28.1	28.5	28.8	29.0	30.1
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-093

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-094

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB- 863

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: <24 hrs Age: 5days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
9/28/15	1108	GD	Dilutions Made
↓	↓	↓	Test Vessels Filled
	1440	VK	Organisms Transferred
	1595	~~~	Head Counts

TEST SET-UP

Sample Number: AT5-084

Dilution Number: LD5-192 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	↓
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-094
Test Material: ELUTRIATE
Accession Number: AT5-084
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1440
Ending Date: 5/2/15 Time: 1437
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	20.8	21.0	21.0	20.8	21.0	8.2	8.2	8.1	8.3	8.2	7.4	6.9	6.8	7.2	7.0	28.5	28.7	28.9	29.8	30.5
	B	10	10	10	10	10																				
	C	10	10	8	8	8																				
	D	10	10	9	9	9																				
	E	10	10	10	10	10																				
1%	A	10	10	10	10	10	20.9	21.0	21.0	20.8	21.0	8.2	8.2	8.1	8.3	8.3	7.3	6.9	6.7	7.1	6.8	28.5	28.7	28.9	29.8	30.7
	B	10	10	10	9	9																				
	C	10	9	9	9	9																				
	D	10	10	10	10	10																				
	E	10	10	10	9	9																				
Meter Number							677	677	678	677	678	677	677	678	677	678	677	677	678	677	678	677	677	678	677	678
Time		1515	1354	1341	1351	1437	1300	0923	0922	0950	1022	1300	0923	0922	0950	1022	1300	0923	0922	0950	1022	1300	0923	0922	0950	1022
Initials		pw	MT	VR	MT	MT	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____ Americamysis: 2007. X Menidia:2006.0_____
Magna/pulex: 2021.0_____ Trout: 2019.0_____ Cyprinodon: 2004.0_____ OTHER: _____

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-094
Test Material: ELUTRIATE
Accession Number: AT5-084
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1440
Ending Date: 5/2/15 Time: 1437
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	21.0	21.0	20.9	20.9	8.2	8.2	8.1	8.4	8.2	7.3	6.9	6.6	7.1	6.8	28.4	28.8	28.9	29.7	30.7
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	9	9	9																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	21.0	21.0	20.9	21.0	8.2	8.2	8.1	8.4	8.2	7.3	6.9	6.5	7.0	6.7	28.1	28.4	28.5	29.3	30.1
	B	10	10	10	10	10																				
	C	10	10	9	9	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

5/1 MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-094
Test Material: ELUTRIATE
Accession Number: AT5-084
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1440
Ending Date: 5/2/15 Time: 1439
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	21.0	21.0	20.8	21.0	8.2	8.2	8.1	8.4	8.1	7.4	6.5	6.5	7.1	6.8	27.7	28.1	28.2	29.1	30.0
	B	10	10	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-094

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-095

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB-863

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24 hrs Age: 5 days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/29/15	1055	MH	Dilutions Made
	1055	MH	Test Vessels Filled
	1930	MH	Organisms Transferred
	1540	BJ	Head Counts

TEST SET-UP

Sample Number: AT5-085

Dilution Number: LD5-192 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-095
Test Material: ELUTRIATE
Accession Number: AT5-085
Dilution Water: 30 PPT C.S.
Accession Number: LD5-152

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1430
Ending Date: 5/2/15 Time: 1447

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	20.9	20.8	21.0	20.9	20.6	8.3	8.2	8.1	8.0	8.3	7.4	7.2	7.3	7.3	7.3	29.5	29.0	29.1	29.6	31.1
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	10	9	9	9	21.0	20.8	21.0	21.0	20.6	8.3	8.2	8.2	8.0	8.3	7.3	7.3	7.2	7.1	7.3	29.3	29.0	29.0	29.5	30.8
	B	10	10	10	10	10																				
	C	10	10	9	8	8																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							678	677	678	677	678	678	677	678	677	678	678	677	678	677	678	678	677	678	677	678
Time		1540	1335	1424	1407	1447	1317	0938	0939	0835	1034	1317	0938	0939	0835	1034	1317	0938	0939	0835	1034	1317	0938	0939	0835	1034
Initials		SS	MJ	MJ	MJ	MJ	MJ	VV	MJ	VV	MJ	MJ	VV	MJ	VV	MJ	MJ	VV	MJ	VV	MJ	MJ	VV	MJ	VV	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-095
Test Material: ELUTRIATE
Accession Number: AT5-085
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1430
Ending Date: 5/2/15 Time: ~~1530~~ 1447 5/2/15

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	20.9	21.0	21.0	21.0	8.3	8.2	8.2	8.1	8.3	7.3	7.1	6.9	7.0	7.2	29.3	28.7	28.9	29.4	30.1
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	9	9	21.0	21.0	21.0	21.0	21.0	8.3	8.3	8.2	8.1	8.3	7.3	7.0	6.9	7.3	7.1	29.2	28.6	28.7	29.4	30.4
	B	10	10	10	10	10																				
	C	10	10	10	9	9																				
	D	10	10	10	9	9																				
	E	10	9	9	8	8																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-095
Test Material: ELUTRIATE
Accession Number: AT5-085
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1430
Ending Date: 5/2/15 Time: 1449
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	9	9	21.0	21.0	21.0	21.0	21.0	8.1	8.2	8.2	8.1	8.2	7.4	6.6	6.6	7.0	7.1	29.1	28.5	28.6	29.1	30.4
	B	10	10	10	8	8																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	8	8																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-095

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-096

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB- 863

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24 hrs Age: 5 days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/28/15	1050	[signature]	Dilutions Made
	1050	[signature]	Test Vessels Filled
	1445	[signature]	Organisms Transferred
	1543	GTS	Head Counts

TEST SET-UP

Sample Number: AT5- 086

Dilution Number: LD5- 192 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-096
Test Material: ELUTRIATE
Accession Number: AT5-080
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 112

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

Beginning Date: 4/28/15 Time: 1445
Ending Date: 5/2/15 Time: 1450

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	20.4	21.0	21.0	21.0	20.9	8.3	8.2	8.2	7.8	8.2	7.5	6.9	6.7	7.3	7.3	29.5	28.8	28.8	29.4	30.4
	B	10	10	10	9	9																				
	C	10	10	10	8	8																				
	D	10	10	9	9	9																				
	E	10	10	10	9	9																				
1%	A	10	10	10	10	10	20.9	21.0	21.0	21.0	21.0	8.3	8.2	8.2	7.9	8.2	7.4	6.8	6.6	7.0	7.1	29.4	28.7	28.8	29.4	30.4
	B	10	9	9	8	8																				
	C	10	10	10	10	10																				
	D	10	10	10	8	8																				
	E	10	9	9	9	9																				
Meter Number				1428			678	677	678	677	678	678	677	678	677	678	678	677	678	677	678	678	677	678	677	678
Time		1943	1440	1428	1444	1450	1316	0941	0940	0831	1036	1316	0941	0940	0831	1036	1316	0941	0940	0831	1036	1316	0941	0940	0831	1036
Initials		MJ	MJ	MJ 0930 MJ	MJ	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ	MJ	VY	MJ	VY	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

C. iodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-096
Test Material: ELUTRIATE
Accession Number: AT5-086
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1445
Ending Date: 5/2/15 Time: 1450
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.3	8.2	8.2	7.9	8.2	7.3	6.9	6.4	7.2	7.0	29.3	28.7	28.7	29.4	30.3
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	9	8	8																				
50%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.2	8.2	8.2	8.0	8.2	7.3	6.9	6.4	7.1	7.0	29.1	28.5	28.5	29.1	30.1
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-096
Test Material: ELUTRIATE
Accession Number: AT5-086
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

Beginning Date: 4/28/15 Time: 1445
Ending Date: 5/2/15 Time: 1450
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.1	8.2	8.2	8.0	8.1	7.5	6.5	6.3	6.9	7.0	28.8	28.2	28.2	28.8	29.9
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-096

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 097

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB- 863

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: < 24 hrs Age: 5 days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/28/15	1110	GB	Dilutions Made
			Test Vessels Filled
	1501	MG	Organisms Transferred
	1550	MG	Head Counts

TEST SET-UP

Sample Number: AT5- 087

Dilution Number: LD5- 192 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-097
Test Material: ELUTRIATE
Accession Number: AT5-087
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1501
Ending Date: 5/2/15 Time: 1443
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	20.8	20.5	21.0	20.8	20.9	8.2	8.1	8.1	8.3	8.2	7.4	7.8	7.0	7.5	7.2	28.6	29.2	29.2	29.9	31.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	10	10	10	10	20.9	20.8	21.0	21.0	21.0	8.2	8.1	8.1	8.3	8.3	7.3	7.5	6.9	7.3	7.0	28.5	29.0	29.1	29.9	30.9
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							677	677	678	677	678	677	677	678	677	678	677	677	678	677	678	677	677	678	677	678
Time		1550	1438	1435	1419	1443	1309	0927	0926	0940	1024	1309	0927	0926	0940	1024	1309	0927	0926	0940	1024	1309	0927	0926	0940	1024
Initials		VY	MJ	MJ	MJ	MJ	VY	VY	MJ	VY	MJ	VY	VY	MJ	VY	MJ	VY	VY	MJ	VY	MJ	VY	VY	MJ	VY	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-097
Test Material: ELUTRIATE
Accession Number: AT5-087
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

Beginning Date: 4/28/15 Time: 1501
Ending Date: 5/2/15 Time: 1443
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	9	9	21.0	21.0	21.0	21.0	21.0	8.2	8.2	8.2	8.3	8.3	7.3	7.4	6.6	7.2	7.0	28.4	28.8	29.0	29.8	31.0
	B	10	10	10	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.3	8.2	8.2	8.3	8.2	7.3	7.1	6.8	7.1	6.9	27.9	28.2	28.6	29.1	30.3
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-097
Test Material: ELUTRIATE
Accession Number: AT5-087
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 L, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1501
Ending Date: 5/2/15 Time: 1443
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.2	8.2	8.2	8.3	8.2	7.5	6.8	6.9	7.2	6.9	27.8	28.3	28.6	29.4	30.6
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	8	8																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-097

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-098

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB-863

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: <24 hrs Age: 5 days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/28/15	1110		Dilutions Made
	1110		Test Vessels Filled
	1515		Organisms Transferred
	1550	QB	Head Counts

TEST SET-UP

Sample Number: AT5-088

Dilution Number: LD5-192 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-098
Test Material: ELUTRIATE
Accession Number: AT5-088
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1515
Ending Date: 5/2/15 Time: 1455
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	20.9	20.7	21.0	21.0	20.7	8.2	8.2	8.2	8.3	8.2	7.5	7.2	7.0	7.2	7.2	28.6	29.0	29.0	29.6	31.1
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	10	10	9	9	21.0	21.0	21.0	21.0	20.9	8.2	8.2	8.2	8.3	8.2	7.3	7.1	6.8	7.2	7.1	28.5	28.8	29.0	29.6	31.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							677	677	678	677	678	677	677	678	677	678	677	677	678	677	678	677	677	678	677	678
Time		1550	1437	1439	1424	1455	1315	0933	0936	0935	1032	1315	0933	0936	0935	1032	1315	0933	0936	0935	1032	1315	0933	0936	0935	1032
Initials		RS	MJ	MJ	MJ	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ	VR	VR	MJ	VR	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-098
Test Material: ELUTRIATE
Accession Number: AT5-088
Dilution Water: 30 PPT C.S.
Accession Number: LD5-1[illegible]

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

Beginning Date: 4/28/15 Time: 1515
Ending Date: 5/2/15 Time: 1455

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	20.9	8.3	8.2	8.2	8.3	8.2	7.3	6.6	6.6	7.1	6.9	28.5	28.9	29.2	29.8	31.3
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	20.9	8.3	8.2	8.2	8.3	8.2	7.3	6.3	6.5	7.1	7.0	28.7	29.1	29.2	29.8	31.1
	B	10	10	10	8	8																				
	C	10	9	9	8	8																				
	D	10	10	10	10	10																				
	E	10	9	9	9	9																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-098
Test Material: ELUTRIATE
Accession Number: AT5-088
Dilution Water: 30 PPT C.S.
Accession Number: LD5-[illegible]

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1515
Ending Date: 5/2/15 Time: 1455
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.2	8.2	8.2	8.3	8.2	7.4	6.5	6.5	7.1	6.8	29.0	29.3	29.5	30.2	31.5
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead: 2000.0 Americamysis: 2007. X Menidia: 2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-098

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 099

TEST ORGANISM INFORMATION

Common Name: OPOSSOM SHRIMP

Scientific Name: *Americamysis bahia*

Lot Number: AB- 863

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: ~24 hrs Age: 5 days

Culture Water (T/S): 20.7 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/28/15	1105		Dilutions Made
	1105		Test Vessels Filled
	1522	VY	Organisms Transferred
	1555		Head Counts

TEST SET-UP

Sample Number: AT5- 089

Dilution Number: LD5- 192 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-099
Test Material: ELUTRIATE
Accession Number: AT5-089
Dilution Water: 30 PPT C.S.
Accession Number: LD5-192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1522
Ending Date: 5/2/15 Time: 1459
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	21.0	20.7	20.9	20.9	20.8	8.2	8.1	8.2	8.3	8.2	7.2	7.3	7.3	7.6	7.3	28.6	29.2	29.5	30.1	31.3
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	10	10	10	10	21.0	20.7	20.8	21.0	20.9	8.2	8.2	8.2	8.3	8.2	7.3	7.1	7.3	7.5	7.2	28.5	29.1	29.4	30.0	31.2
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							1077	1077	678	1077	678	1077	1077	678	1077	678	1077	1077	678	1077	678	1077	1077	678	1077	678
Time		1555	1443	1445	1428	1459	1312	0931	0929	0937	1031	1312	0931	0929	0937	1031	1312	0931	0929	0937	1031	1312	0931	0929	0937	1031
Initials		MMC	MJ	MJ	MJ	MJ	VY	VY	MJ	VY	MJ	VY	VY	MJ	VY	MJ	VY	VY	MJ	VY	MJ	VY	VY	MJ	VY	MJ

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-099
Test Material: ELUTRIATE
Accession Number: AT5-089
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 92

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1522
Ending Date: 5/2/15 Time: 1459
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	21.0	20.9	21.0	20.8	8.3	8.2	8.2	8.3	8.2	7.3	6.9	7.3	7.4	7.0	28.4	28.9	29.2	29.9	31.3
	B	10	10	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	20.9	8.3	8.2	8.2	8.3	8.2	7.3	7.0	7.2	7.3	6.9	28.0	28.4	28.8	29.6	31.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-099
Test Material: ELUTRIATE
Accession Number: AT5-089
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 192

TEST ORGANISM
Common Name: OPOSSUM SHRIMP
Scientific Name: *Americamysis bahia*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 4/28/15 Time: 1522
Ending Date: 5/2/15 Time: 1459
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	21.0	21.0	21.0	21.0	21.0	8.2	8.2	8.2	8.3	8.2	7.6	7.2	7.0	7.4	6.9	27.5	27.9	28.1	28.4	29.9
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. X Menidia:2006.0
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-099

Date/Time/Initials	Comments/Activity

ATTACHMENT IV

Menidia beryllina 96-Hour Elutriate Toxicity Tests
Data Sheets and Statistical Analyses
(91 pages)

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-100	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-075	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
Site Water	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	0.9000	0.9000
10	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000

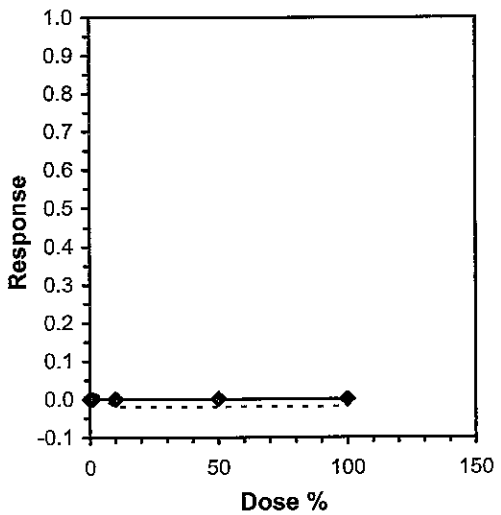
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5			0.9880	1.0000
Site Water	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5				
1	0.9600	0.9600	1.3468	1.2490	1.4120	6.628	5	25.00	17.00	0.9880	1.0000
10	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9880	1.0000
50	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9880	1.0000
100	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9880	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.75773	0.888	-1.3555	2.38103
Equality of variance cannot be confirmed				
The control means are not significantly different (p = 0.35)	1	2.306		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-101	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-076	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

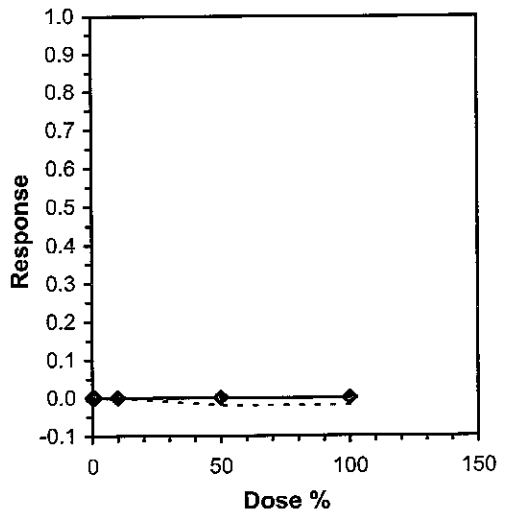
Conc-%	1	2	3	4	5
Control	0.9000	1.0000	1.0000	1.0000	1.0000
Site Water	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	0.9000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	0.9000	1.0000
50	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5			0.9880	1.0000
Site Water	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5				
1	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5	27.50	17.00	0.9880	1.0000
10	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5	27.50	17.00	0.9880	1.0000
50	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9880	1.0000
100	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9880	1.0000

Auxiliary Tests					Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)					0.60369	0.888	-2.0624	3.26482
Equality of variance cannot be confirmed								
The control means are not significantly different (p = 0.35)					1	2.306		
Hypothesis Test (1-tail, 0.05)	**NOEC**	**LOEC**	**ChV**	**TU**				
Steel's Many-One Rank Test	100	>100		1				

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-102	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-077	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	1.0000	0.9000
1	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	0.9000	1.0000	1.0000
50	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000

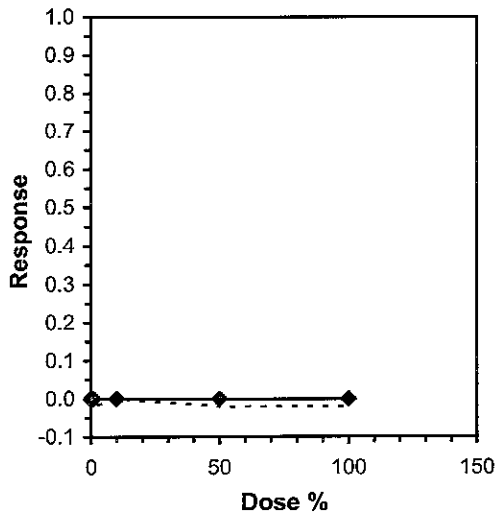
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5			0.9920	1.0000
1	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9920	1.0000
10	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5	27.50	17.00	0.9920	1.0000
50	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9920	1.0000
100	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9920	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.57542	0.888	-2.5259	6.60474
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-103	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-078	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	0.9000	1.0000
Site Water	1.0000	1.0000	0.9000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	0.9000	1.0000	0.9000	1.0000
50	0.9000	1.0000	1.0000	1.0000	1.0000
100	1.0000	0.9000	1.0000	1.0000	1.0000

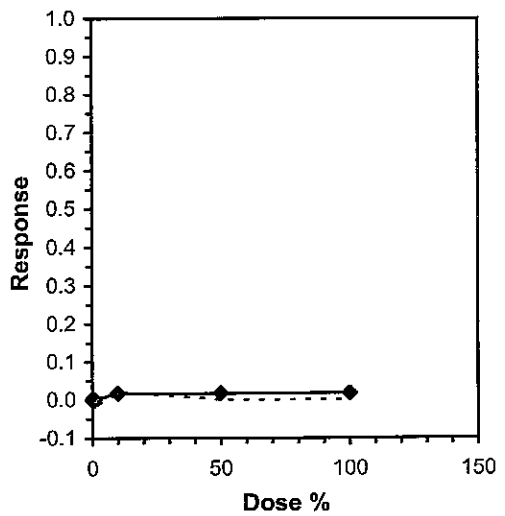
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5			0.9900	1.0000
Site Water	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5				
1	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9900	1.0000
10	0.9600	0.9796	1.3468	1.2490	1.4120	6.628	5	25.00	17.00	0.9733	0.9832
50	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5	27.50	17.00	0.9733	0.9832
100	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5	27.50	17.00	0.9733	0.9832

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.73899	0.888	-1.3097	0.3531
Equality of variance cannot be confirmed				
The control means are not significantly different (p = 1.00)	4.8E-15	2.306		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/16/15

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-104	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-079	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	1.0000	0.9000
Site Water	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	0.9000
10	1.0000	1.0000	0.9000	0.9000	0.9000
50	1.0000	0.9000	1.0000	0.9000	1.0000
100	1.0000	1.0000	0.9000	1.0000	1.0000

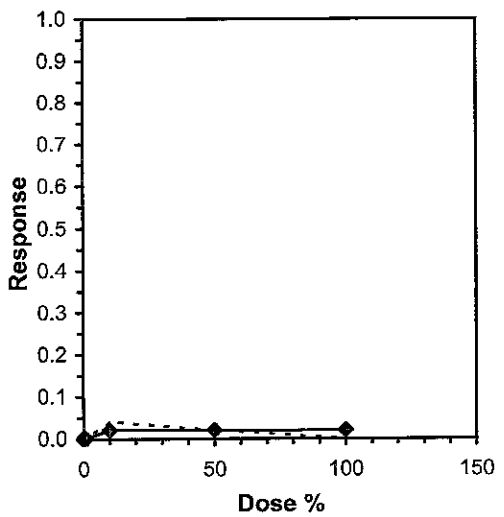
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5			0.9800	1.0000
Site Water	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5				
1	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5	27.50	17.00	0.9800	1.0000
10	0.9400	0.9400	1.3142	1.2490	1.4120	6.792	5	22.50	17.00	0.9600	0.9796
50	0.9600	0.9600	1.3468	1.2490	1.4120	6.628	5	25.00	17.00	0.9600	0.9796
100	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5	27.50	17.00	0.9600	0.9796

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.82245	0.888	-0.7292	-0.8458
Bartlett's Test indicates equal variances (p = 0.99)	0.3661	13.2767		
The control means are not significantly different (p = 0.35)	1	2.306		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-105	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-080	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	1.0000	1.0000
1	0.9000	1.0000	1.0000	1.0000	1.0000
10	0.9000	1.0000	1.0000	1.0000	1.0000
50	1.0000	1.0000	0.9000	1.0000	1.0000
100	0.9000	0.9000	1.0000	1.0000	1.0000

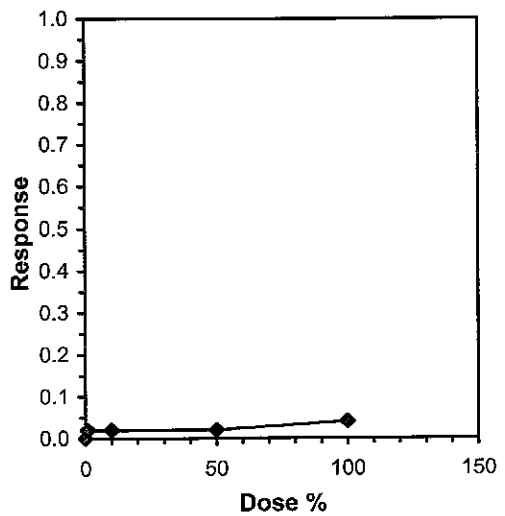
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5			1.0000	1.0000
1	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5	25.00	17.00	0.9800	0.9800
10	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5	25.00	17.00	0.9800	0.9800
50	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5	25.00	17.00	0.9800	0.9800
100	0.9600	0.9600	1.3468	1.2490	1.4120	6.628	5	22.50	17.00	0.9600	0.9600

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.73899	0.888	-1.3097	0.3531
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15 MD

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-106	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-081	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	1.0000	0.9000
1	0.9000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	0.9000	0.9000	1.0000	0.9000
100	0.6000	1.0000	0.8000	0.9000	1.0000

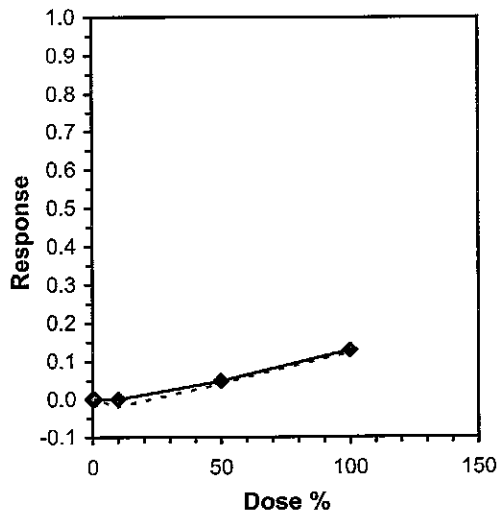
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5			0.9867	1.0000
1	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5	27.50	17.00	0.9867	1.0000
10	1.0000	1.0204	1.4120	1.4120	1.4120	0.000	5	30.00	17.00	0.9867	1.0000
50	0.9400	0.9592	1.3142	1.2490	1.4120	6.792	5	22.50	17.00	0.9400	0.9527
100	0.8600	0.8776	1.2133	0.8861	1.4120	18.365	5	21.50	17.00	0.8600	0.8716

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.89008	0.888	-0.8807	3.01215
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	51.667			
IC10	82.500			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 1/7/16 MMD

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-107	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-082	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	0.8000	1.0000
1	1.0000	0.9000	1.0000	0.8000	1.0000
10	1.0000	0.9000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	0.9000	1.0000
100	0.9000	1.0000	0.9000	1.0000	1.0000

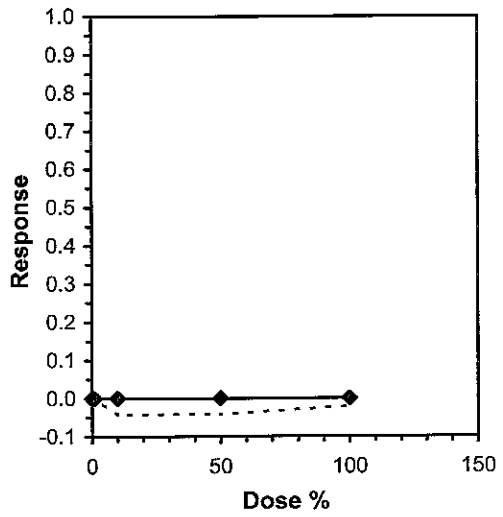
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9400	1.0000	1.3184	1.1071	1.4120	10.436	5			0.9600	1.0000
1	0.9400	1.0000	1.3184	1.1071	1.4120	10.436	5	27.50	17.00	0.9600	1.0000
10	0.9800	1.0426	1.3794	1.2490	1.4120	5.284	5	30.50	17.00	0.9600	1.0000
50	0.9800	1.0426	1.3794	1.2490	1.4120	5.284	5	30.50	17.00	0.9600	1.0000
100	0.9600	1.0213	1.3468	1.2490	1.4120	6.628	5	28.50	17.00	0.9600	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.8288	0.888	-0.9833	-0.2006
Bartlett's Test indicates equal variances (p = 0.56)	2.99307	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15 MD

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-108	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-083	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	0.9000	0.9000	1.0000
1	0.9000	1.0000	1.0000	1.0000	1.0000
10	0.8000	1.0000	1.0000	1.0000	1.0000
50	1.0000	0.9000	1.0000	1.0000	1.0000
100	1.0000	0.9000	1.0000	0.9000	1.0000

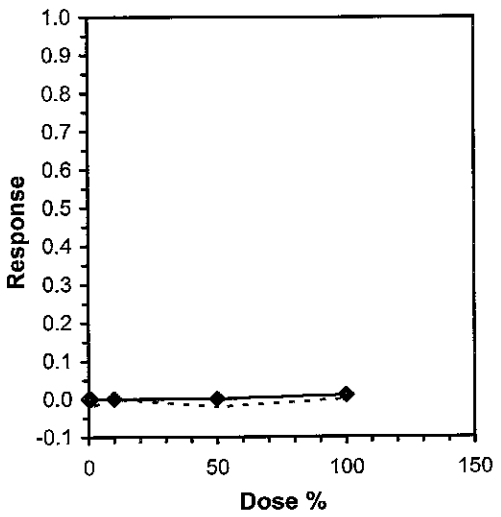
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9600	1.0000	1.3468	1.2490	1.4120	6.628	5			0.9700	1.0000
1	0.9800	1.0208	1.3794	1.2490	1.4120	5.284	5	30.00	17.00	0.9700	1.0000
10	0.9600	1.0000	1.3510	1.1071	1.4120	10.092	5	29.00	17.00	0.9700	1.0000
50	0.9800	1.0208	1.3794	1.2490	1.4120	5.284	5	30.00	17.00	0.9700	1.0000
100	0.9600	1.0000	1.3468	1.2490	1.4120	6.628	5	27.50	17.00	0.9600	0.9897

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.73559	0.888	-1.3762	0.985
Bartlett's Test indicates equal variances (p = 0.71)	2.14289	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15 MD

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-109	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-084	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	0.9000	1.0000	0.9000	0.9000	0.9000
1	1.0000	0.8000	1.0000	1.0000	0.9000
10	1.0000	0.8000	1.0000	1.0000	1.0000
50	1.0000	0.7000	1.0000	1.0000	1.0000
100	1.0000	0.9000	1.0000	1.0000	0.8000

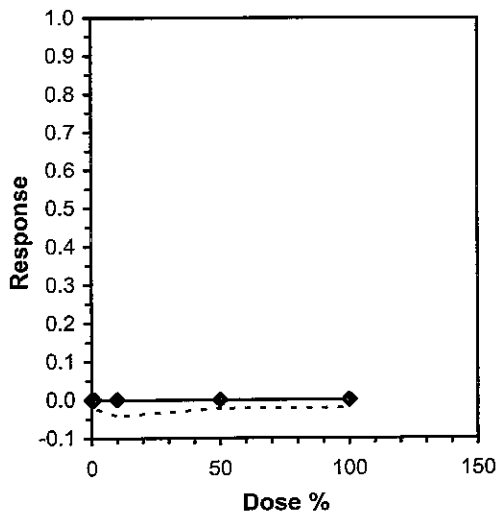
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9200	1.0000	1.2816	1.2490	1.4120	5.687	5			0.9400	1.0000
1	0.9400	1.0217	1.3184	1.1071	1.4120	10.436	5	30.50	17.00	0.9400	1.0000
10	0.9600	1.0435	1.3510	1.1071	1.4120	10.092	5	33.00	17.00	0.9400	1.0000
50	0.9400	1.0217	1.3278	0.9912	1.4120	14.174	5	33.00	17.00	0.9400	1.0000
100	0.9400	1.0217	1.3184	1.1071	1.4120	10.436	5	30.50	17.00	0.9400	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.79309	0.888	-1.3604	0.95677
Bartlett's Test indicates equal variances (p = 0.58)	2.88907	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15 MMD

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-110	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-085	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	0.7000	1.0000	1.0000	0.9000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000
10	0.7000	1.0000	1.0000	0.9000	1.0000
50	0.8000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000

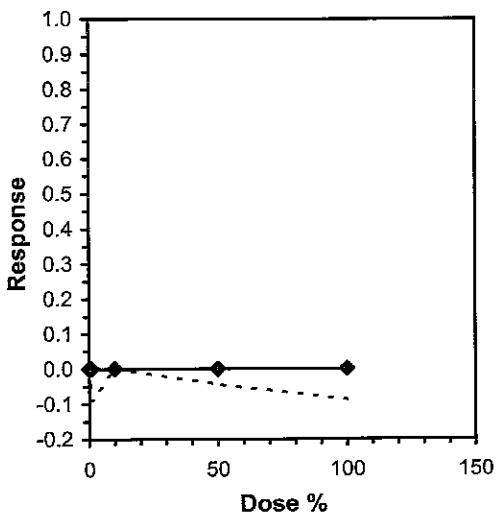
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9200	1.0000	1.2953	0.9912	1.4120	14.210	5			0.9600	1.0000
1	1.0000	1.0870	1.4120	1.4120	1.4120	0.000	5	32.50	17.00	0.9600	1.0000
10	0.9200	1.0000	1.2953	0.9912	1.4120	14.210	5	27.50	17.00	0.9600	1.0000
50	0.9600	1.0435	1.3510	1.1071	1.4120	10.092	5	30.00	17.00	0.9600	1.0000
100	1.0000	1.0870	1.4120	1.4120	1.4120	0.000	5	32.50	17.00	0.9600	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.76426	0.888	-1.5869	2.22467
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-111	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-086	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
1	0.9000	1.0000	1.0000	0.9000	1.0000
10	1.0000	1.0000	0.9000	1.0000	1.0000
50	1.0000	1.0000	1.0000	0.9000	1.0000
100	1.0000	1.0000	0.9000	1.0000	0.9000

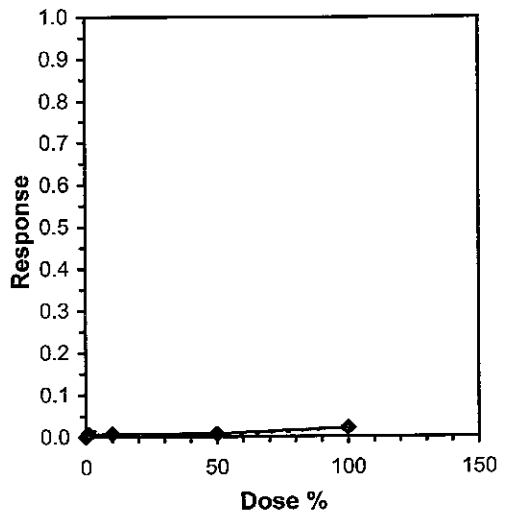
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5			0.9800	1.0000
1	0.9600	0.9796	1.3468	1.2490	1.4120	6.628	5	25.00	17.00	0.9733	0.9932
10	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5	27.50	17.00	0.9733	0.9932
50	0.9800	1.0000	1.3794	1.2490	1.4120	5.284	5	27.50	17.00	0.9733	0.9932
100	0.9600	0.9796	1.3468	1.2490	1.4120	6.628	5	25.00	17.00	0.9600	0.9796

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.72151	0.888	-0.9722	-0.8458
Bartlett's Test indicates equal variances (p = 0.99)	0.3661	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-112	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-087	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	0.9000	1.0000	1.0000
1	0.9000	1.0000	0.9000	1.0000	1.0000
10	0.9000	1.0000	1.0000	0.8000	1.0000
50	1.0000	0.9000	1.0000	1.0000	1.0000
100	0.9000	1.0000	1.0000	1.0000	1.0000

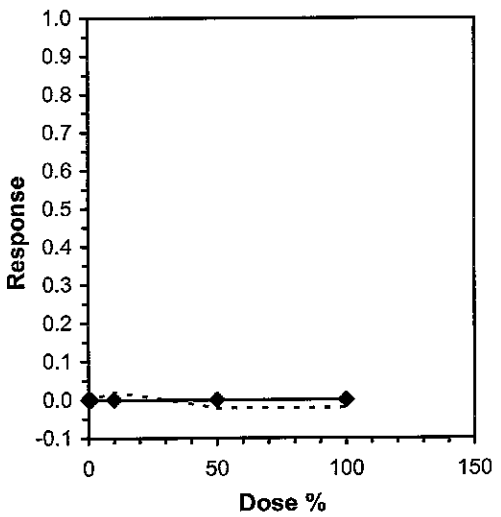
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9600	1.0000	1.3468	1.2490	1.4120	6.628	5			0.9640	1.0000
1	0.9600	1.0000	1.3468	1.2490	1.4120	6.628	5	27.50	17.00	0.9640	1.0000
10	0.9400	0.9792	1.3184	1.1071	1.4120	10.436	5	26.50	17.00	0.9640	1.0000
50	0.9800	1.0208	1.3794	1.2490	1.4120	5.284	5	30.00	17.00	0.9640	1.0000
100	0.9800	1.0208	1.3794	1.2490	1.4120	5.284	5	30.00	17.00	0.9640	1.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.8307	0.888	-0.9291	-0.3355
Bartlett's Test indicates equal variances (p = 0.70)	2.2141	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-113	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-088	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	0.8000	0.9000
1	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	0.9000	0.9000
50	1.0000	1.0000	1.0000	1.0000	0.9000
100	1.0000	0.9000	1.0000	1.0000	0.9000

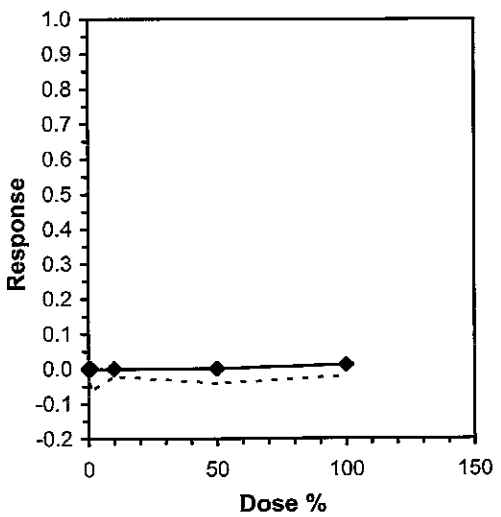
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	0.9400	1.0000	1.3184	1.1071	1.4120	10.436	5			0.9700	1.0000
1	1.0000	1.0638	1.4120	1.4120	1.4120	0.000	5	32.50	17.00	0.9700	1.0000
10	0.9600	1.0213	1.3468	1.2490	1.4120	6.628	5	28.50	17.00	0.9700	1.0000
50	0.9800	1.0426	1.3794	1.2490	1.4120	5.284	5	30.50	17.00	0.9700	1.0000
100	0.9600	1.0213	1.3468	1.2490	1.4120	6.628	5	28.50	17.00	0.9600	0.9897

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.88077	0.888	-0.9476	0.18237
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

Acute Test-96 Hr Survival

Start Date:	5/12/2015	Test ID:	TN-15-114	Sample ID:	Thimble Shoals
End Date:	5/16/2015	Lab ID:	AT5-089	Sample Type:	Elutriate
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MB-Menidia beryllina
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	0.8000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	0.9000

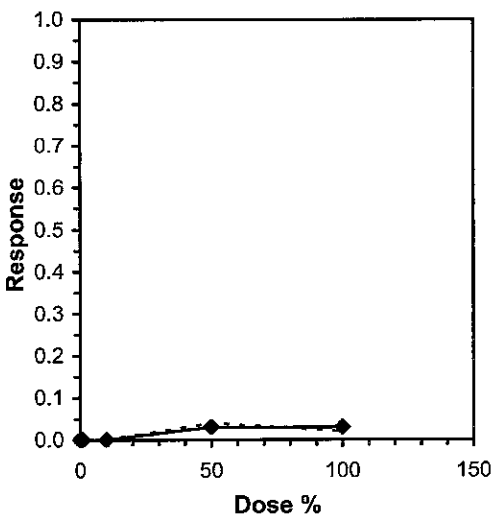
			Transform: Arcsin Square Root					Rank	1-Tailed	Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5			1.0000	1.0000
1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	1.0000	1.0000
10	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	5	27.50	17.00	1.0000	1.0000
50	0.9600	0.9600	1.3510	1.1071	1.4120	10.092	5	25.00	17.00	0.9700	0.9700
100	0.9800	0.9800	1.3794	1.2490	1.4120	5.284	5	25.00	17.00	0.9700	0.9700

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.61025	0.888	-2.8244	9.6967
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	100	>100		1

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Reviewed by: 7/7/15

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 100

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS- 193

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 11 days

Culture Water (T/S): 22°C °C 32.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/12/15	1030	MW	Dilutions Made
↓	1030	MW	Test Vessels Filled
	1330	MW	Organisms Transferred
	1448	MJ	Head Counts

TEST SET-UP

Sample Number: AT5- 075

Dilution Number: LD5- 229 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	↓
10%	100 ml	
50%	500 ml	
100%	1,000 ml	
Site Water (AT5- 093)	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-100
Test Material: ELUTRIATE
Accession Number: AT5-075
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1330
Ending Date: 5/16/15 Time: 1415
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	21.0	20.3	20.1	19.4	20.8	8.1	8.1	7.3	7.8	8.1	8.7	7.2	6.9	7.9	6.6	30.1	29.4	28.5	30.0	30.1
	B	10	10	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	10	~~9~~ 10	~~9~~ 10	10	21.0	20.3	20.1	19.6	20.9	8.2	8.2	7.4	7.9	8.2	8.8	7.3	7.1	7.6	6.5	30.1	29.3	28.5	27.4	30.2
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	9	9	9	9																				
	E	10	10	10	10	9																				
Meter Number		6308, 14148					678	677	677	677	677	678	677	677	677	677	678	677	677	677	677	678	677	677	677	677
Time		~~1052~~	1352	1427	1305	1415	10:42	1111	0900	0921	1106	10:42	1111	0900	0921	1106	10:42	1111	0900	0921	1106	10:42	1111	0900	0921	1106
Initials		MJ	MJ	VR	~	IM	KM	MJ	MJ	MJ	IM	KM	MJ	MJ	MJ	IM	KM	MJ	MJ	MJ	IM	KM	MJ	MJ	MJ	IM

IM 5/16 IM 5/16

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-100
Test Material: ELUTRIATE
Accession Number: AT5-075
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1330
Ending Date: 5/16/15 Time: 1415
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	20.3	20.1	19.7	20.9	8.3	8.2	7.5	8.0	8.2	8.8	7.4	7.1	7.5	6.5	29.9	29.4	28.6	30.0	30.3
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	20.9	20.3	20.1	19.7	20.9	8.3	8.2	7.6	8.0	8.2	8.9	7.3	7.1	7.4	6.7	29.1	28.5	27.8	29.2	29.5
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-100
Test Material: ELUTRIATE
Accession Number: AT5-075
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1330
Ending Date: 5/16/15 Time: 1415
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	20.2	20.3	20.1	19.8	20.9	8.2	8.2	7.6	8.0	8.2	9.0	7.2	7.1	7.4	6.7	28.3	28.1	27.4	28.6	28.8
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Site Water	A	10	10	10	10	10	20.6	21.0	20.2	20.1	21.1	8.2	8.2	7.6	8.0	8.2	8.9	6.6	6.6	6.8	6.5	28.4	27.8	27.0	28.1	28.3
AT5-093	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-100

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-101

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS-193

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 11days

Culture Water (T/S): 22.0 °C 32.3 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/18/15	1035	MM	Dilutions Made
↓	1035	MM	Test Vessels Filled
	1405	MK	Organisms Transferred
	1500	MJ/WM	Head Counts

TEST SET-UP

Sample Number: AT5-0716

Dilution Number: LD5-334 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	↓
10%	100 ml	
50%	500 ml	
100%	1,000 ml	
Site Water (AT5-093)	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-101
Test Material: ELUTRIATE
Accession Number: AT5-076
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*
TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1405
Ending Date: 5/16/15 Time: 1440
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	9	20.6	20.4	19.8	19.8	20.1	8.2	8.1	7.7	8.0	8.1	8.9	7.2	7.2	7.5	7.3	30.3	29.4	28.8	29.8	30.3
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	10	10	10	10	21.0	20.3	19.8	19.8	20.7	8.2	8.2	7.7	8.0	8.2	8.9	7.0	7.2	7.4	6.8	30.2	29.4	28.8	30.0	30.4
	B	10	10	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number				1430			678	677	677	677	677	678	677	677	677	677	678	677	677	677	677	678	677	677	677	677
Time		1500	1330	1530	1310	1440	10:45	1114	0903	0922	1108	10:45	1114	0903	0922	1108	10:45	1114	0903	0922	1108	10:45	1114	0903	0922	1108
Initials		MJ	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM

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EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____ Americamysis: 2007._____ Menidia:2006.0 X
Magna/pulex: 2021.0_____ Trout: 2019.0_____ Cyprinodon: 2004.0_____ OTHER: _____

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-101
Test Material: ELUTRIATE
Accession Number: AT5-076
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1405
Ending Date: 5/16/15 Time: 1440
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	20.3	19.9	19.9	20.7	8.3	8.2	7.7	8.0	8.2	8.9	6.9	7.1	7.2	6.7	30.0	29.6	29.0	30.1	30.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	9	9	9	9																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	20.3	19.9	19.9	20.8	8.3	8.2	7.8	8.0	8.2	8.9	6.8	6.9	7.2	6.7	29.1	28.5	28.9	29.2	29.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-101
Test Material: ELUTRIATE
Accession Number: AT5-076
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

Beginning Date: 5/12/15 Time: 1405
Ending Date: 5/16/15 Time: 1440
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	19.9	20.3	19.9	19.9	20.7	8.2	8.2	7.8	8.1	8.2	9.0	7.0	6.9	7.2	6.7	28.1	27.7	27.2	28.3	28.6
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Site Water	A	10	10	10	10	10	20.6	20.7	20.0	20.1	20.9	8.2	8.2	7.8	8.1	8.2	8.7	6.8	6.5	6.8	6.8	28.7	27.2	27.0	27.8	28.1
AT5-093	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 101

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-102

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS- 193

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 48hrs Age: 11days

Culture Water (T/S): 22.0 °C 32.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/12/15	10:30	KM	Dilutions Made
	10:30	KM	Test Vessels Filled
	1737	[illegible]	Organisms Transferred
↓	1520	MS/wm	Head Counts

TEST SET-UP

Sample Number: AT5-077

Dilution Number: LD5-229 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	↓
10%	100 ml	
50%	500 ml	
100%	1,000 ml	
Site Water (AT5-093)	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-102
Test Material: ELUTRIATE
Accession Number: AT5-077
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1437
Ending Date: 5/16/15 Time: 1535
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	20.9	20.4	19.7	19.8	20.7	8.2	8.2	7.8	8.0	8.2	7.8	7.2	7.0	7.5	6.9	30.2	29.6	29.0	30.0	30.3
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	9	9	9	9																				
1%	A	10	10	10	10	10	21.0	20.3	19.8	19.7	20.8	8.2	8.2	7.9	8.0	8.2	8.8	7.0	6.9	7.4	6.6	30.2	29.5	29.0	30.2	30.5
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							678	677	677	677	677	678	677	677	677	677	678	677	677	677	677	678	677	677	677	677
Time		1520	1958	1435	1440	1535	10:47	1118	0906	0925	1110	10:47	1118	0906	0925	1110	10:47	1118	0906	0925	1110	10:47	1118	0906	0925	1110
Initials		MJ	MJ	MJ	MJ	EM	EM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	EM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-102
Test Material: ELUTRIATE
Accession Number: AT5-077
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1437
Ending Date: 5/16/15 Time: 1535
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	~~10~~11	~~10~~11	11	11	11	21.0	20.3	19.8	19.8	20.8	8.2	8.2	7.9	8.1	8.2	8.8	7.0	6.9	7.1	6.5	30.1	29.3	28.8	30.0	30.3
	B	10	10	10	10	10																				
	C	10	9	9	9	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	20.5	20.3	19.8	19.8	20.8	8.3	8.2	7.9	8.1	8.2	9.0	7.0	6.8	7.1	6.4	29.5	29.0	28.4	29.5	29.8
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

VV 5/14

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-102
Test Material: ELUTRIATE
Accession Number: AT5-077
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/14/15 Time: 1437
Ending Date: 5/16/15 Time: 1535
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	20.0	20.4	19.9	19.9	20.8	8.3	8.2	7.9	8.1	8.2	8.9	6.9	6.7	7.0	6.5	28.8	28.8	28.2	29.3	29.6
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
~~X~~ Site Water	A	10	1				20.6	20.8	-	-	-	8.2	8.2	-	-	-	8.9	7.2	-	-	-	28.4	-	-	-	-
AT5-093	B	10	1																							
	C	10	1																							
	D	10	1																							
	E	10	1																							

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-102

Date/Time/Initials	Comments/Activity
5/13/15 1123 MJ	* Concentration lost due to tech error

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-103

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS-193

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 22.4-3 Age: 11 days

Culture Water (T/S): 22.0 °C 23.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/12/15	10:21	KM	Dilutions Made
	10:21	KM	Test Vessels Filled
	1450	[illegible]	Organisms Transferred
	1520	[illegible]	Head Counts

TEST SET-UP

Sample Number: AT5-078

Dilution Number: LD5-229 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	
Site Water (AT5-093)	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-103
Test Material: ELUTRIATE
Accession Number: AT5-078
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 729

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

Beginning Date: 5/12/15 Time: 1450
Ending Date: 5/16/15 Time: 1550

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	21.0	20.4	19.9	19.9	20.8	8.3	8.1	7.9	8.1	8.2	8.9	7.0	7.4	7.0	6.8	30.2	29.6	29.0	30.0	30.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	9	9	9	9																				
	E	10	10	10	10	10																				
1%	A	10	10	10	10	10	21.0	20.4	19.9	19.9	20.8	8.3	8.2	7.9	8.1	8.2	8.9	6.9	7.1	7.0	6.6	30.1	29.5	28.9	30.1	30.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							678	677	677	677	677	678	677	677	677	677	678	677	677	677	677	678	677	677	677	677
Time		1520	1401	1440	1440	1550	1050	1127	0908	0927	1112	1050	1127	0908	0927	1112	1050	1127	0908	0927	1112	1050	1127	0908	0927	1112
Initials		MM	MJ	VK	MM	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-103
Test Material: ELUTRIATE
Accession Number: AT5-078
Dilution Water: 30 PPT C.S.
Accession Number: LD5-129

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

Beginning Date: 5/12/15 Time: 1450
Ending Date: 5/16/15 Time: 1550
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	20.3	20.0	19.9	20.8	8.3	8.2	7.9	8.1	8.2	8.9	6.9	7.0	7.0	6.5	30.2	29.5	28.9	30.1	30.4
	B	10	10	9	9	9																				
	C	10	10	10	10	10																				
	D	10	9	9	9	9																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	9	21.0	20.3	20.0	19.9	20.8	8.3	8.2	8.0	8.1	8.2	8.8	6.9	7.0	7.0	6.5	29.9	29.5	28.9	30.1	30.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-103
Test Material: ELUTRIATE
Accession Number: AT5-078
Dilution Water: 30 PPT C.S.
Accession Number: LD5-129

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

Beginning Date: 5/12/15 Time: 1450
Ending Date: 5/16/15 Time: 1550

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	20.3	20.3	20.0	19.9	20.8	8.3	8.2	8.0	8.1	8.2	9.1	6.9	7.0	6.9	6.6	29.7	29.2	28.5	29.7	30.1
	B	10	10	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Site Water	A	10	10	10	10	10	20.6	20.9	20.3	20.0	21.0	8.2	8.2	8.0	8.1	8.2	8.9	6.5	6.6	6.7	6.7	28.4	27.1	27.0	27.3	27.9
AT5-093	B	10	10	10	10	10																				
	C	10	10	10	9	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-103

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-104

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS-193

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 22hrs Age: 11days

Culture Water (T/S): 22.3 °C 32.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/12/15 ↓	10:11	KM	Dilutions Made
	10:11	KM	Test Vessels Filled
	1410	WM	Organisms Transferred
	1515	MM	Head Counts

TEST SET-UP

Sample Number: AT5-079

Dilution Number: LD5-229 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml ↓
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	
Site Water (AT5-093)	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-104
Test Material: ELUTRIATE
Accession Number: AT5-079
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

Beginning Date: 5/12/15 Time: 1410
Ending Date: 5/16/15 Time: 1455

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	20.9	20.3	19.9	19.9	21.2	8.3	8.2	7.9	8.0	8.1	9.0	7.2	7.7	7.5	6.7	30.3	29.9	29.1	30.3	30.6
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	9	9	9	9																				
1%	A	10	10	10	10	10	21.0	20.4	20.0	19.9	21.2	8.3	8.3	8.0	8.1	8.2	8.9	6.8	7.2	7.3	6.4	30.1	29.7	29.0	30.3	30.5
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	9	9	9																				
Meter Number							678	678	677	677	677	678	678	677	677	677	678	678	677	677	677	678	678	677	677	677
Time		1515	1317	1446	1315	1455	1102	1101	0911	0930	1102	1102	1101	0911	0930	1102	1102	1101	0911	0930	1102	1102	1101	0911	0930	1102
Initials		MJ	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-104
Test Material: ELUTRIATE
Accession Number: AT5-079
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 128

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1410
Ending Date: 5/16/15 Time: 1455
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	20.9	20.2	20.1	21.2	8.3	8.3	8.0	8.1	8.2	8.9	6.8	7.1	7.1	6.6	30.2	29.8	29.0	30.3	30.6
	B	10	10	10	10	10																				
	C	10	9	9	9	9																				
	D	10	9	9	9	9																				
	E	10	10	9	9	9																				
50%	A	10	10	10	10	10	21.0	20.9	20.2	20.1	21.2	8.3	8.2	8.0	8.1	8.2	8.9	6.9	7.0	7.1	6.6	29.9	30.0	29.1	30.4	30.7
	B	10	10	10	10	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	9																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-104
Test Material: ELUTRIATE
Accession Number: AT5-079
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1410
Ending Date: 5/16/15 Time: 1455
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	20.7	20.7	20.3	20.2	21.2	8.3	~~6.9~~	8.0	8.1	8.2	9.0	6.9	6.9	7.0	~~8.5~~	29.9	30.1	29.3	30.7	31.1
	B	10	10	10	10	10							8.2													
	C	10	10	9	9	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Site Water	A	10	10	10	10	10	20.3	20.5	20.3	20.3	21.3	8.1	8.2	8.0	8.1	8.1	8.5	6.9	6.5	6.6	6.7	~~25.7~~	27.9	27.0	28.2	28.4
AT5-093	B	10	10	10	10	10																28.4				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

5/13 VV

5/12 KM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 104

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-105

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS- 193

Source: ABS

Adults Isolated (Time, Date): —

Neonates Pulled & Fed (Time, Date): —

Acclimation: <24 hrs Age: 11 days

Culture Water (T/S): 22 °C 32 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/12/15 ↓	10:00	KM	Dilutions Made
	10:00	KM	Test Vessels Filled
	1325	[illegible]	Organisms Transferred
	1532	MM	Head Counts

TEST SET-UP

Sample Number: AT5-080

Dilution Number: LD5-229 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml ↓
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-105
Test Material: ELUTRIATE
Accession Number: AT5-080
Dilution Water: 30 PPT C.S.
Accession Number: LD5-929

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1325
Ending Date: 5/16/15 Time: 1359
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	21.0	20.5	20.0	20.3	21.2	8.2	8.1	8.0	8.1	8.1	8.9	6.7	7.2	6.8	6.7	30.3	29.9	29.1	30.1	30.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	9	9	9	9	21.0	20.5	20.1	20.3	21.2	8.2	8.2	8.0	8.1	8.1	8.9	6.7	7.1	6.8	6.7	30.2	30.1	29.3	30.6	31.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							678	678	677	677	677	678	678	677	677	677	678	678	677	677	677	678	678	677	677	677
Time		1532	1349	1412	1300	1359	1103	1055	0913	0932	1104	1103	1055	0913	0932	1104	1103	1055	0913	0932	1104	1103	1055	0913	0932	1104
Initials		MW	MJ	MJ	[illegible]	IM	KM	[illegible]	MJ	MJ	IM	KM	[illegible]	MJ	MJ	IM	KM	[illegible]	MJ	MJ	IM	KM	[illegible]	MJ	MJ	IM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Mαgna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-105
Test Material: ELUTRIATE
Accession Number: AT5-080
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 289

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1325
Ending Date: 5/16/15 Time: 1359
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	9	9	9	21.0	20.5	20.2	20.3	21.2	8.3	8.2	8.0	8.1	8.2	8.9	6.9	7.0	7.0	6.6	30.1	29.9	29.0	30.3	30.6
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	20.6	20.2	20.3	21.2	8.3	8.2	8.1	8.1	8.2	8.8	6.9	7.0	7.0	6.5	29.5	29.7	28.7	29.9	30.3
	B	10	10	10	10	10																				
	C	10	10	10	10	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-105
Test Material: ELUTRIATE
Accession Number: AT5-080
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C
pH: 6.0 - 9.0
Photoperiod: 16 ℓ, 8 d

Beginning Date: 5/12/15 Time: 1325
Ending Date: 5/16/15 Time: 1359

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

DO: ≥4.0 mg/L
Salinity: 30±3 ppt
Light Intensity: 50 - 100 fc

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	9	9	9	20.8	20.9	20.3	20.4	21.2	8.3	8.2	8.1	8.1	8.2	9.0	6.9	6.9	6.9	6.6	29.0	29.0	28.1	29.3	29.7
	B	10	10	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____ Americamysis: 2007._____ Menidia:2006.0 X
Magna/pulex: 2021.0_____ Trout: 2019.0_____ Cyprinodon: 2004.0_____ OTHER: _____

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-105

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-106

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS- 193

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: ~24hrs Age: 11 days

Culture Water (T/S): 22.0 °C 23 ~~23~~ 32.0 ppt 5/12 MJ

TEST INITIATION

Date	Time	Initials	Activity
5/12/15	1006	[illegible]	Dilutions Made
↓	1006	[illegible]	Test Vessels Filled
	1413	MJ	Organisms Transferred
	1460	[illegible]	Head Counts

TEST SET-UP

Sample Number: AT5-081

Dilution Number: LD5-239 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	↓
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-106
Test Material: ELUTRIATE
Accession Number: AT5-081
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 279

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

Beginning Date: 5/12/15 Time: 1413
Ending Date: 5/16/15 Time: 1455
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	20.9	20.5	20.7	20.3	21.3	8.2	8.2	8.1	8.1	7.4	8.9	7.0	6.7	7.4	6.3	30.4	30.5	30.8	30.7	31.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	9	9																				
1%	A	10	9	9	9	9	21.0	20.5	20.7	20.3	21.3	8.3	8.2	8.2	8.1	7.6	8.9	6.9	6.6	7.1	6.7	30.2	30.0	30.4	30.4	30.8
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							678	678	678	677	677	678	678	678	677	677	678	678	678	677	677	678	678	678	679	677
Time		1450	1351	1450	1335	1455	11:08	1105	0855	0934	1052	11:08	1105	0855	0934	1052	11:28	1105	0855	0934	1052	11:28	1105	0855	0934	1052
Initials		MM	VR	VR	M	JM	KM	VR	VR	MJ	JM	KM	VR	VR	MJ	JM	KM	VR	VR	MJ	JM	KM	VR	VR	MJ	JM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-100
Test Material: ELUTRIATE
Accession Number: AT5-081
Dilution Water: 30 PPT C.S.
Accession Number: LD5-129

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1413
Ending Date: 5/16/15 Time: 1455

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	20.4	20.6	20.4	21.2	8.3	8.2	8.2	8.2	7.7	8.8	7.0	6.7	7.0	6.6	30.1	30.2	30.7	30.6	31.2
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	20.3	20.5	20.4	21.2	8.3	8.2	8.2	8.2	7.8	8.9	7.0	6.8	7.0	6.6	29.4	29.6	29.7	29.7	30.3
	B	10	9	9	9	9																				
	C	10	9	9	9	9																				
	D	10	10	10	10	10																				
	E	10	10	9	9	9																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-100
Test Material: ELUTRIATE
Accession Number: AT5-081
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1413
Ending Date: 5/16/15 Time: 1455

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	6	6	6	6	20.4	20.8	20.5	20.3	21.1	8.3	8.2	8.2	8.2	7.8	8.3	6.8	6.9	7.0	6.8	28.5	28.3	28.6	28.8	29.5
	B	10	10	10	10	10																				
	C	10	8	8	8	8																				
	D	10	9	9	9	9																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 100

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-107

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS-193

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 11days

Culture Water (T/S): 22.0 °C 32.0 ppt 5/12 MJ

TEST INITIATION

Date	Time	Initials	Activity
5/12/15	0958	MM	Dilutions Made
	0958	MM	Test Vessels Filled
	1435	MJ	Organisms Transferred
	1500	MM	Head Counts

TEST SET-UP

Sample Number: AT5-082

Dilution Number: LD5-229 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-107
Test Material: ELUTRIATE
Accession Number: AT5-082
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1435
Ending Date: 5/16/15 Time: 1525
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	21.0	20.2	20.4	20.2	21.4	8.3	8.2	8.2	8.1	7.9	8.8	7.3	7.0	7.3	6.4	30.3	30.2	30.5	30.5	30.8
	B	10	10	9	9	9																				
	C	10	10	10	10	10																				
	D	10	8	8	8	8																				
	E	10	10	10	10	10																				
1%	A	10	10	10	10	10	21.0	20.3	20.4	20.2	21.2	8.3	8.3	8.3	8.2	8.0	8.8	7.1	6.8	7.3	6.5	30.2	29.8	30.3	30.4	30.6
	B	10	10	10	10	9																				
	C	10	10	10	10	10																				
	D	10	9	9	9	8																				
	E	10	10	10	10	10																				
Meter Number							678	678	678	677	677	678	678	678	677	677	678	678	678	677	677	678	678	678	677	677
Time		1500	1403	1455	1310	1525	11:09	1107	0856	0936	1054	11:09	1107	0856	0936	1054	11:09	1107	0856	0936	1054	1109	1107	0856	0936	1054
Initials		MW	VR	VR	M	JM	KM	VR	VR	MJ	JM	KM	VR	VR	MJ	JM	KM	VR	VR	MJ	JM	KM	VR	VR	MJ	JM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-107
Test Material: ELUTRIATE
Accession Number: AT5-082
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1435
Ending Date: 5/16/15 Time: 1525
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	20.3	20.4	20.3	21.2	8.3	8.3	8.3	8.2	8.0	8.8	6.9	6.8	7.0	6.5	30.2	29.7	30.1	30.1	30.5
	B	10	9	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	20.5	20.5	20.3	21.2	8.3	8.2	8.3	8.2	8.0	9.1	6.6	6.7	7.0	6.5	29.9	29.8	30.0	30.0	30.3
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	9	9	9	9																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-107
Test Material: ELUTRIATE
Accession Number: AT5-082
Dilution Water: 30 PPT C.S.
Accession Number: LD5-729

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1435
Ending Date: 5/16/15 Time: 1525

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	9	9	9	20.7	20.4	20.5	20.3	21.2	8.3	8.2	8.1	8.2	8.0	9.3	6.7	6.6	6.9	6.5	29.6	29.6	29.9	29.9	30.3
	B	10	10	10	10	10																				
	C	10	10	9	9	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 107

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-108

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS- 193

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 11days

Culture Water (T/S): 22.0 °C 32.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/12/15 ↓	0951	MM	Dilutions Made
	0951	MM	Test Vessels Filled
	15:12	KM	Organisms Transferred
	1520	MM	Head Counts

TEST SET-UP

Sample Number: AT5-083

Dilution Number: LD5-339 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml ↓
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-108
Test Material: ELUTRIATE
Accession Number: AT5-083
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

Beginning Date: 5/12/15 Time: 1512
Ending Date: 5/16/15 Time: 1605

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	21.0	20.3	20.1	20.3	21.2	8.3	8.2	8.2	8.2	8.0	8.9	7.3	7.3	7.2	6.6	30.3	29.8	30.1	30.1	30.3
	B	10	10	10	10	10																				
	C	10	9	9	9	9																				
	D	10	9	9	9	9																				
	E	10	10	10	10	10																				
1%	A	10	9	9	9	9	21.0	20.4	20.3	20.3	21.2	8.3	8.2	8.3	8.2	8.0	8.9	7.0	7.0	7.1	6.6	30.3	29.9	30.3	30.4	30.9
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							678	678	678	677	677	678	678	678	677	677	678	678	678	677	677	678	678	678	677	677
Time		1520	1425	1459	1430	1605	1124	1110	0858	0938	1056	1114	1110	0858	0938	1056	1114	1110	0858	0938	1056	1114	1110	0858	0938	1056
Initials		AMJ	MT	MT	MT	JM	KM	MT	MT	MJ	JM	KM	MT	MT	MJ	JM	KM	MT	MT	MJ	JM	KM	MT	MT	MJ	JM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15- 108
Test Material: ELUTRIATE
Accession Number: AT5- 083
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1512
Ending Date: 5/16/05 Time: 1605
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	8	8	8	20.9	20.3	20.3	20.2	21.9	8.3	8.2	8.3	8.2	8.1	8.9	7.0	6.9	7.0	6.5	30.5	30.1	30.6	30.6	31.1
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	20.6	20.3	20.3	20.2	21.1	8.3	8.2	8.3	8.2	8.1	9.1	6.9	6.8	6.9	6.7	30.7	30.2	30.6	30.9	31.4
	B	10	10	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____ Americamysis: 2007._____ Menidia:2006.0 X
Magna/pulex: 2021.0_____ Trout: 2019.0_____ Cyprinodon: 2004.0_____ OTHER: _____

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-108
Test Material: ELUTRIATE
Accession Number: AT5-083
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 729

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C
pH: 6.0 - 9.0
Photoperiod: 16 ℓ, 8 d

Beginning Date: 5/12/15 Time: 1512
Ending Date: 5/16/15 Time: 1605
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
DO: ≥4.0 mg/L
Salinity: 30±3 ppt
Light Intensity: 50 - 100 fc
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	20.4	20.3	20.2	20.2	21.1	8.3	8.2	8.2	8.2	8.1	8.7	7.0	7.0	7.0	6.6	30.9	30.6	31.0	31.0	31.4
	B	10	9	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	9	9	9																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-108

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-109

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS- 193

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: <24hrs Age: 11 days

Culture Water (T/S): 22 °C 32 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/12/15	0946	MD	Dilutions Made
↓	0946	MD	Test Vessels Filled
	~~12~~ 14:50	KM	Organisms Transferred
	1515	MD	Head Counts

TEST SET-UP

Sample Number: AT5-084

Dilution Number: LD5-~~JJ~~ 1 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	↓
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-109
Test Material: ELUTRIATE
Accession Number: AT5-084
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 14:50
Ending Date: 5/16/15 Time: 1550
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	9	9	9	9	20.7	20.3	20.3	20.3	21.2	8.3	8.2	8.3	8.2	8.1	9.1	7.0	6.8	7.3	6.5	30.4	29.8	30.0	30.1	30.2
	B	10	10	10	10	10																				
	C	10	10	9	9	9																				
	D	10	10	10	9	9																				
	E	10	9	9	9	9																				
1%	A	10	10	10	10	10	21.0	20.3	20.3	20.2	21.1	8.3	8.3	8.3	8.2	8.1	9.0	6.8	6.7	7.1	6.6	30.2	29.9	30.1	30.2	30.6
	B	10	9	8	8	8																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	9	9	9	9																				
Meter Number							678	678	678	677	677	678	678	678	677	677	678	678	678	677	677	678	678	678	677	677
Time		1615	1910	1502	1705	1554	1116	1116	0902	0940	1058	1116	1116	0902	0940	1058	1116	1116	0902	0940	1058	1116	1116	0902	0940	1058
Initials		MMM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-109
Test Material: ELUTRIATE
Accession Number: AT5-084
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

Beginning Date: 5/12/15 Time: 1450
Ending Date: 5/16/15 Time: 1550

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	20.2	20.3	20.2	21.0	8.3	8.3	8.3	8.2	8.1	8.9	6.8	6.7	7.0	6.5	30.2	30.1	30.3	30.4	30.8
	B	10	9	9	9	8																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	20.2	20.2	20.2	21.0	8.3	8.2	8.3	8.2	8.1	8.9	6.7	6.8	7.0	6.5	30.4	30.2	30.5	30.4	30.7
	B	10	8	7	7	7																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

1450 VR 5/13

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-109
Test Material: ELUTRIATE
Accession Number: AT5-084
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: ~~5:40~~
Ending Date: 5/16/15 Time: 1550

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	20.1	20.3	20.2	20.2	21.0	8.3	8.1	8.2	8.2	8.1	9.1	6.6	6.7	6.9	6.6	30.6	30.4	30.6	30.7	31.0
	B	10	9	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	~~10~~ 8	8	8	8																				

VR 5/13

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 109

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-110

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS-173

Source: ABS

Adults Isolated (Time, Date):

Neonates Pulled & Fed (Time, Date):

Acclimation: <24hrs Age: 11 days

Culture Water (T/S): 22.0 °C 32.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/12/15	1020	MD	Dilutions Made
↓	1020	MD	Test Vessels Filled
	1330	KM	Organisms Transferred
	1436	MD	Head Counts

TEST SET-UP

Sample Number: AT5-085

Dilution Number: LD5-229 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml
1%	10 ml	↓
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-110
Test Material: ELUTRIATE
Accession Number: AT5-085
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C
pH: 6.0 - 9.0
Photoperiod: 16 ℓ, 8 d

Beginning Date: 5/12/15 Time: 1330
Ending Date: 5/16/15 Time: 1430
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
DO: ≥4.0 mg/L
Salinity: 30±3 ppt
Light Intensity: 50 - 100 fc
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	7	7	7	7	20.8	20.9	20.2	19.8	20.9	8.3	8.0	8.4	8.2	8.2	8.9	7.0	7.2	7.4	7.0	30.4	29.4	30.3	30.3	30.7
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	9	9	9																				
	E	10	10	10	10	10																				
1%	A	10	10	10	10	10	~~21.0~~ 21.0	20.7	20.2	19.8	20.9	8.3	8.0	8.3	8.2	8.3	8.8	6.9	7.2	7.1	6.7	30.1	29.5	30.3	30.5	30.8
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							678	677	678	677	677	678	677	678	677	677	678	677	678	677	677	678	677	678	677	677
Time		1436	1400	1400	1350	1429	11:20	1103	0915	0955	1118	11:20	1103	0915	0955	1118	11:20	1103	0915	0955	1118	11:20	1103	0915	0955	1118
Initials		MM	MJ	MJ	MM	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM	KM	MJ	MJ	MJ	JM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-110
Test Material: ELUTRIATE
Accession Number: AT5-085
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1330
Ending Date: 5/16/15 Time: 1430
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	8	7	7	7	21.0	20.5	20.1	19.9	20.9	8.3	8.1	8.3	8.2	8.3	8.8	6.9	6.9	7.0	6.6	30.2	29.5	30.3	30.4	30.7
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	9	9	9																				
	E	10	10	10	10	10																				
50%	A	10	10	8	8	8	21.0	20.5	20.1	19.9	20.8	8.3	8.1	8.3	8.2	8.3	8.9	7.0	6.9	7.0	6.6	30.5	29.5	30.3	30.4	30.8
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15- 110
Test Material: ELUTRIATE
Accession Number: AT5- 085
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C
pH: 6.0 - 9.0
Photoperiod: 16 ℓ, 8 d

Beginning Date: 5/12/15 Time: 1330
Ending Date: 5/16/15 Time: 1430
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
DO: ≥4.0 mg/L
Salinity: 30±3 ppt
Light Intensity: 50 - 100 fc
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	20.4	20.5	20.1	19.9	20.9	8.3	8.1	8.3	8.2	8.3	9.1	7.0	6.9	7.0	6.6	30.1	29.4	30.0	30.1	30.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____ Americamysis: 2007._____ Menidia:2006.0 X
Magna/pulex: 2021.0_____ Trout: 2019.0_____ Cyprinodon: 2004.0_____ OTHER: _____

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 110

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-111

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS- 193

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 11days

Culture Water (T/S): 22.0 °C 32.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/12/15 ↓	1027	MM	Dilutions Made
	1027	dM	Test Vessels Filled
	1420	KM	Organisms Transferred
	1440	MM	Head Counts

TEST SET-UP

Sample Number: AT5-086

Dilution Number: LD5-220 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml ↓
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-111
Test Material: ELUTRIATE
Accession Number: AT5-086
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1420
Ending Date: 5/16/15 Time: 1515
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	20.8	20.6	20.0	19.9	21.0	8.3	7.9	8.3	8.2	8.1	8.9	7.2	7.2	7.3	6.3	30.4	29.2	30.1	30.0	30.2
	B	10	10	10	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	10	9	9	9	21.0	20.5	20.1	19.9	20.9	8.3	8.0	8.3	8.2	8.2	8.8	7.1	6.9	7.2	6.4	30.2	29.4	30.2	30.3	30.6
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	9	9	9																				
	E	10	10	10	10	10																				
Meter Number							678	677	678	677	677	678	677	678	677	677	678	677	678	677	677	678	677	678	677	677
Time		1460	1407	1400	1400	1515	11:22	1101	0917	0956	1120	11:22	1101	0917	0956	1120	11:22	1101	0917	0956	1120	11:22	1101	0917	0956	1120
Initials		MM	MJ	VR	MM	JM	KM	MJ	VR	MJ	JM	KM	MJ	VR	MJ	JM	KM	MJ	VR	MJ	JM	KM	MJ	VR	MJ	JM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15- 111
Test Material: ELUTRIATE
Accession Number: AT5- 086
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1420
Ending Date: 5/16/15 Time: 1515
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	20.5	20.0	19.4	20.9	8.3	8.0	8.3	8.3	8.2	8.8	7.0	6.9	7.5	6.8	30.3	29.4	30.4	30.7	30.7
	B	10	10	10	10	10																				
	C	10	10	10	10	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	20.4	20.0	19.5	20.8	8.3	8.0	8.3	8.3	8.2	8.9	6.9	6.7	7.3	6.7	30.7	30.0	30.8	30.9	31.1
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	9	9	9	9																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15- 111
Test Material: ELUTRIATE
Accession Number: AT5- 086
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C
pH: 6.0 - 9.0
Photoperiod: 16 ℓ, 8 d

DO: ≥4.0 mg/L
Salinity: 30±3 ppt
Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1720
Ending Date: 5/16/15 Time: 1515
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	20.7	20.4	20.0	19.8	20.8	8.3	8.0	8.2	8.3	8.2	9.1	6.9	6.8	7.1	6.6	31.2	30.6	31.3	31.4	31.7
	B	10	10	10	10	10																				
	C	10	10	9	9	9																				
	D	10	10	10	10	10																				
	E	10	9	9	9	9																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____ Americamysis: 2007._____ Menidia:2006.0 X
Magna/pulex: 2021.0_____ Trout: 2019.0_____ Cyprinodon: 2004.0_____ OTHER: _____

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-111

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-112

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS-193

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: <24hrs Age: 11 days

Culture Water (T/S): 22.0 °C 30.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/12/15 ↓	1014	MM	Dilutions Made
	1014	MM	Test Vessels Filled
	1337	MS	Organisms Transferred
	1445	MK	Head Counts

TEST SET-UP

Sample Number: AT5-087

Dilution Number: LD5-229 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml ↓
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-112
Test Material: ELUTRIATE
Accession Number: AT5-087
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1337
Ending Date: 5/16/15 Time: 1424
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	20.1	20.2	20.2	20.0	21.0	8.3	8.2	8.3	8.1	8.0	8.9	7.0	6.8	7.5	6.9	30.3	30.1	30.3	30.3	30.5
	B	10	10	9	9	9																				
	C	10	10	9	9	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	9	9	9	9	21.0	20.2	20.2	20.1	21.0	8.3	8.2	8.3	8.1	8.1	8.9	6.9	6.9	7.5	6.5	30.2	29.9	30.3	30.2	30.6
	B	10	10	10	10	10																				
	C	10	9	9	9	9																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							678	678	678	677	677	678	678	678	677	677	678	678	678	677	677	678	678	678	677	677
Time		1445	1346	1417	1255	1424	11:07	1121	0905	0948	1100	11:07	1121	0905	0948	1100	11:07	1121	0905	0948	1100	11:07	1121	0905	0948	1102
Initials		MW	MJ	VR	~	IM	KM	VR	VR	MT	IM	KM	VR	VR	MT	IM	KM	VR	VR	MT	IM	KM	VR	VR	MT	IM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-112
Test Material: ELUTRIATE
Accession Number: AT5-087
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C
pH: 6.0 - 9.0
Photoperiod: 16 l, 8 d

Beginning Date: 5/12/15 Time: 1337
Ending Date: 5/16/15 Time: 1424
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
DO: ≥4.0 mg/L
Salinity: 30±3 ppt
Light Intensity: 50 - 100 fc
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	9	9	9	21.0	20.4	20.3	20.2	21.1	8.3	8.3	8.3	8.2	8.1	8.8	6.7	6.9	7.1	6.5	30.1	30.0	30.2	30.2	30.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	8	8	8																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	20.8	20.4	20.3	20.2	21.1	8.3	8.3	8.3	8.2	8.1	8.9	6.9	6.8	7.0	6.7	30.1	29.7	30.3	30.4	30.7
	B	10	9	9	9	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____ Americamysis: 2007._____ Menidia:2006.0 X
Magna/pulex: 2021.0_____ Trout: 2019.0_____ Cyprinodon: 2004.0_____ OTHER: _____

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-112
Test Material: ELUTRIATE
Accession Number: AT5-087
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1331
Ending Date: 5/16/15 Time: 1424
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	9	9	9	9	20.5	20.4	20.4	20.3	21.0	8.3	8.2	8.2	8.2	8.1	9.1	7.0	6.9	7.0	6.7	30.0	30.2	30.5	30.6	31.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 112

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 113

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS- 193

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: 24hrs Age: 11 days

Culture Water (T/S): 22.0 °C 32.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/12/15 ↓	09:52	KM	Dilutions Made
	09:52	KM	Test Vessels Filled
	12:37	KM	Organisms Transferred
	1355	VR	Head Counts

TEST SET-UP

Sample Number: AT5- 088

Dilution Number: LD5- 229 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml ↓
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-113
Test Material: ELUTRIATE
Accession Number: AT5-088
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

Beginning Date: 5/12/15 Time: 1237
Ending Date: 5/16/15 Time: 1337

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L Test Container: 1-L BEAKER
pH: 6.0 - 9.0 Salinity: 30±3 ppt Test Volume: 200 ml
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	21.0	20.3	20.2	20.0	21.0	8.3	8.2	8.3	8.2	8.3	8.8	7.2	7.2	7.4	6.5	30.3	29.9	30.1	30.2	30.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	9	8	8	8																				
	E	10	9	9	9	9																				
1%	A	10	10	10	10	10	21.0	20.3	20.3	19.9	21.1	8.3	8.2	8.3	8.2	8.3	8.9	6.9	7.1	7.3	6.4	30.1	29.9	30.1	30.4	30.6
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							678	678	678	677	677	678	678	678	677	677	678	678	678	677	677	678	678	678	677	677
Time		1355	1335	1330	1245	1339	11:18	1126	0909	0950	1116	11:18	1126	0909	0950	1116	11:18	1126	0909	0950	1116	11:15	1126	0909	0950	1116
Initials		VR	MJ	MJ	—	JM	KM	VR	VR	MJ	JM	KM	VR	VR	MJ	JM	KM	VR	VR	MJ	JM	KM	VR	VR	MJ	JM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-113
Test Material: ELUTRIATE
Accession Number: AT5-088
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 l, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1237
Ending Date: 5/16/15 Time: 1337

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	21.0	20.5	20.4	20.2	21.0	8.3	8.2	8.3	8.2	8.3	8.8	6.7	6.9	7.1	6.5	30.1	29.9	30.2	30.2	30.5
	B	10	10	10	10	10																				
	C	10	9/10	10	10	10																				
	D	10	9	9	9	9																				
	E	10	9	9	9	9																				
50%	A	10	10	10	10	10	21.0	20.5	20.4	20.2	21.1	8.3	8.2	8.3	8.2	8.3	8.9	6.8	6.9	7.1	6.4	30.0	29.6	30.0	30.1	30.5
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	9	9	9	9																				

5/13 MB

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-113
Test Material: ELUTRIATE
Accession Number: AT5-088
Dilution Water: 30 PPT C.S.
Accession Number: LD5-229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16ℓ, 8d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1237
Ending Date: 5/16/15 Time: 1337

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	20.9	20.5	20.3	20.2	21.0	8.3	8.2	8.3	8.2	8.3	9.2	6.9	7.1	7.2	6.6	29.8	29.5	29.8	30.0	30.4
	B	10	10	10	10	9																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	9	9	9																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-113

Date/Time/Initials	Comments/Activity

TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-114

TEST ORGANISM INFORMATION

Common Name: INLAND SILVERSIDE

Scientific Name: *Menidia beryllina*

Lot Number: MS-193

Source: ABS

Adults Isolated (Time, Date): _____

Neonates Pulled & Fed (Time, Date): _____

Acclimation: ~24 hrs Age: 11 days

Culture Water (T/S): 22.0 °C 32.0 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/12/15 ↓	09:42	KM	Dilutions Made
	09:42	KM	Test Vessels Filled
	13:04	KM	Organisms Transferred
	1346	MB	Head Counts

TEST SET-UP

Sample Number: AT5-089

Dilution Number: LD5-229 (30 ppt C.S.)

Test Concentration	Volume Test Material	Final Volume
Control	0 ml	1,000 ml ↓
1%	10 ml	
10%	100 ml	
50%	500 ml	
100%	1,000 ml	

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-114
Test Material: ELUTRIATE
Accession Number: AT5- 089
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1304
Ending Date: 5/16/15 Time: 1327

TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**

Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
CONTROL	A	10	10	10	10	10	21.0	20.7	20.1	19.9	20.9	8.2	8.1	8.3	8.2	8.2	8.9	7.1	7.0	7.5	6.6	30.1	29.2	30.0	29.9	30.1
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
1%	A	10	10	10	10	10	21.0	20.6	20.2	19.8	21.0	8.2	8.1	8.3	8.2	8.2	8.9	6.9	7.0	7.4	6.5	30.1	29.3	29.9	29.8	30.2
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
Meter Number							678	677	678	677	677	678	677	678	677	677	678	677	678	677	677	678	677	678	677	677
Time		1346	1402	1354	1350	1327	1058	1106	0911	0952	1114	1058	1106	0911	0952	1114	1058	1106	0911	0952	1114	1058	1106	0911	0952	1114
Initials		VR	MJ	VR	VR	JM	KM	MJ	VR	MJ	JM	KM	MJ	VR	MJ	JM	KM	MJ	VR	MJ	JM	KM	MJ	VR	MJ	JM

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0 Fathead:2000.0 Americamysis: 2007. Menidia:2006.0 X
Magna/pulex: 2021.0 Trout: 2019.0 Cyprinodon: 2004.0 OTHER:

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15 | TEST ORGANISM | Beginning Date: 5/12/15 Time: 1304

Client: Thimble Shoals | Common Name: INLAND SILVERSIDE | Ending Date: 5/16/15 Time: 1327

QC Test Number: TN-15- 114 | Scientific Name: *Menidia beryllina* | TEST TYPE: **Static** / Flowthrough

Test Material: ELUTRIATE | TARGET VALUES | Renewal / **Non-renewal**

Accession Number: AT5- 089 | Temp: 20±2 °C | DO: ≥4.0 mg/L | Test Container: 1-L BEAKER

Dilution Water: 30 PPT C.S. | pH: 6.0 - 9.0 | Salinity: 30±3 ppt | Test Volume: 200 ml

Accession Number: LD5- 229 | Photoperiod: 16 ℓ, 8 d | Light Intensity: 50 - 100 fc | Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
10%	A	10	10	10	10	10	20.0	20.6	20.2	20.0	21.0	8.3	8.1	8.3	8.2	8.3	8.9	6.7	6.9	7.2	6.6	30.1	29.5	30.0	30.2	30.4
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				
50%	A	10	10	10	10	10	21.0	20.6	20.1	20.0	21.0	8.3	8.1	8.3	8.2	8.3	8.9	6.8	6.9	7.1	6.5	30.4	29.6	30.2	30.3	30.5
	B	10	10	8	8	8																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	10																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____ Americamysis: 2007._____ Menidia:2006.0 X

Magna/pulex: 2021.0_____ Trout: 2019.0_____ Cyprinodon: 2004.0_____ OTHER: _____

ACUTE TOXICITY TEST DATA SHEET

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15- 114
Test Material: ELUTRIATE
Accession Number: AT5- 089
Dilution Water: 30 PPT C.S.
Accession Number: LD5- 229

TEST ORGANISM
Common Name: INLAND SILVERSIDE
Scientific Name: *Menidia beryllina*

TARGET VALUES
Temp: 20±2 °C DO: ≥4.0 mg/L
pH: 6.0 - 9.0 Salinity: 30±3 ppt
Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Beginning Date: 5/12/15 Time: 1304
Ending Date: 5/16/15 Time: 0827
TEST TYPE: **Static** / Flowthrough
Renewal / **Non-renewal**
Test Container: 1-L BEAKER
Test Volume: 200 ml
Test Duration: 96 hours

Concentration	Rep	Number of Live Organisms					Temperature (°C)					pH					Dissolved Oxygen (mg/L)					Salinity (ppt)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
100%	A	10	10	10	10	10	20.4	20.6	20.1	20.1	21.0	8.3	8.1	8.2	8.2	8.2	9.0	6.9	7.0	7.1	6.6	30.6	29.8	30.4	30.6	31.0
	B	10	10	10	10	10																				
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
	E	10	10	10	10	9																				

EPA Test Method: EPA 821-R-02-012 (CHECK ONE)

Ceriodaphnia: 2002.0_____ Fathead:2000.0_____ Americamysis: 2007._____ Menidia:2006.0 X
Magna/pulex: 2021.0_____ Trout: 2019.0_____ Cyprinodon: 2004.0_____ OTHER: _____

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15- 114

Date/Time/Initials	Comments/Activity

ATTACHMENT V

Report Quality Assurance Record
(2 pages)

REPORT QUALITY ASSURANCE RECORD

Client: Jacobs Engineering Group - Thimble Shoal Project Number: 1520401

Author: Michael Chanov EA Report Number: 7126

REPORT CHECKLIST

QA/QC ITEM	REVIEWER	DATE
1. Samples collected, transported, and received according to study plan requirements.	[signature]	6/19/15
2. Samples prepared and processed according to study plan requirements.	[signature]	6/19/15
3. Data collected using calibrated instruments and equipment.	[signature]	6/19/15
4. Calculations checked:		
- Hand calculations checked	[signature]	6/19/15
- Documented and verified statistical procedure used.	[signature]	6/19/15
5. Data input/statistical analyses complete and correct.	[signature]	7/8/15
6. Reported results and facts checked against original sources.	[signature]	7/8/15
7. Data presented in figures and tables correct and in agreement with text.	[signature]	7/8/15
8. Results reviewed for compliance with study plan requirements.	[signature]	6/19/15

	AUTHOR	DATE
9. Commentary reviewed and resolved.	[signature]	7/16/15

10. All study plan and quality assurance/control requirements have been met and the report is approved:

[signature]	7/16/15
PROJECT MANAGER	DATE
[signature]	7/8/15
QUALITY CONTROL OFFICER	DATE
[signature]	7/15/15
SENIOR TECHNICAL REVIEWER	DATE

WHOLE SEDIMENT BIOASSAYS

ECOTOXICOLOGICAL TESTING
WHOLE SEDIMENT BIOASSAYS
PARALLEL THIMBLE SHOAL TUNNEL PROJECT, VIRGINIA

Prepared for

Jacobs Engineering Group
4500 Main Street, Suite 310
Virginia Beach, Virginia 23462

On Behalf of

Chesapeake Bay Bridge and Tunnel District
32386 Lankford Highway
Cape Charles, Virginia 23310

Prepared by:

EA Engineering, Science, and Technology, Inc., PBC
231 Schilling Circle
Hunt Valley, Maryland 21031
For questions concerning this report, please contact Wayne McCulloch
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Results relate only to the items tested or to the samples as received by the laboratory.

This report shall not be reproduced, except in full, without written approval of EA Engineering, Science, and Technology, Inc., PBC

This report contains 14 pages plus 4 attachments.

6 July 2015

Wayne L. McCulloch
Laboratory Director

Date

EA Project Number 1520401

ACCREDITED IN ACCORDANCE WITH nelac ID# E87550

EA Report Number 7125

1. INTRODUCTION

At the request of the Jacobs Engineering Group, EA Engineering, Science, and Technology performed whole sediment toxicity testing on sediment samples collected from the Parallel Thimble Shoals Tunnel project footprint, which extends from Wise Point on the Eastern shore of Virginia to the Virginia Beach area. The purpose of this study was to evaluate the toxicity of the sediment samples.

The toxicity testing program consisted of 10-day whole sediment toxicity tests with *Ampelisca abdita* (marine amphipod) and *Leptocheirus plumulosus* (estuarine amphipod). The whole sediment toxicity tests evaluated the effects of exposure to the sediment samples on survival of the test organisms.

2. MATERIALS AND METHODS

2.1 SAMPLE RECEIPT AND PREPARATION

Fifteen sediment samples from the location of the Parallel Thimble Shoals Tunnel project were collected and composited by EA personnel. Three sediment samples were also collected as references for the Parallel Thimble Shoals Tunnel sediment samples, along with a Chesapeake Bay control sediment (CBCON-SED). The reference samples, CBCON sediment, and the composited Parallel Thimble Shoals Tunnel sediment samples were placed into 5-gallon pails. The samples were held at ≤4°C and were hand delivered to EA's Ecotoxicology Laboratory in Hunt Valley, Maryland. Upon receipt at EA, the sediment samples were logged in and assigned EA laboratory accession numbers, and were stored in the dark in a secured walk-in cooler at ≤4°C until used for testing. Table 1 summarizes the sample identification, accession numbers, and collection/receipt information for the sediment samples. Chain-of-custody records are included in Attachment I.

2.2 TOXICITY TEST METHODS

All toxicity testing was conducted following EA's standard operating procedures (EA 2013) which are in accordance with USEPA/USACE guidance (1991, 1998) and USEPA guidance (2000, 2002).

2.2.1 Whole Sediment Toxicity Testing

Whole sediment toxicity testing was conducted with two saltwater amphipods, *A. abdita* and *L. plumulosus. A. abdita* Lot AA-023 was acquired from Aquatic Research Organisms, (Hampton, New Hampshire) on 1 May 2015. The amphipods were 3-5 mm when used for testing on the same day. The *L. plumulosus* were acquired from Chesapeake Cultures, (Hayes, Virginia). The organisms in Lot LP-074 were received at EA on 18 May, and were 2-4 mm when used to initiate the toxicity test on the same day. During the holding period, the organisms were gradually acclimated to laboratory water at 20°C and to the appropriate test salinity.

For solid phase testing, U.S. EPA guidance (Davies, et. al. 1993) specifies the reduction of pore water ammonia concentrations to ≤20 mg/L NH_3-N prior to testing. Initial interstitial total ammonia concentrations in the fifteen samples could not be determined due to lack of adequate pore water in the samples, however purging activities were continued to ensure all samples were less than 20 mg/L NH_3-N (Table 2). The sediments were loaded into the test beakers and overlying sea water was added. The five replicate beakers per sediment were loaded, and additional beakers were set up for each sediment to monitor the progress of the ammonia reduction. The overlying water was replaced two times per day. Pore water for analysis was extracted from each of the purged sediment samples by centrifugation. The interstitial ammonia values for all of the ammonia purged Parallel Thimble Shoals Tunnel sediments are presented in Table 2.

The whole sediment toxicity tests were conducted as static, non-renewal tests with ten days of exposure to the sediments and overlying water. Artificial seawater (Crystal Sea artificial sea salts) at 20 ppt salinity (*L. plumulosus*) or 30 ppt salinity (*A. abdita*) was used as the overlying water.

The *A. abdita* and *L. plumulosus* tests utilized 1-L beakers as the exposure chambers, with each beaker containing 200 ml of sediment and 700 ml of overlying water. There were five replicate chambers for each sediment sample and control. Test organisms were randomly assigned to the test chambers, 20 per replicate, for a total of 100 organisms exposed per sample.

The tests were maintained at a target of 20±1°C, with a 24-hour light photoperiod. The test chambers were visually inspected daily for abnormal organism behavior or lack of burrowing. The test organisms were not fed during the 10-day exposure period.

The overlying water in each test chamber was gently aerated (100 bubbles per minute) for the duration of the tests. Water quality measurements of temperature, pH, dissolved oxygen, and salinity were recorded daily on one replicate of each sample and control. The water quality parameters measured during the *A. abdita* and *L. plumulosus* toxicity tests are summarized in Tables 3 and 4, respectively.

After ten days of exposure, the test organisms were retrieved from the samples and the number of live organisms per replicate was recorded. Copies of the original data sheets for the *A. abdita* and *L. plumulosus* toxicity testing are included as Attachments II and III, respectively.

2.2.2 Data Analysis

Statistical analyses were performed on the whole sediment test data according to USEPA/USACE (1998) guidance, using the ToxCalc statistical software package (Version 5.0, Tidepool Scientific Software). If survival in a Parallel Thimble Shoals Tunnel sediment was greater than the allowable percent difference (20 percent) from a reference, then a t-test or Wilcoxon's Two-Sample Test (depending on normal or non-normal data distribution) was performed on that sediment sample. The statistical analyses were performed to determine if exposure to any of the Parallel Thimble Shoals Tunnel sediment samples resulted in significantly lower survival ($p=0.05$) as compared to the organisms exposed to the corresponding reference sediment. The results of the *A. abdita* and *L. plumulosus* whole sediment bioassays are summarized in Tables 5 and 6, respectively.

2.2.3 Reference Toxicant Testing

In conformance with EA's quality assurance/quality control program requirements, reference toxicant testing was performed by EA on the acquired lots of *A. abdita* and *L. plumulosus* utilized in the testing program. The reference toxicant tests consisted of a graded concentration series of a specific toxicant in water only tests, with no sediment present in the test chambers. The results of the reference toxicant tests were compared to established control chart limits. Table 7 presents the results of the reference toxicant testing.

2.3 ARCHIVES

Original data sheets, records, memoranda, notes, and computer printouts are archived at EA's Office in Hunt Valley, Maryland. These data will be retained for a period of 5 years unless a longer period of time is requested by Jacobs Engineering Group.

3. RESULTS AND DISCUSSION

This bioassay study with the sediments from Parallel Thimble Shoals Tunnel was designed and conducted to meet the requirements of the USEPA/USACE dredged material testing program. The results of these toxicity tests met the current NELAC standards, where applicable.

3.1 WHOLE SEDIMENT TOXICITY TESTING

Statistical analyses were conducted on the sediment samples if the percent difference in survival between the sample and a reference was at least 20 percent.

Table 5 summarizes the results of the 10-day whole sediment toxicity testing with *A. abdita.* Survival in the Parallel Thimble Shoals Tunnel sediments ranged from 95 to 100 percent. The reference samples had 97 to 98 percent survival. Survival in all sediment samples was within the allowable percent difference (20 percent) of the corresponding reference samples. Survival in the CBCON was 96 percent, while the laboratory control had 98 percent survival.

The results of the *L. plumulosus* whole sediment toxicity test are presented in Table 6. Survival in the Parallel Thimble Shoals Tunnel sediments ranged from 88 to 99 percent. The reference samples had 93 to 99 percent survival. Survival in all sediment samples was within the allowable percent difference (20 percent) of the corresponding reference samples. Survival in the CBCON was 95 percent, while the laboratory control had 98 percent survival.

3.2 REFERENCE TOXICANT TESTS

The results of the reference toxicant tests are summarized in Table 7. All of the reference toxicant test results fell within the established laboratory control chart limits.

4. REFERENCES CITED

Davies T., D. Davis, J. Elmore. 1993. Technical panel recommendations concerning use of acute amphipod tests in evaluation of dredged material. Technical Report. U.S. Environmental Protection Agency, Office of Water, Washington, D.C.

EA. 2013. EA Ecotoxicology Laboratory Quality Assurance and Standard Operating Procedures Manual. EA Manual ATS-102. Internal document prepared by EA's Ecotoxicology Laboratory, EA Engineering, Science, and Technology, Inc., Hunt Valley, Maryland.

USEPA. 2000. Mid-Atlantic Regional Implementation Manual: Dredged Material Evaluation for Norfolk and Dam Neck Ocean Disposal Sites. USEPA-Region 3.

USEPA. 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms. Fifth Edition. EPA-821-R-02-012. U.S. Environmental Protection Agency, Office of Water, Washington, D.C.

USEPA and USACE. 1991. Evaluation of Dredged Material Proposal for Ocean Disposal, Testing Manual (commonly called "The Green Book").

USEPA and USACE. 1998. Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S.-Inland Testing Manual. EPA/823/B-94/004. U.S. Environmental Protection Agency, Office of Water, Washington, D.C. and Department of the Army, U.S. Army Corps of Engineers, Washington, D.C.

TABLE 1 SUMMARY OF COLLECTION/COMPOSITE AND RECEIPT INFORMATION FOR SEDIMENT SAMPLES – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Sample Identification	EA Accession Number	Composite Time and Date	Receipt Time and Date
TS-1-SED	AT5-075	1400, 6 April 2015	1830, 19 April 2015
TS-2ST-SED	AT5-076	1600, 6 April 2015	1830, 19 April 2015
TS-2SB-SED	AT5-077	1145, 8 April 2015	1830, 19 April 2015
TS-2MT-SED	AT5-078	1045, 7 April 2015	1830, 19 April 2015
TS-2NT-SED	AT5-079	1400, 7 April 2015	1830, 19 April 2015
TS-2NB-SED	AT5-080	1130, 9 April 2015	1830, 19 April 2015
TS-3ST-SED	AT5-081	1600, 7 April 2015	1830, 19 April 2015
TS-3SB-SED	AT5-082	1330, 10 April 2015	1830, 19 April 2015
TS-3NT-SED	AT5-083	1500, 8 April 2015	1830, 19 April 2015
TS-3NB-SED	AT5-084	1130, 14 April 2015	1830, 19 April 2015
TS-4ST-SED	AT5-085	1530, 13 April 2015	1830, 19 April 2015
TS-4SB-SED	AT5-086	1130, 13 April 2015	1830, 19 April 2015
TS-4MT-SED	AT5-087	1600, 10 April 2015	1830, 19 April 2015
TS-4NT-SED	AT5-088	1445, 9 April 2015	1830, 19 April 2015
TS-4NB-SED	AT5-089	1350, 13 April 2015	1830, 19 April 2015
Reference Sediment:			
WBREF-T-SED	AT5-090	1100, 16 April 2015	1830, 19 April 2015
WBREF-B-SED	AT5-091	1100, 6 April 2015	1830, 19 April 2015
OCREF-SED	AT5-092	1145, 18 April 2015	1830, 19 April 2015
CBCON-SED	AT5-162	1400, 16 April 2015	1830, 19 April 2015

TABLE 2 AMMONIA CONCENTRATIONS MEASURED ON SEDIMENT PORE WATER PRIOR TO SOLID PHASE TOXICITY TESTING WITH *Ampelisca abdita* AND *Leptocheirus plumulosus* – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

		Ammonia (mg/L NH_3-N)		
Sediment Identification	**EA Accession Number**	**Initial Pore Water**	**Final Pore Water (*Ampelisca abdita*)**	**Final Pore Water (*Leptocheirus plumulosus*)**
TS-1-SED	AT5-075	N/A[(a)]	2.7	1.9
TS-2ST-SED	AT5-076	N/A	<0.5	<1.0
TS-2SB-SED	AT5-077	N/A	0.3	0.3
TS-2MT-SED	AT5-078	N/A	<1.0	<1.0
TS-2NT-SED	AT5-079	N/A	<0.2	<0.2
TS-2NB-SED	AT5-080	N/A	0.4	0.5
TS-3ST-SED	AT5-081	N/A	<1.0	<1.0
TS-3SB-SED	AT5-082	N/A	<1.0	<1.0
TS-3NT-SED	AT5-083	N/A	<0.3	<0.4
TS-3NB-SED	AT5-084	N/A	<0.4	<0.4
TS-4ST-SED	AT5-085	N/A	<0.7	<1.0
TS-4SB-SED	AT5-086	N/A	<0.3	<0.3
TS-4MT-SED	AT5-087	N/A	<0.3	<0.2
TS-4NT-SED	AT5-088	N/A	0.4	0.4
TS-4NB-SED	AT5-089	N/A	1.2	1.3
Reference Sediments:				
WBREF-T-SED	AT5-090	N/A	<0.5	<0.5
WBREF-B-SED	AT5-091	N/A	1.6	1.5
OCREF-SED	AT5-092	N/A	<0.3	<0.5
Control Sediments:				
CBCON-SED	AT5-162	N/A	0.6	1.1
LAB CONTROL	AT4-590	N/A	1.2	1.2

(a) Initial pore water concentrations could not be determined due to the lack of adequate volume.

TABLE 3 SUMMARY OF WATER QUALITY PARAMETERS MEASURED DURING WHOLE SEDIMENT BIOASSAY TESTING WITH *Ampelisca abdita* – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Test Number: **TN-15-130**
Testing Dates: **5/1/15 – 5/11/15**

Sediment Sample Identification	**EA Accession Number**	**Range**			
		Temperature (°C)	**pH**	**Dissolved Oxygen (mg/L)**	**Salinity (ppt)**
TS-1-SED	AT5-075	19.1 – 20.9	7.7 – 8.4	7.4 – 8.1	27.2 – 31.3
TS-2ST-SED	AT5-076	19.4 – 21.0	7.8 – 8.4	7.5 – 8.1	27.2 – 31.6
TS-2SB-SED	AT5-077	19.7 – 21.0	7.9 – 8.4	7.4 – 7.9	28.5 – 33.0
TS-2MT-SED	AT5-078	19.6 – 21.0	7.9 – 8.4	7.4 – 8.0	28.9 – 31.1
TS-2NT-SED	AT5-079	20.1 – 21.0	7.9 – 8.4	7.5 – 8.0	27.6 – 31.3
TS-2NB-SED	AT5-080	20.3 – 21.0	7.9 – 8.4	7.4 – 8.0	27.6 – 31.6
TS-3ST-SED	AT5-081	20.2 – 21.0	8.0 – 8.4	7.4 – 7.9	28.8 – 32.4
TS-3SB-SED	AT5-082	20.1 – 21.0	7.9 – 8.4	7.3 – 7.6	29.6 – 33.0
TS-3NT-SED	AT5-083	20.1 – 21.0	8.0 – 8.4	7.4 – 7.6	29.0 – 33.0
TS-3NB-SED	AT5-084	20.4 – 21.0	8.0 – 8.4	7.4 – 7.6	28.8 – 31.9
TS-4ST-SED	AT5-085	20.6 – 21.0	8.0 – 8.4	7.3 – 7.5	28.6 – 33.0
TS-4SB-SED	AT5-086	19.6 – 21.2	8.0 – 8.4	7.3 – 7.5	29.5 – 33.0
TS-4MT-SED	AT5-087	19.3 – 21.0	8.0 – 8.4	7.5 – 7.7	29.6 – 33.0
TS-4NT-SED	AT5-088	19.5 – 21.0	8.1 – 8.5	7.4 – 7.7	27.0 – 31.9
TS-4NB-SED	AT5-089	19.6 – 21.0	8.1 – 8.5	7.5 – 7.6	29.7 – 32.1
WBREF-T-SED	AT5-090	19.7 – 21.0	8.1 – 8.5	7.4 – 7.7	29.7 – 32.3
WBREF-B-SED	AT5-091	19.4 – 21.0	8.1 – 8.5	7.5 – 7.7	27.8 – 32.2
OCREF-SED	AT5-092	19.6 – 21.0	8.0 – 8.5	7.0 – 7.7	27.8 – 32.3
CBCON-SED	AT5-162	19.6 – 21.0	8.2 – 8.6	7.2 – 7.8	28.2 – 33.0
LAB CONTROL	AT4-590	19.1 – 20.8	7.7 – 8.2	7.3 – 8.2	28.9 – 33.0

TABLE 4 SUMMARY OF WATER QUALITY PARAMETERS MEASURED DURING WHOLE SEDIMENT BIOASSAY TESTING WITH *Leptocheirus plumulosus* – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Test Number: **TN-15-084**
Testing Dates: **5/18/15 – 5/28/15**

Sediment Sample Identification	EA Accession Number	Range			
		Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Salinity (ppt)
TS-1-SED	AT5-075	19.0 – 21.0	7.5 – 8.2	7.3 – 8.4	19.3 – 22.0
TS-2ST-SED	AT5-076	19.0 – 21.0	7.6 – 8.3	7.4 – 8.3	18.0 – 19.1
TS-2SB-SED	AT5-077	19.0 – 21.0	7.7 – 8.3	6.1 – 8.5	18.7 – 22.0
TS-2MT-SED	AT5-078	19.0 – 21.0	7.7 – 8.4	7.3 – 8.4	19.7 – 21.4
TS-2NT-SED	AT5-079	19.0 – 21.0	7.8 – 8.4	6.8 – 8.4	18.0 – 20.8
TS-2NB-SED	AT5-080	19.0 – 21.0	7.9 – 8.4	7.2 – 8.3	18.0 – 20.0
TS-3ST-SED	AT5-081	19.0 – 21.0	7.8 – 8.4	7.3 – 8.3	18.0 – 22.0
TS-3SB-SED	AT5-082	19.0 – 21.0	7.9 – 8.4	6.7 – 8.2	20.4 – 22.0
TS-3NT-SED	AT5-083	19.0 – 21.0	7.9 – 8.4	6.1 – 8.2	19.2 – 21.7
TS-3NB-SED	AT5-084	19.0 – 21.0	7.9 – 8.4	6.5 – 8.4	19.4 – 21.5
TS-4ST-SED	AT5-085	19.0 – 21.0	8.0 – 8.4	6.1 – 8.3	18.0 – 21.6
TS-4SB-SED	AT5-086	19.0 – 21.0	8.0 – 8.3	6.8 – 8.2	18.3 – 20.6
TS-4MT-SED	AT5-087	19.0 – 21.0	8.0 – 8.4	7.3 – 8.4	19.5 – 21.4
TS-4NT-SED	AT5-088	19.0 – 21.0	8.1 – 8.4	7.2 – 8.2	18.0 – 21.1
TS-4NB-SED	AT5-089	19.0 – 21.0	8.0 – 8.4	7.3 – 8.3	20.5 – 22.1[(a)]
WBREF-T-SED	AT5-090	19.0 – 21.0	8.1 – 8.4	7.3 – 8.2	19.8 – 21.6
WBREF-B-SED	AT5-091	19.0 – 21.0	8.0 – 8.4	7.2 – 8.3	19.6 – 22.0
OCREF-SED	AT5-092	19.0 – 21.0	8.0 – 8.4	7.3 – 8.4	18.0 – 22.0
CBCON-SED	AT5-162	19.0 – 21.0	8.0 – 8.4	7.3 – 8.4	18.0 – 21.2
LAB CONTROL	AT4-590	19.0 – 21.0	7.2 – 8.3	7.3 – 8.4	19.6 – 22.0

(a) Salinity was greater than the target of 20 ± 2 ppt, for limited duration.

TABLE 5 RESULTS OF 10-DAY WHOLE SEDIMENT TOXICITY TESTING WITH *Ampelisca abdita* - PARALLEL THIMBLE SHOALS TUNNEL, VIRGINIA

Test Number: TN-15-130
Testing Dates: 5/1/15 - 5/11/15

Sample Identification	EA Accession Number	No. Alive/No. Exposed[(a)]	10-Day Mean Percent Survival[(b)]
TS-1-SED	AT5-075	97 / 100	97
TS-2ST-SED	AT5-076	99 / 100	99
TS-2SB-SED	AT5-077	99 / 100	99
TS-2MT-SED	AT5-078	98 / 100	98
TS-2NT-SED	AT5-079	97 / 100	97
TS-2NB-SED	AT5-080	96 / 100	96
TS-3ST-SED	AT5-081	97 / 100	97
TS-3SB-SED	AT5-082	96 / 100	96
TS-3NT-SED	AT5-083	97 / 100	97
TS-3NB-SED	AT5-084	98 / 100	98
TS-4ST-SED	AT5-085	98 / 100	98
TS-4SB-SED	AT5-086	97 / 100	97
TS-4MT-SED	AT5-087	97 / 100	97
TS-4NT-SED	AT5-088	95 / 100	95
TS-4NB-SED	AT5-089	100 / 100	100
Reference Sediments:			
WBREF-T-SED	AT5-090	98 / 100	98
WBREF-B-SED	AT5-091	97 / 100	97
OCREF-SED	AT5-092	98 / 100	98
Controls:			
CB-CON	AT5-162	96 / 100	96
LAB CONTROL	AT4-590	98 / 100	98

(a) Total for five replicates of twenty animals.
(b) No statistical differences between site sediments and any of the reference sediments or the controls.

TABLE 6 RESULTS OF 10-DAY WHOLE SEDIMENT TOXICITY TESTING WITH *Leptocheirus plumulosus* - PARALLEL THIMBLE SHOALS TUNNEL, VIRGINIA

Test Number: TN-15-084
Testing Dates: 5/18/15 - 5/28/15

Sample Identification	EA Accession Number	No. Alive/No. Exposed[(a)]	10-Day Mean Percent Survival
TS-1-SED	AT5-075	97 / 100	97
TS-2ST-SED	AT5-076	99 / 100	99
TS-2SB-SED	AT5-077	98 / 100	98
TS-2MT-SED	AT5-078	92 / 100	92
TS-2NT-SED	AT5-079	99 / 100	99
TS-2NB-SED	AT5-080	94 / 100	94
TS-3ST-SED	AT5-081	98 / 100	98
TS-3SB-SED	AT5-082	97 / 100	97
TS-3NT-SED	AT5-083	88 / 100	88
TS-3NB-SED	AT5-084	88 / 100	88[(d)]
TS-4ST-SED	AT5-085	95 / 100	95
TS-4SB-SED	AT5-086	98 / 100	98
TS-4MT-SED	AT5-087	98 / 100	98
TS-4NT-SED	AT5-088	90 / 100	90[(b,c,d)]
TS-4NB-SED	AT5-089	94 / 100	94
Reference Sediments:			
WBREF-T-SED	AT5-090	93 / 100	93[(d)]
WBREF-B-SED	AT5-091	97 / 100	97
OCREF-SED	AT5-092	99 / 100	99
Controls:			
CB-CON	AT5-162	100 / 105	95
LAB CONTROL	AT4-590	98 / 100	98

(a) Total for five replicates of twenty animals.
(b) Statistically different than Lab Control (p=0.05), difference is not ≥20 percent difference criteria for amphipods.
(c) Statistically different than WBREF-B-SED (p=0.05), difference is not ≥20 percent difference criteria for amphipods.
(c) Statistically different than OCREF-SED (p=0.05), difference is not ≥20 percent difference criteria for amphipods.

TABLE 7 RESULTS OF REFERENCE TOXICANT TESTING ON ACQUIRED LOTS OF TEST ORGANISMS – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Test Species	Organism Lot Number	Reference Toxicant	Test Endpoint	Acceptable Control Chart Limits
Ampelisca abdita	AA-023	Potassium Chloride (KCl)	48-Hour LC50: 1,039 mg/L KCl	226 – 1,998 mg/L KCl
Leptocheirus plumulosus	LP-074	Cadmium chloride ($CdCl_2$)	48-Hour LC50: 6.6 mg/L Cd	4.5 – 21.5 mg/L Cd

ATTACHMENT I

Chain-of-Custody Records
(3 pages)

Chain-of-Custody Record

EA Engineering, Science, and Technology

EA Ecotoxicology Laboratory
231 Schilling Circle
Hunt Valley, Maryland 21031
Telephone: 410-584-7000
Fax: 410-584-1057

Sample Shipped By: (circle)
Fed. Ex. UPS (Other: HAND)
Tracking #: _____

Client: JACOBS/CBRT Project No.: 15204101.0007

NPDES Number: _____ Client Purchase Order Number: _____

City/State Collected: VA BEACH, VA / HUNT VALLEY, MD

PLEASE READ SAMPLING INSTRUCTIONS ON BACK OF FORM

Accession Number (office use only)	Grab	Composite	Collection Date/~~Time~~	Collection ~~End~~ Date/Time	Sample Description (including Site, Station Number, and Outfall Number)	Number/Volume of Container
~~TS-075~~		X	4/6/15	1400	TS-1-SED	12
076		X	4/6/15	1600	TS-2ST-SED	12
077		X	4/8/15	1145	TS-2SB-SED	17
078		X	4/7/15	1045	TS-2MT-SED	13
079		X	4/7/15	1400	TS-2NT-SED	15
080		X	4/9/15	1130	TS-2NB-SED	25
081		X	4/7/15	1600	TS-3ST-SED	14
082		X	4/10/15	1330	TS-3SB-SED	26
083		X	4/8/15	1500	TS-3NT-SED	13
084		X	4/14/15	1130	TS-3NB-SED	23
085		X	4/13/15	1530	TS-4ST-SED	13
086		X	4/13/15	1130	TS-4SB-SED	23

Sampled By:	Date/Time	Received By:	Date/Time
Sampler's Printed Name: MORGAN GELINAS	Title: SCIENTIST	Relinquished By:	Date/Time
Relinquished By:	Date/Time 4/19/15 1830	Received By Laboratory:	Date/Time 4/19/15 1830

Was Sample Chilled During Collection? (Yes) No

Comments:
5 containers to be used for testing of each sample; all remaining to be held as archive until released by P. Derrick

Sample Collection Parameters
Visual Description:
Temperature (°C):
pH:
TRC (mg/L):
Other:

Chain-of-Custody Record

EA Engineering, Science, and Technology

EA Ecotoxicology Laboratory
231 Schilling Circle
Hunt Valley, Maryland 21031
Telephone: 410-584-7000
Fax: 410-584-1057

Sample Shipped By: (circle)
Fed. Ex. UPS (Other: HAND)
Tracking #: —

Client: JACOBS/CBRT Project No.: 15204O1.0007

NPDES Number: _____ Client Purchase Order Number: _____

City/State Collected: VA BEACH, VA / HUNT VALLEY, MD

PLEASE READ SAMPLING INSTRUCTIONS ON BACK OF FORM

Accession Number (office use only)	Grab	Composite	Collection Start Date/Time	Collection End Date/Time	Sample Description (including Site, Station Number, and Outfall Number)	Number/Volume of Container
ATS-087		X	4/10/15	1600	TS-4MT-SED	13
088		X	4/9/15	1445	TS-4NT-SED	12
089		X	4/13/15	1350	TS-4NB-SED	13
090		X	4/16/15	1100	WBREF-T-SED	9
091		X	4/6/15	1100	WBREF-B-SED	12
092		X	4/16/15	1145	OCREF-SED	9
162		X	4/16/15	1400	CBCON-SED	5
		~~X~~ mg				
093	WATER		4/17/15	1000	TS-WAT	31

Sampled By:	Date/Time	Received By:	Date/Time
[signature]	4/19/15 1800		
Sampler's Printed Name: MORGIAN GELINAS	Title: SCIENTIST	Relinquished By:	Date/Time
Relinquished By: [signature]	Date/Time 4/19/15 1830	Received By: Laboratory [signature]	Date/Time 4/19/15 1830

Was Sample Chilled During Collection? (Yes) / No

Comments:
5 containers to be used for testing of each sample; all remaining to be held as archive until released by P. Derrick.

Sample Collection Parameters
Visual Description:
Temperature (°C):
pH:
TRC (mg/L):
Other:

ATTACHMENT II

Ampelisca abdita 10-Day Whole Sediment Test
Data Sheets and Statistical Analyses
(113 pages)

SEDIMENT TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-130

TEST ORGANISM INFORMATION

Common Name: Amphipod

Scientific Name: *Ampelisca abdita*

Lot Number: AA-023

Source: ARO

Adults Isolated (Time, Date): _

Neonates Pulled (Time, Date): _____

Acclimation: < 24 hrs Age: 3-5 mm

Culture Water (T/S): 20.3 °C 27.3 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/21/15	1100	GB	Sediment Added to Chambers
4/30/15	1330	MK	Overlying Water Added to Chambers
5/1/15	1300	DM MKC	Organisms Transferred

TEST SET-UP

Sample Number(s): AT4-590, AT5-075 →AT5-092, AT5-162

Overlying Water: 20 ppt Crystal Sea

Treatment	Volume Test Sediment	Volume Overlying Water
AT4-590 (Lab Control) AT5-075 ↓ AT5-092 AT5-162	200 ml ↓	700 ml ↓

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15 TEST ORGANISM

Client: Thimble Shoals Common Name: Amphipod

QC Test Number: TN-15-130 Scientific Name: *Ampelisca abdita*

Organisms Recovered (date, time, initials): 5/11/15 1200 MKL/WMM

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT4-590	A	20	19
(Lab Control)	B	20	20
	C	20	20
	D	20	19
	E	20	20
AT5-075	A	20	20
	B	20	20
	C	20	17
	D	20	20
	E	20	20
AT5-076	A	20	20
	B	20	20
	C	20	19
	D	20	20
	E	20	20
AT5-077	A	20	20
	B	20	20
	C	20	20
	D	20	19
	E	20	20
AT5-078	A	20	18
	B	20	20
	C	20	20
	D	20	20
	E	20	20

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-130

Organisms Recovered (date, time, initials): 5/11/15 1200 WLM/MRC

TEST ORGANISM

Common Name: Amphipod

Scientific Name: *Ampelisca abdita*

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-079	A	20	19
	B	20	18
	C	20	20
	D	20	20
	E	20	20
AT5-080	A	20	20
	B	20	19
	C	20	18
	D	20	20
	E	20	19
AT5-081	A	20	19
	B	20	20
	C	20	20
	D	20	18
	E	20	20
AT5-082	A	20	20
	B	20	19
	C	20	17
	D	20	20
	E	20	20
AT5-083	A	20	20
	B	20	19
	C	20	20
	D	20	19
	E	20	19

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-130

TEST ORGANISM

Common Name: Amphipod

Scientific Name: *Ampelisca abdita*

Organisms Recovered (date, time, initials): 5/11/15 1200 WEM/MAC

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-084	A	20	20
	B	20	19
	C	20	20
	D	20	19
	E	20	20
AT5-085	A	20	19
	B	20	20
	C	20	19
	D	20	20
	E	20	20
AT5-086	A	20	19
	B	20	20
	C	20	20
	D	20	19
	E	20	19
AT5-087	A	20	19
	B	20	18
	C	20	20
	D	20	20
	E	20	20
AT5-088	A	20	17
	B	20	20
	C	20	19
	D	20	20
	E	20	19

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-130

TEST ORGANISM

Common Name: Amphipod

Scientific Name: *Ampelisca abdita*

Organisms Recovered (date, time, initials): 5/11/15 1200 WLM/MRC

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-089	A	20	20
	B	20	20
	C	20	20
	D	20	20
	E	20	20
AT5-090	A	20	19
	B	20	20
	C	20	19
	D	20	20
	E	20	20
AT5-091	A	20	20
	B	20	19
	C	20	20
	D	20	18
	E	20	20
AT5-092	A	20	19
	B	20	20
	C	20	20
	D	20	19
	E	20	20
AT5-162	A	20	18
	B	20	20
	C	20	19
	D	20	19
	E	20	20

TOXICITY TEST WATER QUALITY DATA SHEET - NEW SOLUTIONS

Project Number: 70005.15 TEST ORGANISM Beginning Date: 5/1/15 Time: 1350

Client: Thimble Shoals Common Name: Amphipod Ending Date: 5/11/15 Time: 1200

QC Test Number: TN-15-130 Scientific Name: *Ampelisca abdita*

TARGET VALUES: Temp: 20 °C pH: 6.0 - 9.0 DO: ≥4.0 mg/L Salinity: 30 ppt Photoperiod: 24 hr light Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6
AT4-590	Lab Control	19.1							7.7							7.6							29.8						
AT5-075		19.1							7.7							7.7							30.3						
AT5-076		19.4							7.9							7.6							29.9						
AT5-077		19.7							8.0							7.6							30.0						
AT5-078		19.6							8.0							7.6							29.9						
AT5-079		20.2							8.0							7.5							29.8						
AT5-080		20.5							8.1							7.5							29.6						
AT5-081		20.5							8.1							7.5							29.6						
AT5-082		20.6							8.1							7.4							29.6						
AT5-083		20.4							8.1							7.5							29.7						
AT5-084		20.6							8.1							7.5							29.5						
AT5-085		20.7							8.2							7.4							29.6						
AT5-086		20.7							8.2							7.4							29.7						
AT5-087		19.9							8.2							7.6							29.6						
Meter Number		677							677							677							677						
Time		1115							1115							1115							1115						
Initials		WM MC							WM MC							WM MC							WM MC						

TOXICITY TEST WATER QUALITY DATA SHEET - NEW SOLUTIONS

Project Number: 70005.15 TEST ORGANISM Beginning Date: 5/1/15 Time: 1300

Client: Thimble Shoals Common Name: Amphipod Ending Date: 5/11/15 Time: 1200

QC Test Number: TN-15-130 Scientific Name: *Ampelisca abdita*

TARGET VALUES: Temp: 20 °C pH: 6.0 - 9.0 DO: ≥4.0 mg/L Salinity: 30 ppt Photoperiod: 24 hr light Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6
AT5-088		20.0							8.2							7.5							29.7						
AT5-089		19.7							8.3							7.6							29.7						
AT5-090		19.9							8.3							7.6							29.7						
AT5-091		19.4							8.3							7.7							29.8						
AT5-092		19.6							8.3							7.7							29.7						
AT5-162		19.6							8.3							7.7							29.7						
Meter Number		677							677							677							677						
Time		1115							1115							1115							1115						
Initials		WM MC							WM MC							WM MC							WM MC						

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-130

TEST ORGANISM
Common Name: Amphipod
Scientific Name: *Ampelisca abdita*

Beginning Date: 5/1/15 Time: 1300
Ending Date: 5/11/15 Time: 1200

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: >4.0 mg/L Salinity: 30 ppt Photoperiod: 24 hr light Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
	Lab Control	19.4	19.4	20.0	20.0	20.4	20.0	20.3	8.0	8.1	8.0	7.9	8.0	7.8	8.2	7.5	7.6	7.7	7.6	8.2	7.7	7.6	31.2	32.3	33.0	32.3	33.0	28.9	29.5
AT5-075		19.6	19.4	20.2	20.0	20.9	20.5	20.4	8.1	8.2	8.1	7.9	8.2	7.8	8.2	7.7	7.8	7.7	7.6	8.1	7.6	7.5	30.8	30.6	30.9	29.6	31.3	29.1	29.1
AT5-076		20.1	20.0	20.9	20.5	21.0	21.0	20.7	8.2	8.3	8.2	7.9	8.3	7.8	8.2	7.5	7.6	7.5	7.6	8.1	7.5	7.6	30.9	31.0	31.1	29.9	31.6	28.7	29.2
AT5-077		19.8	20.2	20.5	20.7	21.0	21.0	20.9	8.3	8.3	8.2	8.0	8.3	7.9	8.2	7.4	7.5	7.4	7.5	7.9	7.5	7.6	31.3	31.7	32.5	31.9	33.0	28.8	28.5
AT5-078		19.8	20.2	20.8	20.5	21.0	21.0	20.9	8.3	8.3	8.2	8.0	8.3	7.9	8.2	7.5	7.7	7.5	7.6	8.0	7.5	7.4	30.9	30.8	31.1	29.7	31.6	29.2	28.9
AT5-079		20.1	20.6	21.0	20.8	21.0	21.0	20.8	8.3	8.3	8.2	8.1	8.3	7.9	8.2	7.5	7.6	7.5	7.6	8.0	7.5	7.5	30.7	30.5	30.8	29.5	31.3	27.6	29.0
AT5-080		20.3	21.0	21.0	21.0	21.0	21.0	20.9	8.3	8.3	8.2	8.1	8.3	7.9	8.2	7.4	7.5	7.5	7.7	8.0	7.4	7.5	30.9	30.7	31.2	29.8	31.6	28.9	29.6
AT5-081		20.2	20.5	20.8	20.9	21.0	21.0	20.9	8.3	8.3	8.2	8.1	8.3	8.0	8.2	7.4	7.5	7.5	7.6	7.9	7.4	7.5	30.8	31.0	31.7	30.4	32.4	28.8	28.9
AT5-082		20.1	20.4	20.7	20.9	21.0	21.0	20.9	8.3	8.3	8.2	8.1	8.3	7.9	8.2	7.3	7.5	7.5	7.6	7.6	7.4	7.5	31.3	31.4	32.0	30.7	32.6	33.0	30.6
AT5-083		20.1	20.6	21.0	21.0	21.0	21.0	20.9	8.3	8.3	8.3	8.1	8.3	8.0	8.2	7.4	7.6	7.5	7.5	7.6	7.5	7.5	30.9	30.8	31.1	29.9	31.6	31.7	29.0
AT5-084		20.9	20.6	21.0	21.0	21.0	21.0	21.0	8.3	8.3	8.3	8.1	8.3	8.0	8.2	7.4	7.6	7.5	7.6	7.6	7.4	7.5	30.3	30.1	30.2	28.8	31.9	30.2	31.2
AT5-085		20.6	21.0	21.0	21.0	21.0	21.0	20.9	8.3	8.3	8.2	8.1	8.3	8.0	8.2	7.3	7.5	7.4	7.4	7.5	7.4	7.5	30.7	30.7	31.4	30.2	33.0	28.6	28.4
AT5-086		19.6	21.0	20.5	21.0	21.0	21.0	20.9	8.3	8.3	8.2	8.1	8.3	8.0	8.2	7.4	7.4	7.5	7.5	7.5	7.4	7.4	31.1	32.0	33.0	32.3	32.1	30.2	30.8
AT5-087		19.4	19.4	19.3	21.0	21.0	20.7	20.8	8.3	8.4	8.3	8.1	8.3	8.0	8.3	7.6	7.7	7.7	7.6	7.5	7.6	7.5	30.9	31.5	32.5	31.0	33.0	29.7	29.8
Meter Number		678	678	678	677	678	677	677	678	678	678	677	678	677	677	678	678	678	677	678	677	677	678	678	678	677	678	677	677
Time		1105	0930	1346	0917	0927	0918	1000	1005	0930	1346	0917	0927	0918	1000	1005	0930	1346	0917	0927	0918	1000	1005	0930	1346	0917	0927	0918	1000
Initials		MJ	VY	MJ	VY	VY	MJ	MJ	MJ	VY	MJ	VY	VY	MJ	MJ	MJ	VY	MJ	VY	VY	MJ	MJ	MJ	VY	MJ	VY	VY	MJ	MJ

5/11 MJ

5/8 MJ

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-151-130

TEST ORGANISM
Common Name: Amphipod
Scientific Name: *Ampelisca abdita*

Beginning Date: 5/1/15 Time: 1300
Ending Date: 5/11/15 Time: 1200

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: >4.0 mg/L Salinity: 30 ppt Photoperiod: 24 hr light Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
AT5-088		19.5	19.5	20.0	20.4	21.0	20.7	20.6	8.3	8.3	8.3	8.2	8.3	8.1	8.3	7.5	7.6	7.7	7.7	7.5	7.6	7.4	31.3	31.4	31.9	30.4	31.4	27.0	28.0
AT5-089		19.6	20.1	20.2	20.5	21.0	20.8	20.7	8.3	8.3	8.3	8.2	8.3	8.1	8.3	7.5	7.6	7.6	7.6	7.5	7.5	7.5	30.6	30.6	31.1	29.8	31.1	30.0	29.9
AT5-090		19.7	19.9	20.2	20.5	21.0	20.7	20.7	8.3	8.3	8.3	8.2	8.3	8.1	8.3	7.5	7.7	7.6	7.6	7.5	7.5	7.4	30.6	30.6	31.0	30.5	30.5	29.8	30.4
AT5-091		19.7	19.9	20.4	20.4	21.0	20.7	20.6	8.3	8.4	8.3	8.2	8.3	8.1	8.3	7.5	7.6	7.5	7.6	7.6	7.5	7.5	30.8	30.2	31.5	29.0	32.2	27.8	30.3
AT5-092		19.8	20.2	20.3	20.4	21.0	20.7	20.6	8.3	8.4	8.3	8.2	8.4	8.0	8.3	7.0	7.6	7.5	7.6	7.5	7.5	7.4	30.8	30.9	31.6	30.3	32.3	32.2	27.6
AT5-162		19.7	20.4	20.4	20.4	21.0	20.1	20.6	8.3	8.4	8.3	8.2	8.4	8.2	8.3	7.3	7.5	7.6	7.6	7.6	7.8	7.5	30.6	31.0	31.0	30.3	32.1	30.8	31.9
Meter Number		678	678	678	677	678	677	677	678	678	678	677	678	677	677	678	678	678	677	678	677	677	678	678	678	677	678	677	677
Time		1005	0930	1346	0917	0927	0918	1000	1005	0930	1346	0917	0927	0918	1000	1005	0930	1346	0917	0927	0918	1000	1005	0930	1346	0917	0927	0918	1000
Initials		MJ	VR	MJ	VR	VR	MJ	MW	MJ	VR	MJ	VR	VR	MJ	MW	MJ	VR	MJ	VR	VR	MJ	MW	MJ	VR	MJ	VR	VR	MJ	MW

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-130

TEST ORGANISM
Common Name: Amphipod
Scientific Name: *Ampelisca abdita*

Beginning Date: 5/1/15 Time: 1300
Ending Date: 5/11/15 Time: 1200

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: ≥4.0 mg/L Salinity: 30 ppt Photoperiod: 24-hr light Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
	Lab Control	20.8	20.7	20.8					8.0	8.1	8.1					7.3	7.5	7.6					31.4	31.9	32.1				
AT5-075		20.6	20.7	20.9					8.1	8.3	8.4					7.4	7.5	7.6					30.6	30.5	31.0				
AT5-076		20.8	20.6	21.0					8.3	8.4	8.4					7.5	7.6	7.6					29.8	29.6	30.1				
AT5-077		20.7	20.6	20.9					8.3	8.4	8.4					7.4	7.5	7.7					30.8	30.9	31.1				
AT5-078		20.6	20.9	20.9					8.3	8.4	8.4					7.5	7.5	7.7					30.5	30.3	30.4				
AT5-079		20.7	20.9	21.0					8.3	8.4	8.4					7.5	7.6	7.7					28.9	28.8	29.1				
AT5-080		20.8	21.1	21.0					8.3	8.4	8.4					7.5	7.5	7.7					30.3	30.2	30.7				
AT5-081		20.8	20.8	21.0					8.3	8.4	8.4					7.5	7.5	7.5					30.7	30.6	30.9				
AT5-082		20.8	21.0	21.0					8.3	8.4	8.3					7.5	7.5	7.6					32.1	31.8	31.9				
AT5-083		20.8	21.1	21.0					8.3	8.4	8.3					7.5	7.4	7.6					31.6	33.0	33.0				
AT5-084		21.0	21.1	21.0					8.3	8.4	8.3					7.5	7.5	7.5					31.4	31.1	31.9				
AT5-085		21.0	21.2	21.0					8.3	8.4	8.3					7.4	7.3	7.5					30.2	30.1	30.8				
AT5-086		20.9	21.1	21.0					8.3	8.4	8.3					7.4	7.4	7.5					33.0	29.5	29.9				
AT5-087		20.3	20.4	20.9					8.4	8.4	8.3					7.5	7.6	7.6					31.7	31.7	31.6				
	Meter Number	678	678	677					678	678	677					678	678	678					678	678	678				
	Time	1504	1610	0930					1504	1610	0930					1504	1610	0930					1504	1610	0930				
	Initials	MJ	JM	~					MJ	JM	~					MJ	JM	~					MJ	JM	~				

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-130

TEST ORGANISM
Common Name: Amphipod
Scientific Name: *Ampelisca abdita*

Beginning Date: 5/1/15 Time: 1300
Ending Date: 5/11/15 Time: 1200

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: ≥4.0 mg/L Salinity: 30 ppt Photoperiod: 24-hr light Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
AT5-088		20.3	20.6	20.9					8.4	8.4	8.5					7.5	7.6	7.7					28.5	28.4	29.0				
AT5-089		20.3	20.6	21.0					8.3	8.4	8.5					7.5	7.5	7.6					31.8	31.6	32.1				
AT5-090		20.2	20.2	21.0					8.3	8.4	8.5					7.5	7.6	7.6					32.0	32.1	32.3				
AT5-091		20.2	20.3	21.0					8.3	8.4	8.5					7.6	7.5	7.6					32.0	31.7	32.0				
AT5-092		20.2	20.3	21.0					8.4	8.4	8.5					7.6	7.6	7.7					29.6	29.5	30.1				
AT5-162		20.2	20.3	21.0					8.4	8.6	8.6					7.6	7.2	7.7					28.2	33.0	33.0				
Meter Number		678	678	672					678	678	677					678	678	677					678	678	674				
Time		1504	1610	0930					1504	1610	0930					1504	1610	0930					1504	1610	0930				
Initials		MJ	IM	m					MJ	IM	m					MJ	IM	m					MJ	IM	m				

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-130

Date/Time/Initials	Comments/Activity

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5	29.00	19.00
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	30.00	19.00
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	30.00	19.00
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5	29.00	19.00
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	26.50	19.00
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5	24.00	19.00
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	26.50	19.00
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5	26.50	19.00
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	25.00	19.00
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	25.00	19.00
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	26.50	19.00
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5	24.00	19.00
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5	32.50	19.00
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	26.50	19.00
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5	24.00	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.93987	1.035	-0.9809	0.3562
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)

Wilcoxon Rank Sum Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5	29.00	19.00
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.67473	0.781	-1.8864	3.32517
F-Test indicates equal variances (p = 0.19)	4.22481	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	30.00	19.00
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.75876	0.781	-0.9546	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	30.00	19.00
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.75876	0.781	-0.9546	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5	29.00	19.00
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.66842	0.781	-1.5724	1.59274
F-Test indicates equal variances (p = 0.45)	2.27695	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	0.380	1.860	0.0943
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03745	0.0384	0.00093	0.00643	0.71412	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5	0.865	1.860	0.0902
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9143	0.781	-0.326	-1.1665
F-Test indicates equal variances (p = 0.51)	2.04489	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03549	0.03639	0.0044	0.00588	0.41235	1, 8

Reviewed by: 5/11/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	0.380	1.860	0.0943
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03745	0.0384	0.00093	0.00643	0.71412	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5	0.551	1.860	0.1162
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.82615	0.781	-1.3037	1.38602
F-Test indicates equal variances (p = 0.20)	4.05235	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04843	0.04965	0.00296	0.00976	0.59656	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	0.577	1.860	0.0731
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79894	0.781	0	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.02763	0.02832	0.00129	0.00386	0.57958	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.64015	0.781	-0.4841	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.64015	0.781	-0.4841	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/1/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	0.577	1.860	0.0731
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79894	0.781	0	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.02763	0.02832	0.00129	0.00386	0.57958	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	0.380	1.860	0.0943
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03745	0.0384	0.00093	0.00643	0.71412	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5	0.964	1.860	0.1102
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.91492	0.781	-0.8741	0.68114
F-Test indicates equal variances (p = 0.25)	3.54655	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04536	0.0465	0.00816	0.00878	0.36329	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5	-1.633	2.132	0.0593
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.81451	0.781	-0.6847	-0.2143
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Heteroscedastic t Test indicates no significant differences	0.02164	0.02219	0.00515	0.00193	0.14111	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.64015	0.781	-0.4841	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

 Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	0.380	1.860	0.0943
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03745	0.0384	0.00093	0.00643	0.71412	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.64015	0.781	-0.4841	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
Control	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5	0.865	1.860	0.0902

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9143	0.781	-0.326	-1.1665
F-Test indicates equal variances (p = 0.51)	2.04489	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03549	0.03639	0.0044	0.00588	0.41235	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5	29.00	19.00
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	30.00	19.00
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	30.00	19.00
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5	29.00	19.00
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	26.50	19.00
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5	24.00	19.00
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	26.50	19.00
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5	26.50	19.00
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	25.00	19.00
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	25.00	19.00
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	26.50	19.00
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5	24.00	19.00
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5	32.50	19.00
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	26.50	19.00
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5	24.00	19.00
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.93987	1.035	-0.9809	0.3562
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)

Wilcoxon Rank Sum Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5	29.00	19.00
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.67473	0.781	-1.8864	3.32517
F-Test indicates equal variances (p = 0.19)	4.22481	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	30.00	19.00
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.75876	0.781	-0.9546	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	30.00	19.00
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.75876	0.781	-0.9546	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5	29.00	19.00
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.66842	0.781	-1.5724	1.59274
F-Test indicates equal variances (p = 0.45)	2.27695	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	0.380	1.860	0.0943
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03745	0.0384	0.00093	0.00643	0.71412	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5	0.865	1.860	0.0902
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9143	0.781	-0.326	-1.1665
F-Test indicates equal variances (p = 0.51)	2.04489	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03549	0.03639	0.0044	0.00588	0.41235	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	0.380	1.860	0.0943
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03745	0.0384	0.00093	0.00643	0.71412	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5	0.551	1.860	0.1162
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.82615	0.781	-1.3037	1.38602
F-Test indicates equal variances (p = 0.20)	4.05235	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04843	0.04965	0.00296	0.00976	0.59656	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	0.577	1.860	0.0731
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79894	0.781	0	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.02763	0.02832	0.00129	0.00386	0.57958	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.64015	0.781	-0.4841	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.64015	0.781	-0.4841	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	0.577	1.860	0.0731
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79894	0.781	0	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.02763	0.02832	0.00129	0.00386	0.57958	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	0.380	1.860	0.0943
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03745	0.0384	0.00093	0.00643	0.71412	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5	0.964	1.860	0.1102
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.91492	0.781	-0.8741	0.68114
F-Test indicates equal variances (p = 0.25)	3.54655	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04536	0.0465	0.00816	0.00878	0.36329	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5	-1.633	2.132	0.0593
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.81451	0.781	-0.6847	-0.2143
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Heteroscedastic t Test indicates no significant differences	0.02164	0.02219	0.00515	0.00193	0.14111	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	0.380	1.860	0.0943
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03745	0.0384	0.00093	0.00643	0.71412	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID: TN-15-130	Sample ID: Thimble Shoals
End Date:	5/11/2015	Lab ID:	Sample Type: Sediment
Sample Date:		Protocol: EPAA 91-EPA Acute	Test Species: AA-Ampelisca abdita
Comments:			

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.64015	0.781	-0.4841	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/2015

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5	0.865	1.860	0.0902
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9143	0.781	-0.326	-1.1665
F-Test indicates equal variances (p = 0.51)	2.04489	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03549	0.03639	0.0044	0.00588	0.41235	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.64015	0.781	-0.4841	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5	29.00	19.00
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5	30.50	19.00
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5	30.50	19.00
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5	29.50	19.00
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5	27.50	19.00
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5	25.50	19.00
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5	27.50	19.00
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5	27.00	19.00
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5	26.50	19.00
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	28.50	19.00
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	28.50	19.00
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5	26.50	19.00
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5	27.50	19.00
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5	25.00	19.00
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5	32.50	19.00
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	28.50	19.00
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	28.50	19.00
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5	25.50	19.00
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	28.50	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.93987	1.035	-0.9809	0.3562
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)

Wilcoxon Rank Sum Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5	29.00	19.00
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.6757	0.781	-1.5771	1.30196
F-Test indicates equal variances (p = 0.58)	1.8151	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5	-0.872	1.860	0.0894
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.82859	0.781	-1.1534	0.36802
F-Test indicates equal variances (p = 0.25)	3.49138	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03827	0.03949	0.0044	0.00578	0.4086	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5	-0.872	1.860	0.0894
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.82859	0.781	-1.1534	0.36802
F-Test indicates equal variances (p = 0.25)	3.49138	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03827	0.03949	0.0044	0.00578	0.4086	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5	29.50	19.00
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.72226	0.781	-1.341	0.22033
F-Test indicates equal variances (p = 0.98)	1.02224	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

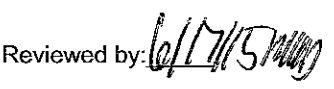
Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5	27.50	19.00
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.71987	0.781	-0.9173	-0.9156
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5	0.390	1.860	0.1081
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.86268	0.781	-0.6184	-1.0761
F-Test indicates equal variances (p = 0.90)	1.13824	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04803	0.04956	0.00129	0.00845	0.70638	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5	27.50	19.00
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.71987	0.781	-0.9173	-0.9156
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5	0.216	1.860	0.1306
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.78132	0.781	-1.1621	0.06124
F-Test indicates equal variances (p = 0.60)	1.74101	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06057	0.0625	0.00058	0.01232	0.83413	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5	0.068	1.860	0.0943
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79536	0.781	-0.6462	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04075	0.04205	3E-05	0.00643	0.94746	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	-0.380	1.860	0.0943
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04075	0.04205	0.00093	0.00643	0.71412	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	-0.380	1.860	0.0943
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04075	0.04205	0.00093	0.00643	0.71412	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5	0.068	1.860	0.0943
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79536	0.781	-0.6462	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04075	0.04205	3E-05	0.00643	0.94746	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5	27.50	19.00
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.71987	0.781	-0.9173	-0.9156
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5	0.562	1.860	0.1253
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.87606	0.781	-0.8707	-0.3762
F-Test indicates equal variances (p = 0.69)	1.5237	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05754	0.05938	0.00359	0.01135	0.58928	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5	-1.524	2.132	0.0904
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.81814	0.781	-1.2973	2.50803
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Heteroscedastic t Test indicates no significant differences	0.03876	0.04	0.01045	0.0045	0.16595	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	-0.380	1.860	0.0943
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04075	0.04205	0.00093	0.00643	0.71412	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	-0.380	1.860	0.0943
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04075	0.04205	0.00093	0.00643	0.71412	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5	0.390	1.860	0.1081
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.86268	0.781	-0.6184	-1.0761
F-Test indicates equal variances (p = 0.90)	1.13824	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04803	0.04956	0.00129	0.00845	0.70638	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
#AT5-075	0.9700	1.0000	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9897	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9794	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0309	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-092	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-162	0.9600	0.9897	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	-0.380	1.860	0.0943

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04075	0.04205	0.00093	0.00643	0.71412	1, 8

Reviewed by: 5/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5	29.00	19.00
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	30.00	19.00
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	30.00	19.00
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5	29.00	19.00
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	26.50	19.00
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5	24.00	19.00
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	26.50	19.00
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5	26.50	19.00
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	25.00	19.00
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	25.00	19.00
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	26.50	19.00
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5	24.00	19.00
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5	32.50	19.00
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	26.50	19.00
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5	24.00	19.00
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.93987	1.035	-0.9809	0.3562
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)

Wilcoxon Rank Sum Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5	29.00	19.00
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.67473	0.781	-1.8864	3.32517
F-Test indicates equal variances (p = 0.19)	4.22481	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	30.00	19.00
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.75876	0.781	-0.9546	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	30.00	19.00
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.75876	0.781	-0.9546	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5	29.00	19.00
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.66842	0.781	-1.5724	1.59274
F-Test indicates equal variances (p = 0.45)	2.27695	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	0.380	1.860	0.0943
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03745	0.0384	0.00093	0.00643	0.71412	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5	0.865	1.860	0.0902
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9143	0.781	-0.326	-1.1665
F-Test indicates equal variances (p = 0.51)	2.04489	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03549	0.03639	0.0044	0.00588	0.41235	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	0.380	1.860	0.0943
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03745	0.0384	0.00093	0.00643	0.71412	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5	0.551	1.860	0.1162
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.82615	0.781	-1.3037	1.38602
F-Test indicates equal variances (p = 0.20)	4.05235	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04843	0.04965	0.00296	0.00976	0.59656	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	0.577	1.860	0.0731
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79894	0.781	0	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.02763	0.02832	0.00129	0.00386	0.57958	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.64015	0.781	-0.4841	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

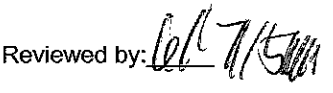
Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.64015	0.781	-0.4841	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	0.577	1.860	0.0731
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79894	0.781	0	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.02763	0.02832	0.00129	0.00386	0.57958	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	0.380	1.860	0.0943
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03745	0.0384	0.00093	0.00643	0.71412	1, 8

10-Day Survival Test

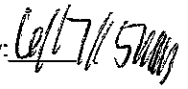
Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5	0.964	1.860	0.1102
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.91492	0.781	-0.8741	0.68114
F-Test indicates equal variances (p = 0.25)	3.54655	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04536	0.0465	0.00816	0.00878	0.36329	1, 8

Reviewed by: 

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5	-1.633	2.132	0.0593
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.81451	0.781	-0.6847	-0.2143
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Heteroscedastic t Test indicates no significant differences	0.02164	0.02219	0.00515	0.00193	0.14111	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.64015	0.781	-0.4841	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: [signature] 7/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	0.380	1.860	0.0943
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80923	0.781	-0.8717	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03745	0.0384	0.00093	0.00643	0.71412	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5	0.865	1.860	0.0902
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9143	0.781	-0.326	-1.1665
F-Test indicates equal variances (p = 0.51)	2.04489	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03549	0.03639	0.0044	0.00588	0.41235	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-075	0.9700	0.9898	1.4016	1.1731	1.4588	9.115	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-078	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-079	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-080	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
AT5-081	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-082	0.9600	0.9796	1.3789	1.1731	1.4588	9.073	5		
AT5-083	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-084	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-085	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-086	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-087	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-088	0.9500	0.9694	1.3562	1.1731	1.4588	8.630	5		
AT5-089	1.0000	1.0204	1.4588	1.4588	1.4588	0.000	5		
AT5-090	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-091	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-162	0.9600	0.9796	1.3714	1.2490	1.4588	6.481	5		
Control	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	27.50	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.64015	0.781	-0.4841	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5		
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5	31.00	19.00
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5	33.00	19.00
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5	33.00	19.00
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5	31.50	19.00
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5	29.50	19.00
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5	27.50	19.00
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5	29.50	19.00
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5	29.00	19.00
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5	29.00	19.00
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5	31.00	19.00
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5	31.00	19.00
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5	29.00	19.00
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5	29.50	19.00
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5	27.00	19.00
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5	35.00	19.00
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5	31.00	19.00
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5	29.50	19.00
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5	31.00	19.00
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5	31.00	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.93987	1.035	-0.9809	0.3562
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)

Wilcoxon Rank Sum Test indicates no significant differences

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5	-0.434	1.860	0.1294
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79952	0.781	-1.4582	1.52183
F-Test indicates equal variances (p = 0.50)	2.06603	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06504	0.0677	0.00228	0.01211	0.67581	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5	-1.412	1.860	0.0851
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.91131	0.781	-0.5412	-0.2049
F-Test indicates equal variances (p = 0.30)	3.06733	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03955	0.04116	0.01045	0.00524	0.19559	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5	-1.412	1.860	0.0851
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.91131	0.781	-0.5412	-0.2049
F-Test indicates equal variances (p = 0.30)	3.06733	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03955	0.04116	0.01045	0.00524	0.19559	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5	-0.786	1.860	0.1075
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.85056	0.781	-1.0785	0.20431
F-Test indicates equal variances (p = 0.92)	1.11348	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.052	0.05412	0.00515	0.00835	0.45479	1, 8

Reviewed by: [signature]

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5	-0.390	1.860	0.1081
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical			Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.86268	0.781			-0.6184	-1.0761
F-Test indicates equal variances (p = 0.90)	1.13824	23.1545				
Hypothesis Test (1-tail, 0.05)	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Homoscedastic t Test indicates no significant differences	0.05236	0.0545	0.00129	0.00845	0.70638	1, 8

Reviewed by:

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5	0.000	1.860	0.1045
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.81938	0.781	-0.2532	-1.3152
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05032	0.05238	0	0.0079	1	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5	-0.390	1.860	0.1081
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.86268	0.781	-0.6184	-1.0761
F-Test indicates equal variances (p = 0.90)	1.13824	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05236	0.0545	0.00129	0.00845	0.70638	1, 8

10-Day Survival Test-48 Hr Survival

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5	-0.109	1.860	0.1276
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.82478	0.781	-1.0075	0.16121
F-Test indicates equal variances (p = 0.52)	1.98169	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06395	0.06656	0.00014	0.01178	0.91562	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5	-0.397	1.860	0.0902
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.86912	0.781	-0.0682	-1.1665
F-Test indicates equal variances (p = 0.51)	2.04489	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.0423	0.04403	0.00093	0.00588	0.70187	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5	-0.865	1.860	0.0902
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9143	0.781	-0.326	-1.1665
F-Test indicates equal variances (p = 0.51)	2.04489	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.0423	0.04403	0.0044	0.00588	0.41235	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

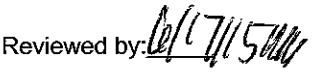
Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5	-0.865	1.860	0.0902
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9143	0.781	-0.326	-1.1665
F-Test indicates equal variances (p = 0.51)	2.04489	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.0423	0.04403	0.0044	0.00588	0.41235	1, 8

Reviewed by: 

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5	-0.397	1.860	0.0902
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.86912	0.781	-0.0682	-1.1665
F-Test indicates equal variances (p = 0.51)	2.04489	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.0423	0.04403	0.00093	0.00588	0.70187	1, 8

Reviewed by: 05/17/2015

10-Day Survival Test

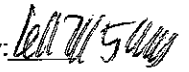
Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5	-0.390	1.860	0.1081
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.86268	0.781	-0.6184	-1.0761
F-Test indicates equal variances (p = 0.90)	1.13824	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05236	0.0545	0.00129	0.00845	0.70638	1, 8

Reviewed by: 

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5	0.231	1.860	0.1222
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.88258	0.781	-0.6684	-0.3429
F-Test indicates equal variances (p = 0.61)	1.73435	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06068	0.06316	0.00058	0.0108	0.82303	1, 8

Reviewed by: 6/17/2015

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5	-2.197	2.132	0.0847
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.84391	0.781	-0.3581	1.70897
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Heteroscedastic t Test indicates no significant differences	0.03934	0.04095	0.01907	0.00395	0.05925	1, 8

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5	-0.865	1.860	0.0902
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9143	0.781	-0.326	-1.1665
F-Test indicates equal variances (p = 0.51)	2.04489	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.0423	0.04403	0.0044	0.00588	0.41235	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5	-0.390	1.860	0.1081
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.86268	0.781	-0.6184	-1.0761
F-Test indicates equal variances (p = 0.90)	1.13824	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05236	0.0545	0.00129	0.00845	0.70638	1, 8

Reviewed by: 5/11/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5	-0.865	1.860	0.0902
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9143	0.781	-0.326	-1.1665
F-Test indicates equal variances (p = 0.51)	2.04489	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.0423	0.04403	0.0044	0.00588	0.41235	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/1/2015	Test ID:	TN-15-130	Sample ID:	Thimble Shoals
End Date:	5/11/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	AA-Ampelisca abdita
Comments:					

Conc-%	1	2	3	4	5
AT5-162	0.9000	1.0000	0.9500	0.9500	1.0000
AT5-075	1.0000	1.0000	0.8500	1.0000	1.0000
AT5-076	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-077	1.0000	1.0000	1.0000	0.9500	1.0000
AT5-078	0.9000	1.0000	1.0000	1.0000	1.0000
AT5-079	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-080	1.0000	0.9500	0.9000	1.0000	0.9500
AT5-081	0.9500	1.0000	1.0000	0.9000	1.0000
AT5-082	1.0000	0.9500	0.8500	1.0000	1.0000
AT5-083	1.0000	0.9500	1.0000	0.9500	0.9500
AT5-084	1.0000	0.9500	1.0000	0.9500	1.0000
AT5-085	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-086	0.9500	1.0000	1.0000	0.9500	0.9500
AT5-087	0.9500	0.9000	1.0000	1.0000	1.0000
AT5-088	0.8500	1.0000	0.9500	1.0000	0.9500
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9500	1.0000	0.9500	1.0000	1.0000
AT5-091	1.0000	0.9500	1.0000	0.9000	1.0000
AT5-092	0.9500	1.0000	1.0000	0.9500	1.0000
Control	0.9500	1.0000	1.0000	0.9500	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-075	0.9700	1.0104	1.4016	1.1731	1.4588	9.115	5			
AT5-076	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9900	1.0313	1.4361	1.3453	1.4588	3.534	5			
AT5-078	0.9800	1.0208	1.4168	1.2490	1.4588	6.620	5			
AT5-079	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-080	0.9600	1.0000	1.3714	1.2490	1.4588	6.481	5			
AT5-081	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-082	0.9600	1.0000	1.3789	1.1731	1.4588	9.073	5			
AT5-083	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-084	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-085	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-086	0.9700	1.0104	1.3907	1.3453	1.4588	4.469	5			
AT5-087	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-088	0.9500	0.9896	1.3562	1.1731	1.4588	8.630	5			
AT5-089	1.0000	1.0417	1.4588	1.4588	1.4588	0.000	5			
AT5-090	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
AT5-091	0.9700	1.0104	1.3941	1.2490	1.4588	6.802	5			
AT5-092	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5			
Control	0.9800	1.0208	1.4134	1.3453	1.4588	4.398	5	-0.865	1.860	0.0902

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9143	0.781	-0.326	-1.1665
F-Test indicates equal variances (p = 0.51)	2.04489	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.0423	0.04403	0.0044	0.00588	0.41235	1, 8

Reviewed by: [signature] 5/11/15

ATTACHMENT III

Leptocheirus plumulosus 10-Day Whole Sediment Test
Data Sheets and Statistical Analyses
(113 pages)

SEDIMENT TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-084

TEST ORGANISM INFORMATION

Common Name: Amphipod

Scientific Name: *Leptocheirus plumulosus*

Lot Number: LP-074

Source: Chesapeake Cultures

Adults Isolated (Time, Date): _

Neonates Pulled (Time, Date): _____

Acclimation: 24hrs Age: 2-4 mm

Culture Water (T/S): 21.0 °C 20.3 ppt

TEST INITIATION

Date	Time	Initials	Activity
5/13/15	1000	GB	Sediment Added to Chambers
5/17/15	1300	VY	Overlying Water Added to Chambers
5/18/15	1125	ME/amm	Organisms Transferred

TEST SET-UP

Sample Number(s): AT4-590 , AT5-075 →AT5-092, AT5-162

Overlying Water: 20 ppt Crystal Sea

Treatment	Volume Test Sediment	Volume Overlying Water
AT4-590 (Lab Control) AT5-075 ↓ AT5-092 AT5-162	200 ml ↓	700 ml ↓

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15 TEST ORGANISM

Client: Thimble Shoals Common Name: Amphipod

QC Test Number: TN-15-084 Scientific Name: *Leptocheirus plumulosus*

Organisms Recovered (date, time, initials): 5/28/15, 1350, IM/NY/MS/HW/DR

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT4-590	A	20	20
(Lab Control)	B	20	18
	C	20	20
	D	20	20
	E	20	20
AT5-075	A	20	20
	B	20	20
	C	20	20
	D	20	18
	E	20	19
AT5-076	A	20	19
	B	20	20
	C	20	20
	D	20	20
	E	20	20
AT5-077	A	20	19
	B	20	19
	C	20	20
	D	20	20
	E	20	20
AT5-078	A	20	19
	B	20	15
	C	20	20
	D	20	20
	E	20	18

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-084

TEST ORGANISM

Common Name: Amphipod

Scientific Name: *Leptocheirus plumulosus*

Organisms Recovered (date, time, initials): _____

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-079	A	20	20
	B	20	20
	C	20	19
	D	20	20
	E	20	20
AT5-080	A	20	20
	B	20	18
	C	20	18
	D	20	18
	E	20	20
AT5-081	A	20	20
	B	20	18
	C	20	20
	D	20	20
	E	20	20
AT5-082	A	20	19
	B	20	20
	C	20	20
	D	20	20
	E	20	18
AT5-083	A	20	20
	B	20	19
	C	20	12
	D	20	18
	E	20	19

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-084

TEST ORGANISM

Common Name: Amphipod

Scientific Name: *Leptocheirus plumulosus*

Organisms Recovered (date, time, initials): _____

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-084	A	20	20
	B	20	15
	C	20	18
	D	20	20
	E	20	15
AT5-085	A	20	18
	B	20	20
	C	20	20
	D	20	17
	E	20	20
AT5-086	A	20	20
	B	20	19
	C	20	19
	D	20	20
	E	20	20
AT5-087	A	20	20
	B	20	18
	C	20	20
	D	20	20
	E	20	20
AT5-088	A	20	19
	B	20	17
	C	20	18
	D	20	17
	E	20	19

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15 TEST ORGANISM

Client: Thimble Shoals Common Name: Amphipod

QC Test Number: TN-15-084 Scientific Name: *Leptocheirus plumulosus*

Organisms Recovered (date, time, initials): _____

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-089	A	20	20
	B	20	18
	C	20	20
	D	20	17
	E	20	19
AT5-090	A	20	17
	B	20	19
	C	20	19
	D	20	18
	E	20	20
AT5-091	A	20	19
	B	20	20
	C	20	19
	D	20	20
	E	20	19
AT5-092	A	20	20
	B	20	20
	C	20	20
	D	20	20
	E	20	19
AT5-162	A	20	20
	B	20	18
	C	20	25
	D	20	~~17~~ 20
	E	20	17

HW 5/23

TOXICITY TEST WATER QUALITY DATA SHEET - NEW SOLUTIONS

Project Number: 70005.15 TEST ORGANISM Beginning Date: 5/18/15 Time: 1425

Client: Thimble Shoals Common Name: Amphipod Ending Date: 5/20/15 Time: 1350

QC Test Number: TN-15-084 Scientific Name: *Leptocheirus plumulosus*

TARGET VALUES: Temp: 20 °C pH: 6.0 - 9.0 DO: ≥4.0 mg/L Salinity: 20 ppt Photoperiod: 24 hr light Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6
AT4-590	Lab Control	21.0							8.3							7.5							20.5						
AT5-075		21.0							8.2							7.4							19.4						
AT5-076		21.0							8.3							7.4							18.1						
AT5-077		21.0							8.3							7.3							19.2						
AT5-078		21.0							8.3							7.5							19.7						
AT5-079		21.0							8.3							7.4							19.2						
AT5-080		21.0							8.4							7.3							18.0						
AT5-081		20.9							8.3							7.3							18.3						
AT5-082		21.0							8.3							7.3							20.4						
AT5-083		21.0							8.3							7.3							20.4						
AT5-084		21.0							8.3							7.4							20.2						
AT5-085		21.0							8.3							7.3							18.1						
AT5-086		20.9							8.3							7.3							20.5						
AT5-087		20.5							8.3							7.3							19.9						
Meter Number		678							678							678							678						
Time		1345							1345							1345							1345						
Initials		DB							DB							DB							DB						

TOXICITY TEST WATER QUALITY DATA SHEET - NEW SOLUTIONS

Project Number: 70005.15 TEST ORGANISM Beginning Date: 5/18/15 Time: 1425

Client: Thimble Shoals Common Name: Amphipod Ending Date: 5/20/15 Time: 1350

QC Test Number: TN-15-084 Scientific Name: *Leptocheirus plumulosus*

TARGET VALUES: Temp: 20 °C pH: 6.0 - 9.0 DO: ≥4.0 mg/L Salinity: 20 ppt Photoperiod: 24 hr light Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6
AT5-088		21.0							8.3							7.2							18.6						
AT5-089		21.0							8.3							7.3							20.5						
AT5-090		21.0							8.4							7.3							20.1						
AT5-091		21.0							8.4							7.2							19.6						
AT5-092		21.0							8.4							7.3							18.0						
AT5-162		20.8							8.2							7.2							18.0						
Meter Number		679							678							678							679						
Time		1345							1345							1345							1345						
Initials		DB							DB							DB							DB						

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15 | TEST ORGANISM | Beginning Date: 5/18/15 Time: 1725

Client: Thimble Shoals | Common Name: Amphipod | Ending Date: 5/20/15 Time: 1350

QC Test Number: TN-15-084 | Scientific Name: *Leptocheirus plumulosus*

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: >4.0 mg/L Salinity: 20 ppt Photoperiod: 24 hr light Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
AT4-590	Lab Control	20.4	19.2	19.4	19.1	19.0	19.0	19.4	7.4	7.4	7.9	7.7	7.2	7.9	7.8	7.5	8.2	7.8	8.0	8.4	8.0	8.2	20.8	21.8	21.7	22.0	19.6	19.7	19.7
AT5-075		20.3	19.6	19.0	19.0	19.4	19.2	19.3	7.5	7.6	7.9	8.1	7.6	7.9	7.8	7.5	8.2	7.9	8.1	8.4	7.9	8.2	19.3	20.0	19.6	20.7	21.3	21.4	21.2
AT5-076		20.3	19.8	19.0	19.1	19.5	19.2	19.3	7.6	7.7	8.0	8.2	7.7	8.0	7.9	7.5	8.1	7.8	8.1	8.3	7.9	8.1	18.0	18.0	18.0	18.3	18.8	19.0	19.1
AT5-077		20.3	19.0	19.0	19.0	19.0	19.1	19.2	7.7	7.8	8.1	8.3	7.8	8.0	7.9	7.5	8.2	7.6	8.0	8.5	7.9	8.1	18.8	19.7	19.6	21.3	22.0	22.0	21.9
AT5-078		20.1	19.2	19.0	19.0	19.0	19.0	19.2	7.7	7.8	8.1	8.3	7.9	8.0	7.9	7.5	8.0	7.9	8.0	8.4	7.8	8.1	19.7	20.3	19.9	20.7	21.4	21.1	21.0
AT5-079		20.2	19.5	19.0	19.1	19.2	19.1	19.4	7.8	7.9	8.1	8.3	7.9	8.0	7.8	7.5	8.0	7.9	8.0	8.3	7.8	8.2	18.0	18.6	18.3	19.2	19.9	19.9	19.9
AT5-080		20.3	19.5	19.0	19.2	19.3	19.1	19.3	7.9	7.9	8.1	8.3	8.0	8.1	8.0	7.5	8.1	7.8	8.1	8.3	7.9	8.1	18.0	18.2	18.0	18.6	19.1	19.3	19.3
AT5-081		20.3	19.6	19.0	19.6	19.8	19.2	19.1	7.8	7.9	8.1	8.3	8.0	8.1	8.1	7.5	8.1	7.7	7.9	8.3	8.0	8.0	20.4	21.1	20.8	21.7	22.0	22.0	21.9
AT5-082		20.3	19.5	19.0	19.5	19.6	19.3	19.2	7.9	8.0	8.1	8.3	8.0	8.0	8.0	7.5	8.1	7.8	7.9	8.2	7.8	8.0	20.4	21.2	20.8	21.7	22.0	22.0	22.0
AT5-083		20.4	19.6	19.0	19.6	19.8	19.2	19.1	7.9	8.0	8.2	8.4	8.1	8.0	8.1	7.5	8.1	7.8	7.9	8.2	7.9	8.1	19.2	19.9	19.6	20.4	21.0	21.1	21.4
AT5-084		20.4	19.7	19.0	19.6	19.8	19.1	19.4	7.9	8.0	8.2	8.4	8.1	8.1	8.2	7.5	8.1	7.7	7.9	8.4	7.9	7.7	19.4	20.2	19.8	20.6	21.3	21.3	21.3
AT5-085		20.3	19.7	19.0	19.7	19.5	19.2	19.1	8.0	8.1	8.2	8.4	8.1	8.1	8.2	7.5	8.1	7.6	7.9	8.2	8.1	8.1	18.0	18.7	18.5	19.5	20.3	20.4	20.3
AT5-086		20.3	19.6	19.0	19.6	19.9	19.4	19.4	8.0	8.1	8.2	8.3	8.1	8.1	8.1	7.5	8.1	7.8	7.9	8.2	8.0	8.0	18.3	19.0	18.7	19.4	20.0	20.3	20.5
AT5-087		20.3	19.0	19.0	19.0	19.0	19.0	19.1	8.0	8.1	8.2	8.4	8.1	8.1	8.1	7.4	8.3	7.9	7.9	8.4	8.0	8.0	19.5	20.4	20.2	20.1	21.0	20.9	20.7
Meter Number		677	677	677	678	677	678	678	677	677	677	678	677	678	678	677	677	677	678	677	678	678	677	677	677	678	677	678	678
Time		1000	1332	1345	1110	1210	1205	1005	1000	1332	1345	1110	1210	1205	1005	1000	1332	1345	1110	1210	1205	1005	1000	1332	1345	1110	1210	1205	1005
Initials		MJ	MJ	VV	MJ	JM	VV	VV	MJ	MJ	VV	MJ	JM	VV	VV	MJ	MJ	VV	MJ	JM	VV	VV	MJ	MJ	VV	MJ	JM	VV	VV

JM 5/20/15

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-084

TEST ORGANISM
Common Name: Amphipod
Scientific Name: *Leptocheirus plumulosus*

Beginning Date: 5/18/15 Time: 1425
Ending Date: 5/28/15 Time: 1350

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: >4.0 mg/L Salinity: 20 ppt Photoperiod: 24 hr light Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
AT5-088		20.0	19.0	19.0	19.0	19.0	19.0	19.0	8.1	8.1	8.3	8.4	8.2	8.1	8.0	7.5	8.2	7.9	7.9	7.6	8.0	8.0	18.0	18.5	18.4	19.2	20.1	20.2	20.3
AT5-089		19.9	19.0	19.0	19.1	19.2	19.2	19.0	8.0	8.1	8.3	8.4	8.2	8.1	8.1	7.6	8.3	7.9	8.0	7.8	8.0	7.9	20.5	21.3	20.8	21.6	22.0	22.0	22.1
AT5-090		19.8	19.3	19.0	19.1	19.0	19.1	19.1	8.1	8.1	8.2	8.4	8.2	8.1	8.2	7.5	8.2	7.7	7.9	8.2	7.9	7.9	19.8	20.5	20.1	20.9	21.6	21.6	21.2
AT5-091		19.8	19.2	19.0	19.0	19.0	19.1	19.1	8.1	8.1	8.3	8.4	8.2	8.1	8.0	7.5	8.2	7.9	7.9	8.3	7.8	7.9	19.6	20.4	20.1	21.1	21.9	22.0	22.0
AT5-092		19.7	19.2	19.0	19.0	19.0	19.3	19.3	8.1	8.1	8.3	8.4	8.2	8.1	8.0	7.6	8.2	8.0	8.0	8.4	7.9	7.9	19.0	19.9	19.7	21.0	22.0	22.0	22.0
AT5-162		19.7	19.3	19.0	19.0	19.0	19.1	19.3	8.2	8.1	8.3	8.4	8.2	8.1	8.0	7.6	8.3	7.8	8.0	8.2	7.9	8.0	18.4	19.9	19.6	19.8	20.5	20.6	20.4
Meter Number		677	677	677	678	677	678	678	677	677	677	678	677	678	678	677	677	677	678	677	678	678	677	677	677	678	677	678	678
Time		1006	1332	1345	1110	1210	1205	1005	1006	1332	1345	1110	1210	1205	1005	1006	1332	1345	1110	1210	1205	1005	1006	1332	1345	1110	1210	1205	1005
Initials		MJ	MJ	[illegible]	MJ	IM	[illegible]	[illegible]	MJ	MJ	[illegible]	MJ	IM	[illegible]	[illegible]	MJ	MJ	[illegible]	MJ	IM	[illegible]	[illegible]	MJ	MJ	[illegible]	MJ	IM	[illegible]	[illegible]

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-084

TEST ORGANISM
Common Name: Amphipod
Scientific Name: *Leptocheirus plumulosus*

Beginning Date: 5/18/15 Time: 1725
Ending Date: 5/20/15 Time: 1530

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: ≥4.0 mg/L Salinity: 20 ppt Photoperiod: 24-hr light Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
AT1-510	Lab Control	~~21.3~~ 21.0	21.0						7.9	7.6						7.3	7.3						22.0	20.4					
AT5-075		21.0	21.0						8.2	7.7						7.4	7.3						22.0	21.8					
AT5-076		21.0	21.0						8.3	7.8						7.4	7.4						18.8	18.6					
AT5-077		21.0	21.0						8.3	7.9						6.1	7.4						18.7	19.2					
AT5-078		21.0	21.0						8.4	7.9						7.3	7.4						20.4	20.3					
AT5-079		21.0	21.0						8.4	8.0						6.8	7.3						20.8	20.7					
AT5-080		21.0	21.0						8.4	8.0						7.3	7.2						20.0	20.0					
AT5-081		21.0	21.0						8.4	8.0						7.4	7.3						21.8	21.7					
AT5-082		21.0	21.0						8.4	8.0						7.4	6.7						21.6	21.9					
AT5-083		21.0	21.0						8.2	8.1						6.1	7.3						21.7	21.6					
AT5-084		21.0	21.0						8.2	8.1						7.2	6.5						21.5	21.3					
AT5-085		21.0	21.0						8.3	8.1						7.3	6.1						21.5	21.6					
AT5-086		21.0	21.0						8.3	8.1						7.4	6.8						20.6	20.4					
AT5-087		20.9	21.0						8.3	8.1						7.5	7.3						21.4	21.4					
	Meter Number	678	677						678	677						678	677						678	677					
	Time	1150	1005						1150	1005						1150	1005						1150	1005					
	Initials	JM	JM						JM	JM						JM	JM						JM	JM					

JM 5/26

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-084

TEST ORGANISM
Common Name: Amphipod
Scientific Name: *Leptocheirus plumulosus*

Beginning Date: 5/16/15 Time: 1725
Ending Date: 5/28/15 Time: 1330

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: ≥4.0 mg/L Salinity: 20 ppt Photoperiod: 24-hr light Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
AT5-088		20.8	21.0						8.3	8.1						7.5	7.3						21.1	21.1					
AT5-089		21.0	21.0						8.3	8.1						7.5	7.4						21.5	21.8					
AT5-090		20.9	21.0						8.3	8.2						7.5	7.4						21.6	21.6					
AT5-091		20.9	21.0						8.3	8.2						7.5	7.4						21.9	21.9					
AT5-092		21.0	21.0						8.4	8.2						7.5	7.4						21.5	21.6					
AT5-162		21.0	21.0						8.4	8.2						7.4	7.3						21.2	20.9					
Meter Number		678	677						678	677						678	677						678	677					
Time		1150	1005						1150	1005						1150	1005						1150	1005					
Initials		JM	JM						JM	JM						JM	JM						JM	JM					

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-084

Date/Time/Initials	Comments/Activity

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	25.50	19.00
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	28.00	19.00
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	26.00	19.00
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5	22.50	19.00
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	28.00	19.00
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5	22.50	19.00
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5	27.50	19.00
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	25.50	19.00
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5	20.50	19.00
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5	21.50	19.00
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5	24.50	19.00
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	26.00	19.00
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5	27.50	19.00
*AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5	17.50	19.00
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5	22.50	19.00
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5	20.50	19.00
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	24.00	19.00
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	28.00	19.00
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5	26.50	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.97257	1.035	-0.7446	0.8206
Bartlett's Test indicates equal variances (p = 0.09)	27.8645	36.1909		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Rank Sum Test indicates significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	25.50	19.00
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.72226	0.781	-1.341	0.22033
F-Test indicates equal variances (p = 0.98)	1.02224	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/2015

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	28.00	19.00
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.63919	0.781	-1.9825	3.12563
F-Test indicates equal variances (p = 0.26)	3.41542	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by:

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

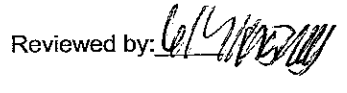
Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	26.00	19.00
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.66842	0.781	-1.5724	1.59274
F-Test indicates equal variances (p = 0.45)	2.27695	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5	1.199	1.860	0.1629
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.85976	0.781	-1.0492	0.65837
F-Test indicates equal variances (p = 0.27)	3.36143	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07356	0.07534	0.02757	0.01918	0.2649	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	28.00	19.00
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.63919	0.781	-1.9825	3.12563
F-Test indicates equal variances (p = 0.26)	3.41542	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5	1.265	1.860	0.1233
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.89039	0.781	-0.3182	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05142	0.05266	0.01759	0.01099	0.2415	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5	27.50	19.00
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.50963	0.781	-1.7788	1.40625
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5	25.50	19.00
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.72226	0.781	-1.341	0.22033
F-Test indicates equal variances (p = 0.98)	1.02224	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5	1.494	1.860	0.1990
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.82044	0.781	-1.5662	2.89878
F-Test indicates equal variances (p = 0.13)	5.51226	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.096	0.09832	0.06394	0.02864	0.17349	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5	1.628	1.860	0.1881
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.87073	0.781	-0.1632	-0.9694
F-Test indicates equal variances (p = 0.16)	4.8146	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.08898	0.09113	0.06775	0.02557	0.14224	1, 8

Reviewed by: 6/17/15 MB

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5	0.765	1.860	0.1390
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.78798	0.781	-0.9404	-0.8591
F-Test indicates equal variances (p = 0.47)	2.17439	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05986	0.06131	0.00816	0.01396	0.4665	1, 8

Reviewed by: le/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5	26.00	19.00
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.66842	0.781	-1.5724	1.59274
F-Test indicates equal variances (p = 0.45)	2.27695	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5	27.50	19.00
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.50963	0.781	-1.7788	1.40625
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/2015

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
*AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5	2.802	1.860	0.1059
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.86257	0.781	-0.963	-0.0385
F-Test indicates equal variances (p = 0.87)	1.18342	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates significant differences	0.04253	0.04355	0.06372	0.00811	0.02311	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5	1.132	1.860	0.1312
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.85752	0.781	-0.7046	-0.7223
F-Test indicates equal variances (p = 0.57)	1.8281	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.0556	0.05694	0.01593	0.01244	0.29052	1, 8

Reviewed by: 6/17/2021

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5	1.599	1.860	0.1192
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.84943	0.781	-0.7077	0.00107
F-Test indicates equal variances (p = 0.79)	1.33541	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04926	0.05045	0.02628	0.01027	0.14838	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5	0.520	1.860	0.0936
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80655	0.781	-1.3416	1.59274
F-Test indicates equal variances (p = 0.45)	2.27695	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03651	0.03739	0.00171	0.00633	0.61743	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5		
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5	28.00	19.00
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.63919	0.781	-1.9825	3.12563
F-Test indicates equal variances (p = 0.26)	3.41542	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
Control	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-075	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9388	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9592	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9898	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8980	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8980	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9694	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0000	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0000	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9184	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9592	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9490	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9898	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0102	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9694	1.3621	1.1731	1.4706	10.316	5	0.725	1.860	0.1405

Auxiliary Tests	Statistic	Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80263	0.781		-0.9265	-0.8709
F-Test indicates equal variances (p = 0.45)	2.24445	23.1545			
Hypothesis Test (1-tail, 0.05)	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Homoscedastic t Test indicates no significant differences	0.06071	0.06217	0.0075	0.01427	0.48922	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5		
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5	33.00	19.00
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5	36.00	19.00
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5	34.50	19.00
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5	28.50	19.00
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5	36.00	19.00
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5	28.50	19.00
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5	34.50	19.00
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5	33.00	19.00
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5	27.00	19.00
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5	25.50	19.00
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5	30.50	19.00
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5	34.50	19.00
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5	34.50	19.00
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5	23.50	19.00
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5	29.00	19.00
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5	33.00	19.00
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5	36.00	19.00
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5	31.00	19.00
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5	34.50	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.97257	1.035	-0.7446	0.8206
Bartlett's Test indicates equal variances (p = 0.09)	27.8645	36.1909		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Rank Sum Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5	-1.240	1.860	0.1198
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9157	0.781	-0.3732	-0.8605
F-Test indicates equal variances (p = 0.80)	1.30636	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07065	0.07551	0.01593	0.01037	0.25028	1, 8

Reviewed by: 6/17/2015

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5	-2.275	1.860	0.0995
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.88074	0.781	-0.1968	0.62742
F-Test indicates equal variances (p = 0.17)	4.56099	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05712	0.06105	0.03707	0.00716	0.05246	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5	-1.773	1.860	0.1039
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.91581	0.781	-0.0887	-0.2184
F-Test indicates equal variances (p = 0.31)	3.04066	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06	0.06413	0.02454	0.0078	0.11413	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5	0.027	1.860	0.1690
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9096	0.781	-0.6927	0.00139
F-Test indicates equal variances (p = 0.39)	2.51715	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.10605	0.11334	1.5E-05	0.02066	0.97886	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5	-2.275	1.860	0.0995
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.88074	0.781	-0.1968	0.62742
F-Test indicates equal variances (p = 0.17)	4.56099	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05712	0.06105	0.03707	0.00716	0.05246	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5	-0.264	1.860	0.1313
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.87683	0.781	0.26128	-1.6696
F-Test indicates equal variances (p = 0.91)	1.12325	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07866	0.08407	0.00087	0.01247	0.79853	1, 8

Reviewed by: 6/17/2015

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5	-1.599	1.860	0.1192
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.84943	0.781	-0.7077	0.00107
F-Test indicates equal variances (p = 0.79)	1.33541	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07027	0.0751	0.02628	0.01027	0.14838	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5	-1.240	1.860	0.1198
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9157	0.781	-0.3732	-0.8605
F-Test indicates equal variances (p = 0.80)	1.30636	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07065	0.07551	0.01593	0.01037	0.25028	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5	0.523	1.860	0.2041
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.90656	0.781	-1.3128	2.22181
F-Test indicates equal variances (p = 0.20)	4.12776	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.1332	0.14237	0.00824	0.03012	0.61514	1, 8

Reviewed by: 6/17/15 dw

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5	0.597	1.860	0.1934
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.91905	0.781	0.01421	-1.3087
F-Test indicates equal variances (p = 0.24)	3.60533	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.12477	0.13335	0.00964	0.02705	0.56698	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5	-0.578	1.860	0.1461
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.90379	0.781	-0.4278	-1.4364
F-Test indicates equal variances (p = 0.65)	1.62825	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.08917	0.0953	0.00515	0.01544	0.57939	1, 8

Reviewed by: 6/29/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5	-1.773	1.860	0.1039
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.91581	0.781	-0.0887	-0.2184
F-Test indicates equal variances (p = 0.31)	3.04066	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06	0.06413	0.02454	0.0078	0.11413	1, 8

Reviewed by: 6/17/15 (AW)

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5	-1.599	1.860	0.1192
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.84943	0.781	-0.7077	0.00107
F-Test indicates equal variances (p = 0.79)	1.33541	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07027	0.0751	0.02628	0.01027	0.14838	1, 8

Reviewed by: 6/17/15 MB

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5	0.922	1.860	0.1152
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.956	0.781	0.02855	-1.1146
F-Test indicates equal variances (p = 0.67)	1.58036	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06753	0.07218	0.00816	0.00959	0.38326	1, 8

Reviewed by: 6/7/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5	-0.304	1.860	0.1387
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9263	0.781	-0.1503	-1.3796
F-Test indicates equal variances (p = 0.77)	1.36894	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.08387	0.08964	0.00129	0.01391	0.76872	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5	-1.367	1.860	0.1039
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.95755	0.781	0.07992	-0.2184
F-Test indicates equal variances (p = 0.31)	3.04066	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06	0.06413	0.01458	0.0078	0.2088	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5	-2.275	1.860	0.0995
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.88074	0.781	-0.1968	0.62742
F-Test indicates equal variances (p = 0.17)	4.56099	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05712	0.06105	0.03707	0.00716	0.05246	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5	-0.602	1.860	0.1476
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.90851	0.781	-0.4296	-1.4364
F-Test indicates equal variances (p = 0.63)	1.68071	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.09022	0.09642	0.0057	0.01574	0.56391	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-090	0.9300	1.0000	1.3143	1.1731	1.4588	8.246	5			
AT5-075	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9892	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	1.0108	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0430	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9462	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9462	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0215	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0538	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9677	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	1.0108	1.3370	1.1731	1.4588	9.484	5			
AT5-091	0.9700	1.0430	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0645	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	1.0215	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0538	1.4168	1.2490	1.4588	6.620	5	-1.599	1.860	0.1192

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.84943	0.781	-0.7077	0.00107
F-Test indicates equal variances (p = 0.79)	1.33541	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07027	0.0751	0.02628	0.01027	0.14838	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5		
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5	28.50	19.00
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5	32.50	19.00
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	30.00	19.00
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5	24.50	19.00
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5	32.50	19.00
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5	23.00	19.00
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5	31.00	19.00
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5	28.50	19.00
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5	22.00	19.00
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5	23.00	19.00
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5	27.00	19.00
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	30.00	19.00
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5	31.00	19.00
*AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5	18.00	19.00
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5	24.50	19.00
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5	22.00	19.00
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5	32.50	19.00
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5	28.00	19.00
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5	31.00	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.97257	1.035	-0.7446	0.8206
Bartlett's Test indicates equal variances (p = 0.09)	27.8645	36.1909		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Rank Sum Test indicates significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5	-0.068	1.860	0.0943
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79536	0.781	-0.6462	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04133	0.04271	3E-05	0.00643	0.94746	1, 8

Reviewed by:

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5	-1.265	1.860	0.0667
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.89039	0.781	-0.3182	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.02761	0.02853	0.00515	0.00322	0.2415	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	-0.577	1.860	0.0731
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79894	0.781	0	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03067	0.03168	0.00129	0.00386	0.57958	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5	0.964	1.860	0.1521
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.89809	0.781	-0.9234	1.50165
F-Test indicates equal variances (p = 0.07)	7.65381	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07425	0.07671	0.01555	0.01671	0.36304	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5	-1.265	1.860	0.0667
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.89039	0.781	-0.3182	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.02761	0.02853	0.00515	0.00322	0.2415	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5	0.989	1.860	0.1086
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.81492	0.781	0.53957	-1.6596
F-Test indicates equal variances (p = 0.26)	3.41542	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04898	0.05061	0.00834	0.00853	0.3518	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5	-0.520	1.860	0.0936
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80655	0.781	-1.3416	1.59274
F-Test indicates equal variances (p = 0.45)	2.27695	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04096	0.04232	0.00171	0.00633	0.61743	1, 8

10-Day Survival Test

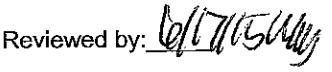
Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5	-0.068	1.860	0.0943
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79536	0.781	-0.6462	-0.6165
F-Test indicates equal variances (p = 0.43)	2.32758	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04133	0.04271	3E-05	0.00643	0.94746	1, 8

Reviewed by: 

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5	1.307	1.860	0.1903
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.83544	0.781	-1.6058	4.0252
F-Test indicates equal variances (p = 0.03)	12.5511	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.09894	0.10222	0.04475	0.02617	0.22737	1, 8

Reviewed by: [signature]

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5	1.440	1.860	0.1788
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.91611	0.781	0.0354	-0.5991
F-Test indicates equal variances (p = 0.04)	10.9626	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.09127	0.0943	0.04794	0.02311	0.1877	1, 8

Reviewed by: CdT 7/15/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5	0.457	1.860	0.1261
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.86669	0.781	-0.6162	-0.7711
F-Test indicates equal variances (p = 0.15)	4.95097	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05878	0.06073	0.0024	0.01149	0.65981	1, 8

Reviewed by: 7/15/14

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5	-0.577	1.860	0.0731
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.79894	0.781	0	-2.2768
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03067	0.03168	0.00129	0.00386	0.57958	1, 8

Reviewed by: [signature]

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5	-0.520	1.860	0.0936
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80655	0.781	-1.3416	1.59274
F-Test indicates equal variances (p = 0.45)	2.27695	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04096	0.04232	0.00171	0.00633	0.61743	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
*AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5	2.809	1.860	0.0884
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.84293	0.781	0.20719	-1.9474
F-Test indicates equal variances (p = 0.54)	1.92403	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates significant differences	0.03829	0.03955	0.04456	0.00565	0.02288	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5	0.850	1.860	0.1174
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.93623	0.781	-0.1864	-0.7923
F-Test indicates equal variances (p = 0.20)	4.16249	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05387	0.05565	0.00721	0.00997	0.42001	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5	1.367	1.860	0.1039
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.95755	0.781	0.07992	-0.2184
F-Test indicates equal variances (p = 0.31)	3.04066	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04643	0.04797	0.01458	0.0078	0.2088	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5	-1.265	1.860	0.0667
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.89039	0.781	-0.3182	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.02761	0.02853	0.00515	0.00322	0.2415	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5	0.416	1.860	0.1278
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.88218	0.781	-0.6141	-0.7548
F-Test indicates equal variances (p = 0.14)	5.11049	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.05974	0.06173	0.00205	0.0118	0.68802	1, 8

Reviewed by: Jeff 7/16/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-091	0.9700	1.0000	1.3907	1.3453	1.4588	4.469	5			
AT5-075	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9485	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9691	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0000	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9072	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9072	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9794	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0103	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9278	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9691	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9588	1.3143	1.1731	1.4588	8.246	5			
AT5-092	0.9900	1.0206	1.4361	1.3453	1.4588	3.534	5			
AT5-162	0.9500	0.9794	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	1.0103	1.4168	1.2490	1.4588	6.620	5	-0.520	1.860	0.0936

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80655	0.781	-1.3416	1.59274
F-Test indicates equal variances (p = 0.45)	2.27695	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04096	0.04232	0.00171	0.00633	0.61743	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5	24.50	19.00
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5	27.50	19.00
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5	25.00	19.00
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5	21.50	19.00
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5	27.50	19.00
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5	21.00	19.00
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5	27.00	19.00
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5	24.50	19.00
*AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5	19.00	19.00
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5	21.00	19.00
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5	24.00	19.00
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5	25.00	19.00
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5	27.00	19.00
*AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5	16.00	19.00
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5	21.50	19.00
*AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5	19.00	19.00
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5	22.50	19.00
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5	26.00	19.00
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5	27.00	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.97257	1.035	-0.7446	0.8206
Bartlett's Test indicates equal variances (p = 0.09)	27.8645	36.1909		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Rank Sum Test indicates significant differences

Reviewed by: 6/17/2015

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5	0.872	1.860	0.0894
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5			
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.82859	0.781	-1.1534	0.36802
F-Test indicates equal variances (p = 0.25)	3.49138	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03137	0.03195	0.0044	0.00578	0.4086	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5	27.50	19.00
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5		
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5		
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.50963	0.781	-1.7788	1.40625
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5	25.00	19.00
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5		
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5		
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.75876	0.781	-0.9546	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: _____

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5	1.550	1.860	0.1491
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5			
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.87307	0.781	-1.065	1.99321
F-Test indicates equal variances (p = 0.04)	11.4807	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06037	0.06148	0.0386	0.01607	0.1598	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5	27.50	19.00
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5		
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5		
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.50963	0.781	-1.7788	1.40625
F-Test indicates equal variances (p = 1.00)	1	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5	1.836	1.860	0.1044
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5			
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.83278	0.781	0.35795	-1.1451
F-Test indicates equal variances (p = 0.14)	5.12313	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03807	0.03877	0.02659	0.00788	0.10361	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5	27.00	19.00
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5		
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5		
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.63919	0.781	-1.9825	3.12563
F-Test indicates equal variances (p = 0.26)	3.41542	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5	0.872	1.860	0.0894
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5			
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.82859	0.781	-1.1534	0.36802
F-Test indicates equal variances (p = 0.25)	3.49138	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.03137	0.03195	0.0044	0.00578	0.4086	1, 8

Reviewed by: [signature]

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5	1.773	1.860	0.1879
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5			
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.81596	0.781	-1.7096	4.45802
F-Test indicates equal variances (p = 0.01)	18.8267	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.0825	0.08401	0.08026	0.02553	0.11416	1, 8

Reviewed by: Ed 7/7/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5			
*AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5	1.940	1.860	0.1763
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5			
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.88638	0.781	-0.0149	-0.3743
F-Test indicates equal variances (p = 0.02)	16.4439	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates significant differences	0.0756	0.07699	0.08452	0.02246	0.08837	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5	1.159	1.860	0.1225
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5			
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.8624	0.781	-0.8261	-0.304
F-Test indicates equal variances (p = 0.08)	7.42646	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04668	0.04754	0.01458	0.01085	0.27974	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5	25.00	19.00
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5		
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5		
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.75876	0.781	-0.9546	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5	27.00	19.00
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5		
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5		
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.63919	0.781	-1.9825	3.12563
F-Test indicates equal variances (p = 0.26)	3.41542	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
*AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5	3.999	1.860	0.0832
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5			
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.86391	0.781	-0.2441	-1.146
F-Test indicates equal variances (p = 0.33)	2.88605	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates significant differences	0.0287	0.02923	0.08002	0.005	0.00396	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5	1.622	1.860	0.1136
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5			
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.90134	0.781	-0.3996	-0.2436
F-Test indicates equal variances (p = 0.10)	6.24373	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04236	0.04314	0.02454	0.00933	0.14346	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5			
*AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5	2.275	1.860	0.0995
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5			
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.88074	0.781	-0.1968	0.62742
F-Test indicates equal variances (p = 0.17)	4.56099	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates significant differences	0.03584	0.03649	0.03707	0.00716	0.05246	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5	1.265	1.860	0.0667
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5			
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.89039	0.781	-0.3182	-1.0157
F-Test indicates equal variances (p = 0.70)	1.5	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.022	0.0224	0.00515	0.00322	0.2415	1, 8

Reviewed by:

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5			
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5	1.108	1.860	0.1242
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.87768	0.781	-0.816	-0.2998
F-Test indicates equal variances (p = 0.07)	7.66573	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.04753	0.04841	0.01369	0.01116	0.30017	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-092	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-075	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9293	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0000	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9495	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	0.9798	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.8889	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.8889	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	0.9596	1.3597	1.1731	1.4588	10.171	5		
AT5-086	0.9800	0.9899	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9091	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9495	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9394	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	0.9798	1.3907	1.3453	1.4588	4.469	5		
AT5-162	0.9500	0.9596	1.3621	1.1731	1.4706	10.316	5		
Control	0.9800	0.9899	1.4168	1.2490	1.4588	6.620	5	27.00	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.63919	0.781	-1.9825	3.12563
F-Test indicates equal variances (p = 0.26)	3.41542	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: [signature]

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5		
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5	27.50	19.00
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5	29.00	19.00
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5	28.00	19.00
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5	24.50	19.00
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5	29.00	19.00
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5	25.50	19.00
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5	28.50	19.00
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5	27.50	19.00
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5	23.50	19.00
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5	22.50	19.00
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5	26.00	19.00
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5	28.00	19.00
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5	28.50	19.00
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5	21.50	19.00
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5	25.00	19.00
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5	24.00	19.00
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5	27.00	19.00
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5	29.00	19.00
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5	28.50	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.97257	1.035	-0.7446	0.8206
Bartlett's Test indicates equal variances (p = 0.09)	27.8645	36.1909		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Rank Sum Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5	-0.423	1.860	0.1410
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.83135	0.781	-0.7181	-1.3242
F-Test indicates equal variances (p = 0.46)	2.19562	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07445	0.07779	0.00257	0.01437	0.68347	1, 8

Reviewed by: 7/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5	-1.108	1.860	0.1242
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.87768	0.781	-0.816	-0.2998
F-Test indicates equal variances (p = 0.07)	7.66573	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06389	0.06676	0.01369	0.01116	0.30017	1, 8

Reviewed by: [signature]

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5	-0.747	1.860	0.1278
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.88421	0.781	-0.7048	-0.7548
F-Test indicates equal variances (p = 0.14)	5.11049	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06608	0.06905	0.00658	0.0118	0.47657	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5	0.506	1.860	0.1847
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.87836	0.781	-0.7489	-0.8837
F-Test indicates equal variances (p = 0.71)	1.49767	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.104	0.10867	0.00631	0.02465	0.6265	1, 8

Reviewed by: 6/17/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5	-1.108	1.860	0.1242
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.87768	0.781	-0.816	-0.2998
F-Test indicates equal variances (p = 0.07)	7.66573	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06389	0.06676	0.01369	0.01116	0.30017	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5	0.359	1.860	0.1509
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.82547	0.781	-0.2265	-1.8929
F-Test indicates equal variances (p = 0.71)	1.4963	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.08093	0.08456	0.00212	0.01647	0.72897	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5	-0.725	1.860	0.1405
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80263	0.781	-0.9265	-0.8709
F-Test indicates equal variances (p = 0.45)	2.24445	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07414	0.07746	0.0075	0.01427	0.48922	1, 8

Reviewed by: [signature]

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5	-0.423	1.860	0.1410
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.83135	0.781	-0.7181	-1.3242
F-Test indicates equal variances (p = 0.46)	2.19562	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07445	0.07779	0.00257	0.01437	0.68347	1, 8

Reviewed by: 6/17/15 GM

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5	0.900	1.860	0.2172
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.85934	0.781	-1.2226	0.98745
F-Test indicates equal variances (p = 0.41)	2.45596	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.12779	0.13352	0.02765	0.03411	0.39425	1, 8

Reviewed by:

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5	0.986	1.860	0.2072
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.87058	0.781	-0.1425	-1.7814
F-Test indicates equal variances (p = 0.48)	2.14512	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.12033	0.12573	0.03018	0.03105	0.35305	1, 8

Reviewed by: [signature] 7/15/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5		
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5		
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5		
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5		
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5		
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5		
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5		
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5		
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5		
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5		
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5		
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5	26.00	19.00
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5		
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5		
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5		
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5		
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5		
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5		
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5		
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5		

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.72547	0.781	-0.6139	-1.8505
F-Test indicates equal variances (p = 0.98)	1.03222	23.1545		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Reviewed by: 6/17/15

10-Day Survival Test

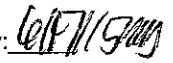
Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5	-0.747	1.860	0.1278
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.88421	0.781	-0.7048	-0.7548
F-Test indicates equal variances (p = 0.14)	5.11049	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06608	0.06905	0.00658	0.0118	0.47657	1, 8

Reviewed by: 

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5	-0.725	1.860	0.1405
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80263	0.781	-0.9265	-0.8709
F-Test indicates equal variances (p = 0.45)	2.24445	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07414	0.07746	0.0075	0.01427	0.48922	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5	1.423	1.860	0.1371
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.84678	0.781	-0.5151	-1.3881
F-Test indicates equal variances (p = 0.37)	2.65613	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07196	0.07519	0.02751	0.01359	0.19258	1, 8

Reviewed by: [signature] 7/15/15

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5	0.296	1.860	0.1574
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.83506	0.781	-0.4544	-1.7794
F-Test indicates equal variances (p = 0.85)	1.22775	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.08523	0.08905	0.00157	0.01791	0.77464	1, 8

Reviewed by: [signature]

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5	0.602	1.860	0.1476
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.90851	0.781	-0.4296	-1.4364
F-Test indicates equal variances (p = 0.63)	1.68071	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07873	0.08226	0.0057	0.01574	0.56391	1, 8

Reviewed by: [signature]

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5	-0.416	1.860	0.1278
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.88218	0.781	-0.6141	-0.7548
F-Test indicates equal variances (p = 0.14)	5.11049	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06608	0.06905	0.00205	0.0118	0.68802	1, 8

Reviewed by:

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5	-1.108	1.860	0.1242
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.87768	0.781	-0.816	-0.2998
F-Test indicates equal variances (p = 0.07)	7.66573	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.06389	0.06676	0.01369	0.01116	0.30017	1, 8

10-Day Survival Test

Start Date:	5/18/2015	Test ID:	TN-15-084	Sample ID:	Thimble Shoals
End Date:	5/28/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	LP-Leptocheirus plumulosus
Comments:					

Conc-%	1	2	3	4	5
AT5-162	1.0000	0.9000	1.0000	1.0000	0.8500
AT5-075	1.0000	1.0000	1.0000	0.9000	0.9500
AT5-076	0.9500	1.0000	1.0000	1.0000	1.0000
AT5-077	0.9500	0.9500	1.0000	1.0000	1.0000
AT5-078	0.9500	0.7500	1.0000	1.0000	0.9000
AT5-079	1.0000	1.0000	0.9500	1.0000	1.0000
AT5-080	1.0000	0.9000	0.9000	0.9000	1.0000
AT5-081	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-082	0.9500	1.0000	1.0000	1.0000	0.9000
AT5-083	1.0000	0.9500	0.6000	0.9000	0.9500
AT5-084	1.0000	0.7500	0.9000	1.0000	0.7500
AT5-085	0.9000	1.0000	1.0000	0.8500	1.0000
AT5-086	1.0000	0.9500	0.9500	1.0000	1.0000
AT5-087	1.0000	0.9000	1.0000	1.0000	1.0000
AT5-088	0.9500	0.8500	0.9000	0.8500	0.9500
AT5-089	1.0000	0.9000	1.0000	0.8500	0.9500
AT5-090	0.8500	0.9500	0.9500	0.9000	1.0000
AT5-091	0.9500	1.0000	0.9500	1.0000	0.9500
AT5-092	1.0000	1.0000	1.0000	1.0000	0.9500
Control	1.0000	0.9000	1.0000	1.0000	1.0000

			Transform: Arcsin Square Root					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
AT5-162	0.9500	1.0000	1.3621	1.1731	1.4706	10.316	5			
AT5-075	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-076	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-077	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-078	0.9200	0.9684	1.3118	1.0472	1.4588	13.108	5			
AT5-079	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
AT5-080	0.9400	0.9895	1.3329	1.2490	1.4588	8.617	5			
AT5-081	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-082	0.9700	1.0211	1.3941	1.2490	1.4588	6.802	5			
AT5-083	0.8800	0.9263	1.2569	0.8861	1.4588	17.519	5			
AT5-084	0.8800	0.9263	1.2522	1.0472	1.4588	16.434	5			
AT5-085	0.9500	1.0000	1.3597	1.1731	1.4588	10.171	5			
AT5-086	0.9800	1.0316	1.4134	1.3453	1.4588	4.398	5			
AT5-087	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5			
AT5-088	0.9000	0.9474	1.2572	1.1731	1.3453	6.858	5			
AT5-089	0.9400	0.9895	1.3370	1.1731	1.4588	9.484	5			
AT5-090	0.9300	0.9789	1.3143	1.1731	1.4588	8.246	5			
AT5-091	0.9700	1.0211	1.3907	1.3453	1.4588	4.469	5			
AT5-092	0.9900	1.0421	1.4361	1.3453	1.4588	3.534	5			
Control	0.9800	1.0316	1.4168	1.2490	1.4588	6.620	5	-0.725	1.860	0.1405

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.80263	0.781	-0.9265	-0.8709
F-Test indicates equal variances (p = 0.45)	2.24445	23.1545		

Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.07414	0.07746	0.0075	0.01427	0.48922	1, 8

Reviewed by: 6/1 7/15

ATTACHMENT IV

Report Quality Assurance Record
(2 pages)

REPORT QUALITY ASSURANCE RECORD

Client: Thimble Shoals

Project Number: 1520401

Author: Michael Chanov

EA Report Number: 7125

REPORT CHECKLIST

QA/QC ITEM	REVIEWER	DATE
1. Samples collected, transported, and received according to study plan requirements.		6/1/15
2. Samples prepared and processed according to study plan requirements.		6/1/15
3. Data collected using calibrated instruments and equipment.		6/1/15
4. Calculations checked:		
- Hand calculations checked		6/1/15
- Documented and verified statistical procedure used.		6/1/15
5. Data input/statistical analyses complete and correct.		6/17/15
6. Reported results and facts checked against original sources.		6/17/15
7. Data presented in figures and tables correct and in agreement with text.		6/17/15
8. Results reviewed for compliance with study plan requirements.		6/1/15

	AUTHOR	DATE
9. Commentary reviewed and resolved.		7/6/15

10. All study plan and quality assurance/control requirements have been met and the report is approved:

PROJECT MANAGER		7/6/15 DATE
QUALITY CONTROL OFFICER		6/17/15 DATE
SENIOR TECHNICAL REVIEWER		6/18/15 DATE

BIOACCUMULATION EXPOSURES

ECOTOXICOLOGICAL TESTING
SOLID PHASE BIOACCUMULATION STUDY
PARALLEL THIMBLE SHOAL TUNNEL PROJECT, VIRGINIA

Prepared for

Jacobs Engineering Group
4500 Main Street, Suite 310
Virginia Beach, Virginia 23462

On Behalf of

Chesapeake Bay Bridge and Tunnel District
32386 Lankford Highway
Cape Charles, Virginia 23310

Prepared by:

EA Engineering, Science, and Technology, Inc., PBC
231 Schilling Circle
Hunt Valley, Maryland 21031
For questions concerning this report, please contact Wayne McCulloch
ph: 410-584-7000

Results relate only to the items tested or to the samples as received by the laboratory.

This report shall not be reproduced, except in full, without written approval of EA Engineering, Science, and Technology, Inc., PBC

This report contains 13 pages plus 4 attachments.

6 July 2015

Wayne L. McCulloch
Laboratory Director

Date

EA Project Number 1520401

ACCREDITED IN ACCORDANCE WITH nelac ID# E87550

EA Report Number 7124

1. INTRODUCTION

At the request of the Jacobs Engineering Group, EA Engineering, Science, and Technology performed solid phase bioaccumulation testing on sediment samples collected from the Parallel Thimble Shoals Tunnel project footprint, which extends from Wise Point on the Eastern shore of Virginia to the Virginia Beach area. The purpose of this study was to evaluate the toxicity and bioaccumulation potential of the sediment samples.

The toxicity testing program consisted of 28-day bioaccumulation tests with *Nereis virens* (sand worm) and *Macoma nasuta* (blunt-nose clam). The bioaccumulation tests evaluated percent recovery of the test organisms and bioaccumulative effects as a result of exposure to the sediment samples. At the completion of the bioaccumulation testing, the organism tissues were submitted for selected chemical analyses, the results of which are not included in this report.

2. MATERIALS AND METHODS

2.1 SAMPLE RECEIPT AND PREPARATION

Fifteen sediment samples from the location of the Parallel Thimble Shoals Tunnel project were collected and composited by EA personnel. Three sediment samples were also collected as references for the Parallel Thimble Shoals Tunnel sediment samples. The reference samples and the composited Parallel Thimble Shoals Tunnel sediment samples were placed into 5-gallon pails. The samples were held at ≤4°C and were hand delivered to EA's Ecotoxicology Laboratory in Hunt Valley, Maryland. Upon receipt at EA, the sediment samples were logged in and assigned EA laboratory accession numbers, and were stored in the dark in a secured walk-in cooler at ≤4°C until used for testing. Table 1 summarizes the sample identification, accession numbers, and collection/receipt information for the sediment samples. Chain-of-custody records are included in Attachment I.

2.2 TOXICITY TEST METHODS

All toxicity testing was conducted following EA's standard operating procedures (EA 2013) which are in accordance with USEPA/USACE guidance (1991, 1998) and USEPA guidance (2000, 2002).

2.2.1 Bioaccumulation Testing

Bioaccumulation testing was conducted using the blunt-nose clam (*Macoma nasuta*) and the sand worm (*Nereis virens*). The adult clams (lot number MA-046) and the adult worms (NV-054) were received from Aquatic Research Organisms (Hampton, New Hampshire) on 22 April 2015. The clams were placed in clean seawater and allowed to depurate accumulated waste products, prior to use in testing. The *N. virens* were loaded into the test immediately to minimize cannibalism/holding stress.

The sediment samples and overlying water were added to the test chambers a minimum of one day prior to test initiation to allow time for the suspended sediments to settle. The overlying

water was 30 ppt artificial seawater (Crystal Sea artificial sea salts). Natural sediments from the organism collection sites were used as laboratory controls in the bioaccumulation testing. Control sediment used in the *N. virens* test was collected from the Damariscotta River, Booth Bay Harbor, Maine. The sediment used in the clam bioaccumulation test was collected from Tomales Bay, California. The bioaccumulation tests were 28 days in duration and were conducted as static renewal assays. The overlying water was replaced three times a week by siphoning approximately 80 percent of the overlying water from the aquaria and replacing with new overlying water taking care not to disturb the sediment surface.

The bioaccumulation tests were conducted in 10-gallon aquaria with 5 L of sediment and 22 L of overlying water per aquarium. There were five replicates per reference and test sediment, and three replicates per control sediment. Based on the analytical tissue biomass requirements, 19 organisms were randomly introduced into each replicate chamber for the *N. virens* testing, while the *M. nasuta* testing utilized 50 organisms per chamber.

During the 28-day exposure period, the test chambers were maintained at a target temperature of 20±1°C for *N. virens* and 12±1°C for *M. nasuta* with a 16-hour light/8-hour dark photoperiod. Gentle aeration was provided to each aquarium throughout the test period. Observations of mortality and abnormal organism behavior were recorded daily, and dead organisms were removed, as observed, from the test chambers. Measurements of temperature, pH, dissolved oxygen, and salinity of the overlying water were recorded on one replicate of each sample and control at test initiation, termination, and three times a week prior to replacement of the overlying water. The water quality measurements are summarized in Table 2 *(N. virens*) and Table 3 (*M. nasuta*). The organisms were not fed during the exposure period.

The bioaccumulation tests were initiated on 22 April (*N. virens*) and 23 April (*M. nasuta*) and completed on 20 April and 21 April 2015, respectively. After 28 days of exposure, the organisms were recovered from the samples and placed into clean artificial sea water for 24 hours to purge their digestive tracts. After the depuration period, the organism tissues were collected and submitted for chemical analyses. Copies of the original data sheets from the *N. virens* and *M. nasuta* testing are included in Attachments II and III, respectively.

2.2.2 Data Analysis

Statistical analyses were performed on the percent recovery data from the bioaccumulation tests according to USEPA/USACE (1998) guidance, using the ToxCalc statistical software package (Version 5.0, Tidepool Scientific Software). If the percent recovery in a sediment sample was at least 10 percent less than the reference samples, then a t-test or Wilcoxon's Two-Sample Test (depending on normal or non-normal data distribution) was performed on that sediment sample. The statistical analyses were performed to determine if exposure to any of the Parallel Thimble Shoals Tunnel sediment samples resulted in significantly lower percent recovery ($p=0.05$) as compared to the organisms exposed to the reference sediments. The percent recovery data from the *N. virens* and *M. nasuta* bioaccumulation testing are summarized in Tables 4 and 5, respectively.

2.2.3 Reference Toxicant Testing

In conformance with EA's quality assurance/quality control program requirements, reference toxicant testing was performed by EA on the acquired lots of *N. virens* and *M. nasuta* utilized in the testing program. The reference toxicant tests consisted of a graded concentration series of a specific toxicant in water only tests, with no sediment present in the test chambers. The results of the reference toxicant tests were compared to established control chart limits. Table 6 presents the results of the reference toxicant testing.

2.3 ARCHIVES

Original data sheets, records, memoranda, notes, and computer printouts are archived at EA's Office in Hunt Valley, Maryland. These data will be retained for a period of 5 years unless a longer period of time is requested by Jacobs Engineering Group.

3. RESULTS AND DISCUSSION

This bioaccumulation study with the sediments from Parallel Thimble Shoals Tunnel was designed and conducted to meet the requirements of the USEPA/USACE dredged material testing program. The results of these toxicity tests met the current NELAC standards, where applicable.

3.1 BIOACCUMULATION TESTING

Statistical analyses were conducted on the sediment samples if the difference in percent recovery between a sediment sample and a reference was at least 10 percent.

Tables 4 and 5 summarize the percent recovery of *N. virens* and *M. nasuta*, respectively, following 28 days of exposure to the sediment samples. Percent recovery of *N. virens* exposed to the Parallel Thimble Shoals Tunnel sediments ranged from 95 to 100 percent. Reference sediments had 97 to 98 percent recovery. The difference in percent recovery between all of the Parallel Thimble Shoals Tunnel sediment samples and the reference samples was less than 10 percent. Therefore, statistical analyses were not conducted on *N. virens* percent recovery data.

Percent recovery of *M. nasuta* exposed to the Parallel Thimble Shoals Tunnel sediments ranged from 88 to 98 percent. Reference sediments had 84 to 96 percent recovery. The difference in percent recovery between all of the Parallel Thimble Shoals Tunnel sediment samples and the reference samples was less than 10 percent. Therefore, statistical analyses were not conducted on *M. nasuta* percent recovery data.

3.2 REFERENCE TOXICANT TESTS

The results of the reference toxicant tests are summarized in Table 6. All of the reference toxicant test results fell within the established laboratory control chart limits.

4. REFERENCES CITED

EA. 2013. EA Ecotoxicology Laboratory Quality Assurance and Standard Operating Procedures Manual. EA Manual ATS-102. Internal document prepared by EA's Ecotoxicology Laboratory, EA Engineering, Science, and Technology, Inc., Hunt Valley, Maryland.

USEPA. 2000. Mid-Atlantic Regional Implementation Manual: Dredged Material Evaluation for Norfolk and Dam Neck Ocean Disposal Sites. USEPA-Region 3.

USEPA. 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms. Fifth Edition. EPA-821-R-02-012. U.S. Environmental Protection Agency, Office of Water, Washington, D.C.

USEPA and USACE. 1991. Evaluation of Dredged Material Proposal for Ocean Disposal, Testing Manual (commonly called "The Green Book").

USEPA and USACE. 1998. Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S.-Inland Testing Manual. EPA/823/B-94/004. U.S. Environmental Protection Agency, Office of Water, Washington, D.C. and Department of the Army, U.S. Army Corps of Engineers, Washington, D.C.

TABLE 1 SUMMARY OF COLLECTION/COMPOSITE AND RECEIPT INFORMATION FOR SEDIMENT SAMPLES – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Sample Identification	EA Accession Number	Composite Time and Date	Receipt Time and Date
TS-1-SED	AT5-075	1400, 6 April 2015	1830, 19 April 2015
TS-2ST-SED	AT5-076	1600, 6 April 2015	1830, 19 April 2015
TS-2SB-SED	AT5-077	1145, 8 April 2015	1830, 19 April 2015
TS-2MT-SED	AT5-078	1045, 7 April 2015	1830, 19 April 2015
TS-2NT-SED	AT5-079	1400, 7 April 2015	1830, 19 April 2015
TS-2NB-SED	AT5-080	1130, 9 April 2015	1830, 19 April 2015
TS-3ST-SED	AT5-081	1600, 7 April 2015	1830, 19 April 2015
TS-3SB-SED	AT5-082	1330, 10 April 2015	1830, 19 April 2015
TS-3NT-SED	AT5-083	1500, 8 April 2015	1830, 19 April 2015
TS-3NB-SED	AT5-084	1130, 14 April 2015	1830, 19 April 2015
TS-4ST-SED	AT5-085	1530, 13 April 2015	1830, 19 April 2015
TS-4SB-SED	AT5-086	1130, 13 April 2015	1830, 19 April 2015
TS-4MT-SED	AT5-087	1600, 10 April 2015	1830, 19 April 2015
TS-4NT-SED	AT5-088	1445, 9 April 2015	1830, 19 April 2015
TS-4NB-SED	AT5-089	1350, 13 April 2015	1830, 19 April 2015
Reference Sediment:			
WBREF-T-SED	AT5-090	1100, 16 April 2015	1830, 19 April 2015
WBREF-B-SED	AT5-091	1100, 6 April 2015	1830, 19 April 2015
OCREF-SED	AT5-092	1145, 18 April 2015	1830, 19 April 2015
CBCON-SED	AT5-162	1400, 16 April 2015	1830, 19 April 2015

TABLE 2 SUMMARY OF WATER QUALITY PARAMETERS MEASURED DURING BIOACCUMULATION TESTING WITH *Nereis virens* – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Test Number: **TN-15-082**
Testing Dates: **4/22/15 – 5/20/15**

Sediment Sample Identification	EA Accession Number	Range			
		Temperature (°C)	pH	Dissolved Oxygen (mg/L)	Salinity (ppt)
TS-1-SED	AT5-075	19.0 – 20.6	6.9 – 8.3	6.9 – 7.7	29.1 – 32.4
TS-2ST-SED	AT5-076	19.0 – 20.6	7.6 – 8.3	6.9 – 7.8	27.7 – 32.5
TS-2SB-SED	AT5-077	19.0 – 20.6	7.2 – 8.3	7.1 – 7.8	28.3 – 32.7
TS-2MT-SED	AT5-078	19.0 – 20.6	7.3 – 8.3	7.0 – 7.8	28.7 – 32.4
TS-2NT-SED	AT5-079	19.0 – 20.7	7.5 – 8.3	7.0 – 7.8	28.4 – 32.4
TS-2NB-SED	AT5-080	19.0 – 20.8	7.6 – 8.3	6.9 – 7.6	28.1 – 32.3
TS-3ST-SED	AT5-081	19.0 – 20.4	7.6 – 8.3	7.2 – 7.6	28.6 – 32.6
TS-3SB-SED	AT5-082	19.0 – 20.4	7.6 – 8.3	6.8 – 7.5	29.4 – 32.9
TS-3NT-SED	AT5-083	19.0 – 20.4	7.7 – 8.3	5.8 – 7.6	29.5 – 33.1[(a)]
TS-3NB-SED	AT5-084	19.0 – 20.4	7.7 – 8.3	6.8 – 8.0	29.3 – 32.4
TS-4ST-SED	AT5-085	19.0 – 20.3	7.7 – 8.3	6.9 – 7.7	29.2 – 32.5
TS-4SB-SED	AT5-086	19.0 – 20.4	7.7 – 8.3	6.9 – 7.6	29.5 – 32.3
TS-4MT-SED	AT5-087	19.0 – 20.4	7.7 – 8.3	6.7 – 7.6	29.5 – 32.4
TS-4NT-SED	AT5-088	19.0 – 20.4	7.7 – 8.3	6.4 – 8.1	29.4 – 32.8
TS-4NB-SED	AT5-089	19.0 – 20.4	7.8 – 8.3	6.7 – 7.9	28.6 – 32.5
WBREF-T-SED	AT5-090	19.0 – 20.7	7.8 – 8.3	6.9 – 7.7	29.7 – 33.0
WBREF-B-SED	AT5-091	19.0 – 20.7	7.8 – 8.3	7.0 – 7.7	28.6 – 32.9
OCREF-SED	AT5-092	19.0 – 20.6	7.7 – 8.3	7.0 – 7.6	29.7 – 32.5
LAB CONTROL	AT5-074	19.0 – 20.6	7.4 – 8.3	5.7 – 8.0	28.0 – 32.4

(a) Salinity was slightly greater than the target of 30 ± 3 ppt, for limited duration.

TABLE 3 SUMMARY OF WATER QUALITY PARAMETERS MEASURED DURING BIOACCUMULATION TESTING WITH *Macoma nasuta* – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Test Number: **TN-15-083**
Testing Dates: **4/23/15 – 5/21/15**

Sediment Sample Identification	**EA Accession Number**	**Range**			
		Temperature (°C)	**pH**	**Dissolved Oxygen (mg/L)**	**Salinity (ppt)**
TS-1-SED	AT5-075	11.0 – 13.0	7.3 – 8.4	8.0 – 8.8	28.4 – 32.1
TS-2ST-SED	AT5-076	11.0 – 12.8	7.4 – 8.4	8.1 – 8.8	28.6 – 32.1
TS-2SB-SED	AT5-077	11.0 – 12.7	7.4 – 8.4	8.2 – 8.9	28.6 – 30.6
TS-2MT-SED	AT5-078	11.0 – 12.7	7.5 – 8.4	8.2 – 8.8	28.9 – 32.2
TS-2NT-SED	AT5-079	11.0 – 12.7	7.5 – 8.4	8.2 – 8.9	28.8 – 32.2
TS-2NB-SED	AT5-080	11.0 – 12.7	7.6 – 8.4	8.2 – 8.9	28.6 – 31.0
TS-3ST-SED	AT5-081	11.0 – 12.7	7.6 – 8.4	8.1 – 8.7	28.7 – 31.5
TS-3SB-SED	AT5-082	11.0 – 12.7	7.6 – 8.4	8.0 – 8.8	28.8 – 31.2
TS-3NT-SED	AT5-083	11.0 – 12.7	7.7 – 8.4	8.0 – 8.7	28.5 – 31.2
TS-3NB-SED	AT5-084	11.0 – 12.6	7.7 – 8.4	8.0 – 8.9	28.5 – 31.2
TS-4ST-SED	AT5-085	11.0 – 12.7	7.7 – 8.4	8.2 – 8.9	28.7 – 31.9
TS-4SB-SED	AT5-086	11.0 – 12.7	7.7 – 8.4	8.2 – 8.9	28.7 – 31.2
TS-4MT-SED	AT5-087	11.0 – 12.6	7.7 – 8.4	8.1 – 8.8	28.5 – 31.2
TS-4NT-SED	AT5-088	11.0 – 12.6	7.8 – 8.4	8.3 – 8.8	28.5 – 31.1
TS-4NB-SED	AT5-089	11.0 – 13.0	8.0 – 8.4	8.1 – 8.9	28.6 – 31.2
WBREF-T-SED	AT5-090	11.0 – 12.7	8.0 – 8.4	6.7 – 8.9	28.5 – 31.2
WBREF-B-SED	AT5-091	11.0 – 12.9	8.0 – 8.4	7.4 – 8.9	28.9 – 31.9
OCREF-SED	AT5-092	11.0 – 12.8	8.1 – 8.4	8.2 – 8.9	29.0 – 31.0
LAB CONTROL	AT5-073	11.4 – 13.4	7.2 – 8.3	7.6 – 8.7	27.9 – 31.3

TABLE 4 RESULTS OF 28-DAY BIOACCUMULATION TESTING WITH *Nereis virens* - PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Test Number: TN-15-082
Testing Dates: 4/22/15 - 5/20/15

Sample Identification	EA Accession Number	No. Alive/No. Exposed[(a)]	28-Day Mean Percent Recovery[(b)]
TS-1-SED	AT5-075	93 / 95	98
TS-2ST-SED	AT5-076	94 / 95	99
TS-2SB-SED	AT5-077	91 / 95	96
TS-2MT-SED	AT5-078	94 / 95	99
TS-2NT-SED	AT5-079	94 / 95	99
TS-2NB-SED	AT5-080	90 / 95	95
TS-3ST-SED	AT5-081	97 / 98	99
TS-3SB-SED	AT5-082	90 / 95	95
TS-3NT-SED	AT5-083	93 / 96	97
TS-3NB-SED	AT5-084	94 / 97	97
TS-4ST-SED	AT5-085	96 / 98	98
TS-4SB-SED	AT5-086	98 / 98	100
TS-4MT-SED	AT5-087	93 / 96	97
TS-4NT-SED	AT5-088	95 / 97	98
TS-4NB-SED	AT5-089	96 / 96	100
Reference Sediments:			
WBREF-T-SED	AT5-090	94 / 97	97
WBREF-B-SED	AT5-091	93 / 95	98
OCREF-SED	AT5-092	94 / 97	97
Control:			
LAB CONTROL	AT5-074	57 / 57	100

(a) Total for five replicates of nineteen organisms for all test sediments except for control, which had three replicates.
(b) Statistically compared to reference, if percent recovery is ≥10 percent difference from reference.

TABLE 5 RESULTS OF 28-DAY BIOACCUMULATION TESTING WITH *Macoma nasuta* - PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Test Number: TN-15-083
Testing Dates: 4/23/15 - 5/21/15

Sample Identification	EA Accession Number	No. Alive/No. Exposed[(a)]	28-Day Mean Percent Recovery[(b)]
TS-1-SED	AT5-075	244 / 250	98
TS-2ST-SED	AT5-076	236 / 250	94
TS-2SB-SED	AT5-077	225 / 250	90
TS-2MT-SED	AT5-078	235 / 250	94
TS-2NT-SED	AT5-079	232 / 250	93
TS-2NB-SED	AT5-080	232 / 250	93
TS-3ST-SED	AT5-081	233 / 250	93
TS-3SB-SED	AT5-082	219 / 250	88
TS-3NT-SED	AT5-083	228 / 250	91
TS-3NB-SED	AT5-084	230 / 250	92
TS-4ST-SED	AT5-085	227 / 250	90
TS-4SB-SED	AT5-086	239 / 250	96
TS-4MT-SED	AT5-087	230 / 250	92
TS-4NT-SED	AT5-088	231 / 250	92
TS-4NB-SED	AT5-089	230 / 250	92
Reference Sediments:			
WBREF-T-SED	AT5-090	239 / 250	96
WBREF-B-SED	AT5-091	227 / 250	91
OCREF-SED	AT5-092	211 / 250	84
Control:			
LAB CONTROL	AT5-073	125 / 150	83

(a) Total for five replicates of fifty organisms for all test sediments except for control, which had three replicates.
(b) Statistically compared to reference, if percent recovery is ≥10 percent difference from reference.

TABLE 6 RESULTS OF REFERENCE TOXICANT TESTING ON ACQUIRED LOTS OF TEST ORGANISMS – PARALLEL THIMBLE SHOAL TUNNEL, VIRGINIA

Test Species	Organism Lot Number	Reference Toxicant	Test Endpoint	Acceptable Control Chart Limits
Nereis virens	NV-054	Potassium chloride (KCl)	48-Hour LC50: 1,208 mg/L KCl	566 – 1,588 mg/L KCl
Macoma nasuta	MA-046	Potassium chloride (KCl)	48-Hour LC50: 1,439 mg/L KCl	817 – 2,203 mg/L KCl

ATTACHMENT I

Chain-of-Custody Records
(4 pages)

Chain-of-Custody Record

EA Engineering, Science, and Technology

EA Ecotoxicology Laboratory
231 Schilling Circle
Hunt Valley, Maryland 21031
Telephone: 410-584-7000
Fax: 410-584-1057

Sample Shipped By: (circle)
Fed. Ex. UPS (Other: HAND)
Tracking #: —

Client: JACOBS/CBRT Project No.: 152401.0007

NPDES Number: _____ Client Purchase Order Number: _____

City/State Collected: VA BEACH, VA / HUNT VALLEY, MD

PLEASE READ SAMPLING INSTRUCTIONS ON BACK OF FORM

Accession Number (office use only)	Grab	Composite	Collection Date/~~Time~~	Collection ~~End~~ Date/Time	Sample Description (including Site, Station Number, and Outfall Number)	Number/Volume of Container
ATS-075		X	4/6/15	1400	TS-1-SED	12
076		X	4/6/15	1600	TS-2ST-SED	12
077		X	4/8/15	1145	TS-2SB-SED	17
078		X	4/7/15	1045	TS-2MT-SED	13
079		X	4/7/15	1400	TS-2NT-SED	15
080		X	4/9/15	1130	TS-2NB-SED	25
081		X	4/7/15	1600	TS-3ST-SED	14
082		X	4/10/15	1330	TS-3SB-SED	20
083		X	4/8/15	1500	TS-3NT-SED	13
084		X	4/14/15	1130	TS-3NB-SED	23
085		X	4/13/15	1530	TS-4ST-SED	13
086		X	4/13/15	1130	TS-4SB-SED	23

Sampled By:	Date/Time	Received By:	Date/Time
[signature]	4/19/15 1200		
Sampler's Printed Name: MORGAN GELINAS	Title: SCIENTIST	Relinquished By:	Date/Time
Relinquished By: [signature]	Date/Time 4/19/15 1830	Received By Laboratory: [signature]	Date/Time 4/19/15 1830

Was Sample Chilled During Collection? (Yes) No

Comments:
5 containers to be used for testing of each sample; all remaining to be held as archive until released by P. Derrick

Sample Collection Parameters
Visual Description:
Temperature (°C):
pH:
TRC (mg/L):
Other:

Chain-of-Custody Record

EA Engineering, Science, and Technology

EA Ecotoxicology Laboratory
231 Schilling Circle
Hunt Valley, Maryland 21031
Telephone: 410-584-7000
Fax: 410-584-1057

Sample Shipped By: (circle)
Fed. Ex. UPS (Other: HAND)
Tracking #: —

Client: JACOBS/CBRT Project No.: 15204O1.0007

NPDES Number: _____ Client Purchase Order Number: _____

City/State Collected: VA BEACH, VA / HUNT VALLEY, MD

PLEASE READ SAMPLING INSTRUCTIONS ON BACK OF FORM

Accession Number (office use only)	Grab	Composite	Collection Start Date/Time	Collection End Date/Time	Sample Description (including Site, Station Number, and Outfall Number)	Number/Volume of Container
ATS-087		X	4/10/15	1100	TS-4MT-SED	13
088		X	4/9/15	1445	TS-4NT-SED	12
089		X	4/13/15	1350	TS-4NB-SED	13
090		X	4/16/15	1100	WBREF-T-SED	9
091		X	4/16/15	1100	WBREF-B-SED	12
092		X	4/10/15	1145	CREF-SED	9
162		X	4/10/15	1400	CBCON-SED	5
		** mg				
093	WATER		4/17/15	1000	TS-WAT	31

Sampled By:	Date/Time	Received By:	Date/Time
[signature]	4/19/15 1800		
Sampler's Printed Name: MORGAN GELINAS	Title: SCIENTIST	Relinquished By:	Date/Time
Relinquished By: [signature]	Date/Time 4/19/15 1830	Received By: Laboratory [signature]	Date/Time 4/19/15 1830

Was Sample Chilled During Collection? (Yes) No

Comments:
5 containers to be used for testing of each sample; all remaining to be held as archive until released by P. Derrick.

Sample Collection Parameters
Visual Description:
Temperature (°C):
pH:
TRC (mg/L):
Other:

Aquatic Research Organisms

DATA SHEET

CHAIN OF CUSTODY

I. Organism History

Species: Native sediment for Neries reference (ATS-074)

Source: Lab reared_____ Hatchery reared_____ Field collected X

Collection date 4/13/15 Receipt date 04 13 15

Lot number N.A. Strain N.A.

Brood Origination Damariscotta River, Boothbay Harbor, Maine

II. Water Quality

Temperature_____ °C Salinity 28-32 ppt DO Saturated

pH 7.8-8.2 Hardness N.A. ppm

III. Culture Conditions

Held at 4°C

System:_____

Diet: Flake Food_____ Phytoplankton_____ Trout Chow_____

Brine Shrimp_____ Rotifers_____ Other N.A.

Prophylactic Treatments:_____

Comments:_____

IV. Shipping Information

Client:_____ # of Organisms: 5 gallons

Carrier: FedEx 2 Day Date Shipped: 4/13/15

Tracking #_____ # of cartons_____

RELEASED BY: _____ DATE: 4/13/15 TIME: 1630

RECEIVED BY: _____ DATE: 4/15/15 TIME: 1030

1 - 800 - 927 - 1650

PO Box 1271 • One Lafayette Road • Hampton, NH 03842 • (603) 926-1650

ATTACHMENT II

Neries virens 28-Day Solid Phase Bioaccumulation Testing
Data Sheets and Statistical Analyses
(25 pages)

SEDIMENT TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-082

TEST ORGANISM INFORMATION

Common Name: Sand worm

Scientific Name: *Neries virens*

Lot Number: NV- 054

Source: ARO

Adults Isolated (Time, Date): _____

Neonates Pulled (Time, Date): _____

Acclimation: 1 day Age: Adult

Culture Water (T/S): 19.0 °C 28.6 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/21/15	1000	GB	Sediment Added to Chambers
↓	1500	↓	Overlying Water Added to Chambers
4/22/15	1330	MJ/GB	Organisms Transferred

TEST SET-UP

Sample Number(s): AT5-074 (Lab Control), AT5-075→AT5-092

Overyling Water: 30 ppt Crystal Sea

Treatment	Volume Test Sediment	Volume Overlying Water
AT5-074 (Lab Control) AT5-075 ↓ AT5-092	5L ↓	22L ↓

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-082

TEST ORGANISM

Common Name: Sand worm

Scientific Name: *Neries virens*

Organisms Recovered (date, time, initials): 5/20/15 1230 MKL, WEM, MD, VY, IM, DB, HW, KM

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-074	A	19	19
(Lab Control)	B	19	19
	C	19	19
AT5-075	A	19	19
	B	19	19
	C	19	17
	D	19	19
	E	19	19
AT5-076	A	19	19
	B	19	18
	C	19	19
	D	19	19
	E	19	19
AT5-077	A	19	18
	B	19	19
	C	19	19
	D	19	17
	E	19	18
AT5-078	A	19	19
	B	19	19
	C	19	19
	D	19	19
	E	19	18

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-082

TEST ORGANISM

Common Name: Sand worm

Scientific Name: *Neries virens*

Organisms Recovered (date, time, initials): 5/20/15 1230 MK, WLM, MD, VK, IM, DB, HW, KM

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-079	A	19	19
	B	19	19
	C	19	19
	D	19	19
	E	19	18
AT5-080	A	19	17
	B	19	19
	C	19	18
	D	19	18
	E	19	18
AT5-081	A	19	18
	B	19	21
	C	19	19
	D	19	19
	E	19	20
AT5-082	A	19	18
	B	19	17
	C	19	19
	D	19	19
	E	19	17
AT5-083	A	19	19
	B	19	20
	C	19	19
	D	19	17
	E	19	18

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-082

TEST ORGANISM

Common Name: Sand worm

Scientific Name: *Neries virens*

Organisms Recovered (date, time, initials): 5/20/15 1230 MKC, WLM, MD, VT, IM, DB, HW, KM

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-084	A	19	18
	B	19	20
	C	19	19
	D	19	20
	E	19	17
AT5-085	A	19	19
	B	19	21
	C	19	19
	D	19	17
	E	19	20
AT5-086	A	19	19
	B	19	21
	C	19	19
	D	19	20
	E	19	19
AT5-087	A	19	19
	B	19	20
	C	19	17
	D	19	18
	E	19	19
AT5-088	A	19	19
	B	19	18
	C	19	19
	D	19	18
	E	19	21

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-082

TEST ORGANISM

Common Name: Sand worm

Scientific Name: *Neries virens*

Organisms Recovered (date, time, initials): 5/20/15 1230 MKC, WLM, MD, VT, IM, DB, HW, KM

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-089	A	19	19
	B	19	19
	C	19	19
	D	19	20
	E	19	19
AT5-090	A	19	18
	B	19	18
	C	19	19
	D	19	18
	E	19	21
AT5-091	A	19	19
	B	19	19
	C	19	18
	D	19	19
	E	19	18
AT5-092	A	19	21
	B	19	19
	C	19	19
	D	19	17
	E	19	18

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM LOADING RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-082

TEST ORGANISM

Common Name: Sand worm

Scientific Name: *Neries virens*

Lot Number: NV-054 Source:

Acclimation: <24 hour Age: Adult

Organisms Transferred (date, time, initials): 4/22/15 1330 MJ/GB

Treatment	Replicate	Number of Organisms Loaded
AT5-074	A	
(Control)	B	
	C	
AT5-075	A	
	B	
	C	
	D	
	E	
AT5-076	A	
	B	
	C	
	D	
	E	
AT5-077	A	
	B	
	C	
	D	
	E	
AT5-078	A	
	B	
	C	
	D	
	E	

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM LOADING RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-082

TEST ORGANISM

Common Name: Sand worm

Scientific Name: *Neries virens*

Lot Number: NV-054 Source: ARO

Acclimation: <24 hour Age: Adult

Organisms Transferred (date, time, initials): 4/22/15 1330 MJ/EAB

Treatment	Replicate	Number of Organisms Loaded
AT5-079	A	
	B	
	C	
	D	
	E	
AT5-080	A	
	B	
	C	
	D	
	E	
AT5-081	A	
	B	
	C	
	D	
	E	
AT5-082	A	
	B	
	C	
	D	
	E	

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM LOADING RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-082

TEST ORGANISM

Common Name: Sand worm

Scientific Name: *Neries virens*

Lot Number: NV-054 Source: ARO

Acclimation: <24 hour Age: Adult

Organisms Transferred (date, time, initials): 4/22/15 1330 MJ/EMB

Treatment	Replicate	Number of Organisms Loaded
AT5-083	A	21
	B	16
	C	16
	D	16
	E	19
AT5-084	A	19
	B	17
	C	16
	D	16
	E	17
AT5-085	A	16
	B	15
	C	17
	D	16
	E	16
AT5-086	A	16
	B	16
	C	16
	D	16
	E	16

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM LOADING RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-082

TEST ORGANISM

Common Name: Sand worm

Scientific Name: *Neries virens*

Lot Number: NV-054 Source: ARO

Acclimation: <24 hour Age: Adult

Organisms Transferred (date, time, initials): 4/22/15 1330 MJ/GD

Treatment	Replicate	Number of Organisms Loaded
AT5-087	A	21
	B	19
	C	19
	D	18
	E	19
AT5-088	A	19
	B	19
	C	19
	D	19
	E	18
AT5-089	A	19
	B	19
	C	20
	D	19
	E	19
AT5-090	A	19
	B	19
	C	20
	D	19
	E	19

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM LOADING RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-082

TEST ORGANISM

Common Name: Sand worm

Scientific Name: *Neries virens*

Lot Number: NV-054 Source: ARO

Acclimation: <24 hour Age: Adult

Organisms Transferred (date, time, initials): 4/22/15 1330 MJ IC/B

Treatment	Replicate	Number of Organisms Loaded
AT5-091	A	24
	B	23
	C	24
	D	23
	E	23
AT5-092	A	23
	B	23
	C	23
	D	24
	E	23

TOXICITY TEST WATER QUALITY DATA SHEET - NEW SOLUTIONS

Project Number: 70005.15 TEST ORGANISM Beginning Date: 4/22/15 Time: 1330

Client: Thimble Shoals Common Name: Sand worm Ending Date: 5/20/15 Time: 1230

QC Test Number: TN-15-082 Scientific Name: *Neries virens*

TARGET VALUES: Temp: 20 °C pH: 6.0 - 9.0 DO: ≥2.5 mg/L Salinity: 30 ppt Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6
AT5-074	Lab Control	19.0							8.3							7.8							28.4						
AT5-075		19.0							8.6							7.7							29.9						
AT5-076		19.0							8.2							7.8							27.7						
AT5-077		19.0							8.2							7.7							28.3						
AT5-078		19.0							8.2							7.7							29.0						
AT5-079		19.0							8.3							7.8							28.4						
AT5-080		19.0							8.3							7.6							28.1						
AT5-081		19.0							8.2							7.4							28.6						
AT5-082		19.0							8.2							7.5							29.8						
AT5-083		19.0							8.2							7.4							30.2						
AT5-084		19.0							8.2							7.5							29.7						
AT5-085		19.0							8.2							7.3							29.5						
AT5-086		19.0							8.2							7.5							30.0						
AT5-087		19.0							8.2							7.6							30.2						
AT5-088		19.0							8.2							7.6							30.1						
Meter Number		1678							1678							1678							1678						
Time		0936							0936							0936							0936						
Initials		VY							VY							VY							VY						

TOXICITY TEST WATER QUALITY DATA SHEET - NEW SOLUTIONS

Project Number: 70005.15 TEST ORGANISM Beginning Date: 4/22/15 Time: 1330

Client: Thimble Shoals Common Name: Sand worm Ending Date: 5/20/15 Time: 1230

QC Test Number: TN-15-082 Scientific Name: *Neries virens*

TARGET VALUES: Temp: 20 °C pH: 6.0 - 9.0 DO: ≥2.5 mg/L Salinity: 30 ppt Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6
AT5-089		19.0							8.2							7.9							29.9						
AT5-090		19.0							8.2							7.7							30.5						
AT5-091		19.0							8.2							7.7							28.9						
AT5-092		19.0							8.2							7.6							30.6						

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-082

TEST ORGANISM
Common Name: Sand worm
Scientific Name: *Neries virens*

Beginning Date: 4/22/15 Time: 1330
Ending Date: 5/2/15 Time: 1230

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 L, 8 D Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
AT5-~~073~~ 074	Lab Control		19.0			20.0		19.7		7.9			7.6		7.5		7.3			6.4		6.2		28.0			29.0		29.3
AT5-075			19.0			19.9		20.0		7.9			7.6		7.6		7.3			7.1		6.9		30.5			29.9		29.9
AT5-076			19.0			19.9		20.2		8.0			7.7		7.6		7.4			7.1		6.9		29.8			29.4		29.2
AT5-077			19.0			19.9		20.2		8.1			7.7		7.7		7.3			7.1		7.2		29.4			29.3		29.1
AT5-078			19.0			19.9		20.2		8.0			7.7		7.7		7.3			7.0		7.2		28.7			29.3		29.1
AT5-079			19.0			19.7		20.2		8.1			7.8		7.7		7.4			7.1		7.1		29.9			29.3		28.9
AT5-080			19.0			19.2		20.0		8.1			7.8		7.8		7.2			7.7		7.1		29.5			29.9		29.5
AT5-081			19.0			19.3		19.7		8.0			7.8		7.8		7.2			7.4		7.2		30.2			29.7		29.9
AT5-082			19.2			19.6		20.0		8.0			7.8		7.8		7.3			6.8		6.8		29.6			29.5		29.7
AT5-083			19.0			19.7		20.1		8.1			7.8		7.7		7.3			6.6		5.8		30.0			29.8		29.9
AT5-084			19.2			19.6		20.0		8.0			7.8		7.8		7.3			6.9		6.8		29.3			29.8		30.0
AT5-085			19.2			19.4		19.8		8.0			7.8		7.8		7.1			7.0		6.9		29.2			29.8		29.9
AT5-086			19.1			19.4		19.8		8.0			7.8		7.8		7.0			7.0		6.9		29.7			29.5		29.7
AT5-087			19.1			19.5		19.9		8.0			7.8		7.8		7.3			6.9		6.7		29.7			29.5		29.7
AT5-088			19.2			19.6		20.0		8.0			7.8		7.9		8.1			6.8		6.4		29.7			29.5		29.7
Meter Number			678			677		677		678			677		677		678			677		677		678			677		677
Time			0900			0828		0840		0900			0828		0840		0900			0828		0840		0900			0828		0840
Initials			MB			VR		VR		MB			VR		VR		MB			VR		VR		MB			VR		VR

ATS-T14
06/21/06

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-082

TEST ORGANISM
Common Name: Sand worm
Scientific Name: *Neries virens*

Beginning Date: 4/22/15 Time: 1330
Ending Date: 5/20/15 Time: 1230

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 L, 8 D Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
AT5-089			19.2			19.7		19.9		8.0			7.9		7.9		7.6			6.7		7.0		29.5			29.5		29.8
AT5-090			19.1			19.4		20.1		8.1			7.9		7.9		7.2			7.3		7.0		30.3			30.4		30.2
AT5-091			19.0			19.3		20.1		8.1			7.9		7.9		7.2			7.3		7.1		28.6			29.2		29.5
AT5-092			19.1			19.7		20.1		8.2			7.9		7.9		7.1			7.0		7.0		30.5			30.9		30.8

ATS-T14
06/21/06

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-082

TEST ORGANISM
Common Name: Sand worm
Scientific Name: *Neries virens*

Beginning Date: 4/22/15 Time: 1330
Ending Date: 5/20/15 Time: 1230

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 & 8 d Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
~~AT5-073~~ AT5-074	Lab Control		20.4			20.4		19.8		7.4			7.8		7.6		7.0			7.1		7.4		28.9			29.1		30.7
AT5-075			20.4			20.6		19.7		7.6			7.8		7.8		7.2			7.1		7.5		29.6			29.1		30.7
AT5-076			20.4			20.6		19.8		7.7			7.8		7.9		7.3			7.1		7.4		28.9			29.6		30.2
AT5-077			20.4			20.6		19.8		7.7			7.8		7.9		7.2			7.3		7.5		28.9			29.4		30.1
AT5-078			20.4			20.6		19.8		7.7			7.8		8.0		7.2			7.0		7.4		29.0			29.4		30.2
AT5-079			20.4			20.7		19.7		7.7			7.8		8.0		7.0			7.0		7.3		29.0			29.8		30.2
AT5-080			20.2			20.8		19.6		7.8			7.9		8.0		7.0			6.9		7.4		29.4			29.1		30.5
AT5-081			19.9			20.4		19.6		7.8			7.9		8.0		7.3			7.0		7.4		29.5			29.4		30.3
AT5-082			20.1			20.4		19.7		7.8			7.8		8.0		6.7			7.0		7.3		29.4			29.4		30.3
AT5-083			20.3			20.2		19.7		7.8			7.8		8.0		6.4			7.1		7.4		29.5			29.5		30.4
AT5-084			20.0			20.3		19.6		7.8			7.8		8.0		6.8			7.2		7.4		30.0			29.5		30.6
AT5-085			20.0			20.1		19.6		7.8			7.8		8.0		7.0			7.1		7.3		29.6			29.6		30.4
AT5-086			20.0			20.3		19.6		7.8			7.8		8.1		7.1			7.2		7.4		29.6			29.6		30.3
AT5-087			20.1			20.3		19.7		7.8			7.8		8.0		6.9			7.0		7.3		29.5			29.6		30.3
AT5-088			20.2			20.3		19.5		7.8			7.8		8.1		6.8			7.0		7.3		29.4			29.6		30.5
Meter Number		~~677~~	677			677		678	~~677~~	677			672		678	~~677~~	677			677		678	~~677~~	677			677		678
Time			0718			0930		0900		0718			0930		0900		0718			0930		0900		0718			0930		0900
Initials		~~VR~~	VR			~		VR	~~VR~~	VR			~		W	~~VR~~	VR			~		VR	~~VR~~	VR			~		VR

ATS-T14
06/21/06

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-082

TEST ORGANISM
Common Name: Sand worm
Scientific Name: *Neries virens*

Beginning Date: 4/22/15 Time: 1330
Ending Date: 5/20/15 Time: 1230

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
AT5-089			20.4			20.2		19.4		7.9			7.8		8.1		6.9			7.1		7.5		29.4			29.6		30.3
AT5-090			20.4			20.7		19.7		7.9			7.8		8.1		6.9			7.0		7.4		29.8			29.7		30.4
AT5-091			20.3			20.7		19.8		7.9			7.8		8.1		7.0			7.3		7.4		29.4			29.6		30.4
AT5-092			20.4			20.6		19.9		7.9			7.7		8.2		7.0			7.2		7.3		30.2			29.7		31.0

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-082

TEST ORGANISM
Common Name: Sand worm
Scientific Name: *Neries virens*

Beginning Date: 4/22/15 Time: 1330
Ending Date: 5/20/15 Time: 1230

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 L, 8 D Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21
6/17 AT5-~~073~~ 074	Lab Control		19.8			20.6		19.0		8.3			7.5		7.8		7.5			6.2		8.0		29.6			30.4		31.5
AT5-075			19.9			20.5		19.3		8.3			7.7		7.9		7.4			7.3		7.6		29.5			30.6		30.6
AT5-076			19.7			20.5		19.4		8.3			7.8		7.9		7.3			7.3		7.6		29.6			30.1		30.2
AT5-077			19.7			20.4		19.4		8.3			8.0		7.9		7.4			7.2		7.6		29.8			30.1		30.1
AT5-078			19.6			20.4		19.5		8.3			8.0		7.9		7.5			7.3		7.5		29.6			30.1		30.1
AT5-079			19.6			20.4		19.5		8.3			8.0		8.0		7.4			7.3		7.5		29.7			30.1		30.0
AT5-080			19.5			20.3		19.3		8.3			8.0		8.0		7.4			7.3		7.6		29.8			30.4		30.3
AT5-081			19.5			20.3		19.3		8.3			8.0		8.0		7.3			7.2		7.6		29.5			30.1		30.2
AT5-082			19.5			20.3		19.4		8.3			8.0		8.0		7.3			7.3		7.5		29.8			30.2		30.2
AT5-083			19.5			20.3		19.4		8.3			8.0		8.0		7.3			7.3		7.5		29.7			30.3		30.2
AT5-084			19.4			20.3		19.5		8.3			8.0		8.0		7.3			7.3		7.5		29.7			30.4		30.4
AT5-085			19.5			20.3		19.4		8.2			8.1		8.0		7.3			7.3		7.5		29.6			30.2		30.2
AT5-086			19.6			20.3		19.4		8.3			8.1		8.0		7.3			7.3		7.5		29.6			30.2		30.2
AT5-087			19.6			20.3		19.5		8.3			8.1		8.0		7.2			7.3		7.4		29.6			30.1		30.1
AT5-088			19.6			20.4		19.6		8.3			8.1		8.0		7.2			7.3		7.4		29.8			30.3		30.2
Meter Number			677			677		677	~~677~~	677			677		677	L	677			677		677		677			677		677
Time			1010			0850		0855	~~1010~~	1010			0850		0855		1010			0850		0855		1010			0850		0855
Initials			MM			VR		VR	~~MM~~	MM			VR		VR		MM			VR		VR		MM			VR		VR

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-082

TEST ORGANISM
Common Name: Sand worm
Scientific Name: *Neries virens*

Beginning Date: 4/22/15 Time: 1330
Ending Date: 5/20/15 Time: 1230

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21
AT5-089			19.5			20.4		19.5		8.3			8.1		8.0		7.4			7.3		7.5		29.9			30.1		30.1
AT5-090			19.6			20.4		19.6		8.3			8.1		8.0		7.4			7.2		7.4		30.1			30.2		30.2
AT5-091			19.6			20.5		19.6		8.3			8.1		8.0		7.4			7.2		7.3		29.8			30.2		30.2
AT5-092			19.6			20.5		19.7		8.3			8.1		8.0		7.3			7.2		7.4		29.9			30.6		30.4
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06/21/06

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15 | TEST ORGANISM | Beginning Date: 4/22/15 Time: 1330

Client: Thimble Shoals | Common Name: Sand worm | Ending Date: 5/20/15 Time: 1230

QC Test Number: TN-15-082 | Scientific Name: *Neries virens*

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 L, 8 D Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28
AT5-~~075~~ 051	Lab Control		19.0			20.4		20.1		7.9			7.8		8.1		7.9			5.7		7.4		30.6			30.7		32.4
AT5-075			19.6			20.5		20.1		6.9			7.9		8.1		7.6			7.3		7.3		29.9			30.6		32.4
AT5-076			19.0			20.5		20.1		7.0			8.0		8.1		7.7			7.4		7.4		29.5			30.2		32.5
AT5-077			19.0			20.5		20.0		7.2			8.0		8.2		7.8			7.3		7.3		29.6			30.1		32.7
AT5-078			19.0			20.4		19.7		7.3			8.0		8.2		7.8			7.3		7.4		29.7			30.1		32.4
AT5-079			19.0			20.3		20.0		7.5			8.1		8.2		7.8			7.5		7.4		29.8			30.2		32.4
AT5-080			19.0			20.3		19.8		7.6			8.1		8.2		7.5			7.4		7.4		29.7			30.1		32.3
AT5-081			19.0			20.3		19.7		7.6			8.1		8.2		7.5			7.3		7.4		29.7			30.1		32.6
AT5-082			19.0			20.3		19.7		7.6			8.1		8.2		7.5			7.3		7.4		29.8			30.2		32.9
AT5-083			19.0			20.4		19.7		7.7			8.1		8.2		7.6			7.3		7.2		29.8			30.1		33.1
AT5-084			19.0			20.4		19.6		7.7			8.2		8.2		8.0			7.3		7.4		29.7			30.3		32.4
AT5-085			19.0			20.3		19.7		7.7			8.1		8.2		7.7			7.3		7.3		29.7			30.2		32.5
AT5-086			19.0			20.4		19.9		7.7			8.1		8.2		7.6			7.3		7.3		29.8			30.1		32.3
AT5-087			19.0			20.4		19.9		7.7			8.1		8.2		7.6			7.3		7.2		29.7			30.1		32.4
AT5-088			19.0			20.4		19.9		7.7			8.2		8.2		7.6			7.3		7.4		29.7			30.3		32.8
Meter Number			677			677		678		677			677		678		677			677		678		677			677		678
Time			0900			0910		0825		0900			0910		0825		0900			0910		0825		0900			0910		0825
Initials			MJ			IM		MD		MJ			IM		MD		MJ			IM		MD		MJ			IM		MD

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-082

TEST ORGANISM
Common Name: Sand worm
Scientific Name: *Neries virens*

Beginning Date: 4/22/15 Time: 1330
Ending Date: 5/20/15 Time: 1230

TARGET VALUES Temp: 20 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 & 8 d Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28
AT5-089			19.0			20.4		19.9		7.8			8.2		8.2		7.6			7.2		7.3		29.7			30.1		32.5
AT5-090			19.0			20.5		19.9		7.8			8.2		8.3		7.6			7.2		7.4		29.9			30.2		33.0
AT5-091			19.0			20.5		19.8		7.9			8.2		8.2		7.6			7.2		7.4		30.0			30.2		32.9
AT5-092			19.0			20.6		19.8		7.9			8.2		8.3		7.6			7.3		7.4		29.8			30.4		32.5

ATS-T14
06/21/06

TOXICOLOGY LABORATORY BENCH SHEET - RENEWAL RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-082

Day	Overlying Water	Date	Time	Initials
0	LD5-168/177	4/21/15	1500	GB
1				
2	LD5-178	4/24/15	1300	MK
3				
4				
5	LD5-182/192	4/27/15	0945	MY
6				
7	LD5-192/196	4/29/15	1305	MY/GB
8				
9	LD5-196	5/1/15	0800	MY
10				
11				
12	LD5-200	5/4/15	1230	M
13				
14	LD5-209/211	5/6/15	1000	IM/GB
15				
16	LD5-217/221	5/8/15	1400	IM
17				
18				
19	LD5-221	5/11/15	1100	DB
20				
21	LD5-229	5/13/15	1115	DB/IM
22				
23	LD5-236/240	5/15/15	1350	DB
24				
25				
26	LD5-240/245	5/18/15	1030	DB/IM
27				
28				

TOXICOLOGY LABORATORY BENCH SHEET - OVERLYING WATER PREPARATION / USAGE LOG

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-082

Overlying Water: 30 ppt Crystal Sea Artificial Seawater

TEST ORGANISM

Common Name: Sand worm

Scientific Name: *Neries virens*

Sample Number	Preparation Time, Date	Initials	Date of First Use	Date of Final Use
LD5-168	4/14/15, 1000	GB	4/21/15	4/21/15
LD5-177	4/19/15, 1100	GB	4/21/15	4/21/15
LD5-178	4/20/15, 0940	MJ	4/24/15	4/24/15
LD5-182	4/21/15, 1015	MJ	4/27/15	4/27/15
LD5-192	4/26/15, 1435	MJ	4/27/15	4/29/15
LD5-196	4/27/15, 1715	MJ	4/29/15	5/1/15
LD5-200	4/29/15, 1012	MJ	5/1/15	5/4/15
LD5-209	5/1/15, 1146	VY	5/4/15	5/6/15
LD5-217	5/4/15, 1400	MJC	5/6/15	5/8/15
LD5-221	5/6/15, 1530	MJ	5/8/15	5/11/15
LD5-229	5/8/15, 1600	JM	5/13/15	5/13/15
LD5-236	5/12/15, 1415	MJ	5/13/15	5/15/15
LD5-240	5/13/15, 1630	DB	5/15/15	5/18/15
LD5-245	5/16/15, 1130	JM	5/18/15	5/20/15

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-082

Date/Time/Initials	Comments/Activity

28-Day Bioaccumulation Test-Percent Recovery

Start Date:	4/22/2015	Test ID:	TN-15-082	Sample ID:	Thimble Shoals
End Date:	5/20/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	NV-Neries virens
Comments:					

Conc-%	1	2	3	4	5
Control	1.0000	1.0000	1.0000		
AT5-075	1.0000	1.0000	0.8947	1.0000	1.0000
AT5-076	1.0000	0.9474	1.0000	1.0000	1.0000
AT5-077	0.9474	1.0000	1.0000	0.8947	0.9474
AT5-078	1.0000	1.0000	1.0000	1.0000	0.9474
AT5-079	1.0000	1.0000	1.0000	1.0000	0.9474
AT5-080	0.8947	1.0000	0.9474	0.9474	0.9474
AT5-081	0.9474	1.0000	1.0000	1.0000	1.0000
AT5-082	0.9474	0.8947	1.0000	1.0000	0.8947
AT5-083	1.0000	1.0000	1.0000	0.8947	0.9474
AT5-084	0.9474	1.0000	1.0000	1.0000	0.8947
AT5-085	1.0000	1.0000	1.0000	0.8947	1.0000
AT5-086	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-087	1.0000	1.0000	0.8947	0.9474	1.0000
AT5-088	1.0000	0.9474	1.0000	0.9474	1.0000
AT5-089	1.0000	1.0000	1.0000	1.0000	1.0000
AT5-090	0.9474	0.9474	1.0000	0.9474	1.0000
AT5-091	1.0000	1.0000	0.9474	1.0000	0.9474
AT5-092	1.0000	1.0000	1.0000	0.8947	0.9474

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	1.0000	1.0000	1.4558	1.4558	1.4558	0.000	3		
AT5-075	0.9789	0.9789	1.4127	1.2404	1.4558	6.821	5	21.00	19.00
AT5-076	0.9895	0.9895	1.4325	1.3393	1.4558	3.637	5	21.00	19.00
*AT5-077	0.9579	0.9579	1.3661	1.2404	1.4558	6.683	5	18.00	19.00
AT5-078	0.9895	0.9895	1.4325	1.3393	1.4558	3.637	5	21.00	19.00
AT5-079	0.9895	0.9895	1.4325	1.3393	1.4558	3.637	5	21.00	19.00
*AT5-080	0.9474	0.9474	1.3428	1.2404	1.4558	5.684	5	16.50	19.00
AT5-081	0.9895	0.9895	1.4325	1.3393	1.4558	3.637	5	21.00	19.00
*AT5-082	0.9474	0.9474	1.3463	1.2404	1.4558	8.007	5	18.00	19.00
AT5-083	0.9684	0.9684	1.3894	1.2404	1.4558	7.011	5	19.50	19.00
AT5-084	0.9684	0.9684	1.3894	1.2404	1.4558	7.011	5	19.50	19.00
AT5-085	0.9789	0.9789	1.4127	1.2404	1.4558	6.821	5	21.00	19.00
AT5-086	1.0000	1.0000	1.4558	1.4558	1.4558	0.000	5	22.50	19.00
AT5-087	0.9684	0.9684	1.3894	1.2404	1.4558	7.011	5	19.50	19.00
AT5-088	0.9789	0.9789	1.4092	1.3393	1.4558	4.529	5	19.50	19.00
AT5-089	1.0000	1.0000	1.4558	1.4558	1.4558	0.000	5	22.50	19.00
*AT5-090	0.9684	0.9684	1.3859	1.3393	1.4558	4.605	5	18.00	19.00
AT5-091	0.9789	0.9789	1.4092	1.3393	1.4558	4.529	5	19.50	19.00
AT5-092	0.9684	0.9684	1.3894	1.2404	1.4558	7.011	5	19.50	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.73265	1.035	-0.832	0.05628
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)

Wilcoxon Rank Sum Test indicates significant differences

ATTACHMENT III

Macoma nasuta 28-Day Solid Phase Bioaccumulation Testing
Data Sheets and Statistical Analyses
(25 pages)

SEDIMENT TOXICITY TEST SET-UP BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-083

TEST ORGANISM INFORMATION

Common Name: Blunt nose clam

Scientific Name: *Macoma nasuta*

Lot Number: ~~MN~~ MA-0416

Source: ARO

Adults Isolated (Time, Date): _____

Neonates Pulled (Time, Date): _____

Acclimation: 1 day Age: Adult

Culture Water (T/S): 11.0 °C 29.2 ppt

TEST INITIATION

Date	Time	Initials	Activity
4/21/15	1000	GB	Sediment Added to Chambers
↓	1500	↓	Overlying Water Added to Chambers
4/23/15	1100	VY/MJ	Organisms Transferred

TEST SET-UP

Sample Number(s): AT5-073 (Lab Control), AT5-075→AT5-092

Overlying Water: 30 ppt Crystal Sea

Treatment	Volume Test Sediment	Volume Overlying Water
AT5-073 (Lab Control) AT5-075 ↓ AT5-092	5L ↓	22L ↓

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15

TEST ORGANISM

Client: Thimble Shoals

Common Name: Blunt nose clam

QC Test Number: TN-15-083

Scientific Name: *Macoma nasuta*

Organisms Recovered (date, time, initials): 5/21/15 1230 AVL/WLM/VT/MS/MD/KM/IM/HW/DB

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-073	A	50	40
(Lab Control)	B	50	44
	C	50	41
AT5-075	A	50	50
	B	50	50
	C	50	48
	D	50	49
	E	50	47
AT5-076	A	50	47
	B	50	50
	C	50	47
	D	50	44
	E	50	48
AT5-077	A	50	43
	B	50	46
	C	50	43
	D	50	49
	E	50	44
AT5-078	A	50	44
	B	50	49
	C	50	46
	D	50	48
	E	50	48

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-083

TEST ORGANISM

Common Name: Blunt nose clam

Scientific Name: *Macoma nasuta*

Organisms Recovered (date, time, initials): 5/21/15 1230 MM/WLM/VY/MJ/MD/KM/M/HW/DB

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-079	A	50	46
	B	50	45
	C	50	45
	D	50	47
	E	50	49
AT5-080	A	50	47
	B	50	46
	C	50	46
	D	50	46
	E	50	47
AT5-081	A	50	47
	B	50	44
	C	50	46
	D	50	48
	E	50	48
AT5-082	A	50	44
	B	50	47
	C	50	42
	D	50	44
	E	50	42
AT5-083	A	50	44
	B	50	45
	C	50	47
	D	50	47
	E	50	45

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-083

TEST ORGANISM

Common Name: Blunt nose clam

Scientific Name: *Macoma nasuta*

Organisms Recovered (date, time, initials): 5/21/15 1230 MM/WLM/MS/VT/MD/HW/JM/KM/DB

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-084	A	50	47
	B	50	46
	C	50	49
	D	50	44
	E	50	44
AT5-085	A	50	48
	B	50	43
	C	50	44
	D	50	47
	E	50	45
AT5-086	A	50	49
	B	50	50
	C	50	47
	D	50	46
	E	50	47
AT5-087	A	50	49
	B	50	48
	C	50	44
	D	50	45
	E	50	44
AT5-088	A	50	45
	B	50	45
	C	50	49
	D	50	46
	E	50	46

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM RECOVERY RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-083

TEST ORGANISM

Common Name: Blunt nose clam

Scientific Name: *Macoma nasuta*

Organisms Recovered (date, time, initials): 5/21/15 1230 MKC/LLM/VT/MD/MJ/IM/KM/DA/HW

Treatment	Replicate	Number of Organisms Loaded	Number of Organisms Recovered
AT5-089	A	50	48
	B	50	46
	C	50	43
	D	50	49
	E	50	44
AT5-090	A	50	49
	B	50	50
	C	50	47
	D	50	47
	E	50	46
AT5-091	A	50	47
	B	50	48
	C	50	46
	D	50	43
	E	50	43
AT5-092	A	50	45
	B	50	39
	C	50	47
	D	50	39
	E	50	41

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM LOADING RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-083

TEST ORGANISM

Common Name: Blunt nose clam

Scientific Name: *Macoma nasuta*

Lot Number: MA-0410 Source: ARO

Acclimation: <24 hour Age: Adult

Organisms Transferred (date, time, initials): 4/23/15 1100 WS/MJ

Treatment	Replicate	Number of Organisms Loaded
AT5-073	A	
(Control)	B	
	C	
AT5-075	A	
	B	
	C	
	D	
	E	
AT5-076	A	
	B	
	C	
	D	
	E	
AT5-077	A	
	B	
	C	
	D	
	E	
AT5-078	A	
	B	
	C	
	D	
	E	

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM LOADING RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-083

TEST ORGANISM

Common Name: Blunt nose clam

Scientific Name: *Macoma nasuta*

Lot Number: MA-046 Source: APO

Acclimation: <24 hour Age: Adult

Organisms Transferred (date, time, initials): 4/23/15 1100 WJ/MJ

Treatment	Replicate	Number of Organisms Loaded
AT5-079	A	
	B	
	C	
	D	
	E	
AT5-080	A	
	B	
	C	
	D	
	E	
AT5-081	A	
	B	
	C	
	D	
	E	
AT5-082	A	
	B	
	C	
	D	
	E	

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM LOADING RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-083

TEST ORGANISM

Common Name: Blunt nose clam

Scientific Name: *Macoma nasuta*

Lot Number: MA-046 Source: ARO

Acclimation: <24 hour Age: Adult

Organisms Transferred (date, time, initials): 4/23/15 1100 WJ/MJ

Treatment	Replicate	Number of Organisms Loaded
AT5-083	A	
	B	
	C	
	D	
	E	
AT5-084	A	
	B	
	C	
	D	
	E	
AT5-085	A	
	B	
	C	
	D	
	E	
AT5-086	A	
	B	
	C	
	D	
	E	

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM LOADING RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-083

TEST ORGANISM

Common Name: Blunt nose clam

Scientific Name: *Macoma nasuta*

Lot Number: MA-046 Source: ARO

Acclimation: <24 hour Age: Adult

Organisms Transferred (date, time, initials): 4/23/15 1100 WK/MJ

Treatment	Replicate	Number of Organisms Loaded
AT5-087	A	
	B	
	C	
	D	
	E	
AT5-088	A	
	B	
	C	
	D	
	E	
AT5-089	A	
	B	
	C	
	D	
	E	
AT5-090	A	
	B	
	C	
	D	
	E	

TOXICOLOGY LABORATORY BENCH SHEET - ORGANISM LOADING RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-083

TEST ORGANISM

Common Name: Blunt nose clam

Scientific Name: *Macoma nasuta*

Lot Number: MA-046 Source: ARO

Acclimation: <24 hour Age: Adult

Organisms Transferred (date, time, initials): 4/23/15 1100 VS/MJ

Treatment	Replicate	Number of Organisms Loaded
AT5-091	A	
	B	
	C	
	D	
	E	
AT5-092	A	
	B	
	C	
	D	
	E	

ATS-T30
03/01/00

TOXICITY TEST WATER QUALITY DATA SHEET - NEW SOLUTIONS

Project Number: 70005.15 TEST ORGANISM Beginning Date: 4/23/15 Time: 1160

Client: Thimble Shoals Common Name: Blunt nose clam Ending Date: 5/21/15 Time: 1230

QC Test Number: TN-15-083 Scientific Name: *Macoma nasuta*

TARGET VALUES: Temp: 12 °C pH: 6.0 - 9.0 DO: ≥2.5 mg/L Salinity: 30 ppt Photoperiod: 16 ℄, 8 ℄ Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6
AT5-073	Lab Control	11.4							7.8							8.6							31.3						
AT5-075		11.0							8.1							8.8							32.1						
AT5-076		11.0							8.2							8.8							32.1						
AT5-077		11.0							8.2							8.8							30.6						
AT5-078		11.0							8.2							8.8							32.2						
AT5-079		11.0							8.2							8.9							32.2						
AT5-080		11.0							8.2							8.9							30.6						
AT5-081		11.0							8.2							8.7							31.5						
AT5-082		11.0							8.2							8.8							31.2						
AT5-083		11.0							8.2							8.7							31.2						
AT5-084		11.0							8.2							8.9							31.2						
AT5-085		11.0							8.2							8.9							31.9						
AT5-086		11.0							8.2							8.9							31.2						
AT5-087		11.0							8.2							8.8							31.2						
AT5-088		11.0							8.2							8.8							30.6						
Meter Number		678							678							678							678						
Time		0847							0847							0847							0847						
Initials		VK							VK							VK							VK						

TOXICITY TEST WATER QUALITY DATA SHEET - NEW SOLUTIONS

Project Number: 70005.15 TEST ORGANISM Beginning Date: 4/23/15 Time: 1100

Client: Thimble Shoals Common Name: Blunt nose clam Ending Date: 5/21/15 Time: 1230

QC Test Number: TN-15-083 Scientific Name: *Macoma nasuta*

TARGET VALUES: Temp: 12 °C pH: 6.0 - 9.0 DO: ≥2.5 mg/L Salinity: 30 ppt Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6
AT5-089		11.0							8.2							8.9							31.2						
AT5-090		11.0							8.2							8.9							30.6						
AT5-091		11.0							8.2							8.9							31.9						
AT5-092		11.0							8.3							8.9							30.9						

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-083

TEST ORGANISM
Common Name: Blunt nose clam
Scientific Name: *Macoma nasuta*

Beginning Date: 4/23/15 Time: 1100
Ending Date: 5/21/15 Time: 1230

TARGET VALUES Temp: 12 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
AT5-073	Lab Control	11.4			12.2		13.0		7.7			8.1		8.0		8.5			8.6		8.1		30.7			29.3		27.9	
AT5-075		11.3			13.0		12.8		7.7			8.0		8.1		8.7			8.0		8.3		31.3			29.3		28.4	
AT5-076		11.5			12.8		12.5		7.7			8.0		8.1		8.8			8.1		8.3		31.5			29.5		28.6	
AT5-077		11.5			12.5		12.4		7.7			8.1		8.1		6.9			8.3		8.4		30.5			29.2		28.6	
AT5-078		11.5			12.2		12.3		7.7			8.1		8.1		8.8			8.4		8.5		31.5			29.9		28.9	
AT5-079		11.5			12.2		12.3		7.7			8.1		8.1		8.7			8.5		8.5		31.3			29.9		28.8	
AT5-080		11.2			12.0		12.3		7.8			8.1		8.1		8.7			8.6		8.5		30.5			29.2		28.6	
AT5-081		11.2			12.1		12.3		7.8			8.1		8.1		8.6			8.4		8.4		31.0			29.9		28.7	
AT5-082		11.3			12.1		12.3		7.8			8.1		8.1		8.7			8.4		8.5		30.5			29.6		28.8	
AT5-083		11.2			12.0		12.3		7.9			8.1		8.1		8.7			8.3		8.4		30.9			29.5		28.5	
AT5-084		~~10.8~~	11.0		12.0		12.4		7.9			8.1		8.1		8.3			8.4		8.5		30.3			29.6		28.5	
AT5-085		11.1			12.0		12.4		7.9			8.1		8.1		8.5			8.4		8.3		30.9			29.9		28.7	
AT5-086		11.1			11.9		12.4		7.9			8.1		8.1		8.5			8.4		8.4		30.5			29.7		28.7	
AT5-087		11.3			11.9		12.4		7.9			8.1		8.2		8.6			8.3		8.4		30.5			29.6		28.5	
AT5-088		11.0			11.9		12.4		8.0			8.1		8.2		8.7			8.4		8.5		30.0			29.6		28.5	
Meter Number		678			677		677		678			677		677		678			677		677		678			677		677	
Time		0915			1115		0851		0915			1115		0851		0915			1115		0851		0915			1115		0851	
Initials		MD			VY		VY		MD			VY		VY		MD			VY		VY		MD			VY		VY	

4/24 MD

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-083

TEST ORGANISM
Common Name: Blunt nose clam
Scientific Name: *Macoma nasuta*

Beginning Date: 4/23/15 Time: 1100
Ending Date: 5/21/15 Time: 1230

TARGET VALUES Temp: 12 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 L, 8 D Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
AT5-089		11.0			12.0		13.0		8.0			8.2		8.1		8.7			8.6		8.5		32.6			29.7		28.6	
AT5-090		11.1			12.2		12.7		8.0			8.2		8.2		8.7			8.4		8.5		31.8			29.3		28.5	
AT5-091		11.1			12.2		12.7		8.0			8.2		8.2		8.7			8.6		8.6		31.3			29.9		28.9	
AT5-092		11.6			12.3		12.7		8.1			8.2		8.2		8.7			8.6		8.5		30.4			29.7		29.0	
Meter Number		678			677		677		678			677		677		678			677		677		675			677		677	
Time		0915			1115		0851		0915			1115		0851		0915			1115		0851		0915			1115		0851	
Initials		MW			VK		VK		MW			VK		VK		MW			VK		VK		MW			VK		VK	

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-083

TEST ORGANISM
Common Name: Blunt nose clam
Scientific Name: *Macoma nasuta*

Beginning Date: 4/23/15 Time: 1100
Ending Date: 5/21/15 Time: 1230

TARGET VALUES Temp: 12 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 L, 8 D Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
AT5-073	Lab Control	13.0			12.9		13.0		8.1			8.1		8.1		8.0			8.0		8.2		29.1			27.9		29.8	
AT5-075		12.8			12.9		12.9		8.1			8.0		8.2		8.3			8.0		8.4		29.3			29.3		29.7	
AT5-076		12.7			12.7		12.5		8.1			8.0		8.2		8.3			8.1		8.4		29.6			29.4		29.8	
AT5-077		12.6			12.7		12.4		8.1			8.0		8.2		8.4			8.2		8.5		29.6			29.6		29.9	
AT5-078		12.6			12.7		12.3		8.2			8.1		8.2		8.4			8.2		8.6		29.8			29.6		30.2	
AT5-079		12.6			12.7		12.1		8.2			8.1		8.2		8.4			8.2		8.7		29.8			29.3		30.1	
AT5-080		12.6			12.7		12.2		8.1			8.1		8.2		8.3			8.2		8.7		29.7			29.3		29.9	
AT5-081		12.6			12.7		12.2		8.1			8.0		8.2		8.3			8.1		8.6		29.7			29.3		30.1	
AT5-082		12.6			12.7		12.2		8.1			8.2		8.2		8.3			8.0		8.6		29.7			29.3		30.1	
AT5-083		12.6			12.7		12.2		8.1			8.0		8.2		8.4			8.0		8.5		29.7			29.3		30.1	
AT5-084		12.6			12.6		12.2		8.1			8.0		8.1		8.4			8.0		8.6		29.6			29.3		29.9	
AT5-085		12.7			12.6		12.2		8.1			8.0		8.1		8.2			8.2		8.5		29.7			29.4		30.0	
AT5-086		12.7			12.7		12.2		8.2			8.0		8.2		8.3			8.2		8.5		29.7			29.3		30.0	
AT5-087		12.6			12.6		12.2		8.2			8.0		8.2		8.4			8.1		8.6		29.7			29.6		30.0	
AT5-088		12.6			12.6		12.2		8.2			8.0		8.2		8.4			8.3		8.6		29.7			29.4		30.1	
Meter Number		678			677		678		678			677		678		678			677		678		678			677		678	
Time		1155			0915		0907		1155			0915		0907		1155			0915		0907		1155			0715		0907	
Initials		VY			M		VY		VY			M		VY		VY			M		VY		VY			MM		VY	

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-083

TEST ORGANISM
Common Name: Blunt nose clam
Scientific Name: *Macoma nasuta*

Beginning Date: 4/23/15 Time: 1100
Ending Date: 5/21/15 Time: 1230

TARGET VALUES Temp: 12 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
AT5-089		12.6			12.6		12.2		8.2			8.0		8.2		8.4			8.2		8.7		29.8			29.9		30.1	
AT5-090		12.7			12.6		12.3		8.2			8.1		8.2		8.4			8.1		8.7		29.8			29.3		30.2	
AT5-091		12.9			12.7		12.4		8.2			8.1		8.2		8.4			8.2		8.6		29.6			29.2		30.1	
AT5-092		12.8			12.7		12.3		8.2			8.1		8.2		8.5			8.2		8.7		29.7			29.3		30.0	

ATS-T14
06/21/06

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-083

TEST ORGANISM
Common Name: Blunt nose clam
Scientific Name: *Macoma nasuta*

Beginning Date: 4/23/15 Time: 1100
Ending Date: 5/21/15 Time: 1230

TARGET VALUES Temp: 12 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 L, 8 D Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21
AT5-073	Lab Control	13.4			13.0		13.0		8.3			8.1		7.2		7.6			8.3		8.4		28.6			29.9		29.6	
AT5-075		12.9			12.2		12.9		8.4			8.2		7.3		8.6			8.4		8.6		29.0			29.5		29.4	
AT5-076		12.9			12.1		12.5		8.4			8.2		7.4		8.6			8.3		8.7		29.3			30.6		29.7	
AT5-077		12.7			12.1		12.4		8.4			8.2		7.4		8.6			8.3		8.7		29.3			29.7		29.7	
AT5-078		12.6			12.1		12.3		8.3			8.2		7.5		8.5			8.5		8.7		29.5			30.5		29.7	
AT5-079		12.5			12.1		12.3		8.4			8.2		7.5		8.6			8.4		8.6		29.4			29.7		29.8	
AT5-080		12.4			12.0		12.3		8.4			8.2		7.6		8.6			8.4		8.6		29.4			30.5		29.8	
AT5-081		12.4			12.0		12.3		8.4			8.2		7.6		8.5			8.3		8.6		29.5			29.7		29.7	
AT5-082		12.4			12.0		12.3		8.3			8.2		7.6		8.5			8.4		8.7		29.5			30.6		29.7	
AT5-083		12.4			12.0		12.4		8.4			8.2		7.7		8.6			8.4		8.7		29.5			29.7		29.7	
AT5-084		12.4			12.0		12.4		8.4			8.2		7.7		8.6			8.4		8.7		29.4			30.5		29.7	
AT5-085		12.4			12.0		12.4		8.3			8.2		7.7		8.5			8.4		8.7		29.5			29.7		29.7	
AT5-086		12.4			11.9		12.4		8.3			8.2		7.7		8.4			8.5		8.5		29.6			30.5		29.6	
AT5-087		12.4			11.9		12.4		8.3			8.2		7.7		8.5			8.4		8.5		29.5			29.7		29.7	
AT5-088		12.4			11.9		12.4		8.3			8.2		7.8		8.5			8.5		8.6		29.5			30.6		29.7	
Meter Number		677			677		677		677			677		677		677			677		677		677			677		677	
Time		1315			1501		0847		1315			1509		0847		1315			1509		0847		1315			1509		0847	
Initials		MM			VR		VR		MM			VR		VR		MM			VR		VR		MM			VR		VR	

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-083

TEST ORGANISM
Common Name: Blunt nose clam
Scientific Name: *Macoma nasuta*

Beginning Date: 4/23/15 Time: 1100
Ending Date: 5/21/15 Time: 1230

TARGET VALUES Temp: 12 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Sample #		Temperature (°C)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21
AT5-089		12.4			12.6		12.3		8.4			8.2		7.9		8.6			8.5		8.7		29.5			29.8		29.7	
AT5-090		12.4			12.0		12.3		8.4			8.2		7.9		8.6			8.6		8.7		29.6			30.8		30.0	
AT5-091		12.6			12.6		12.4		8.4			8.2		7.9		8.6			8.2		7.4		29.6			29.5		30.0	
AT5-092		12.4			12.3		12.3		8.4			8.2		7.9		8.6			8.4		8.3		29.5			30.4		29.8	

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-083

TEST ORGANISM
Common Name: Blunt nose clam
Scientific Name: *Macoma nasuta*

Beginning Date: 4/23/15 Time: 1100
Ending Date: 5/21/15 Time: 1230

TARGET VALUES Temp: 12 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 & 8 d Light Intensity: 50 - 100 fc

Sample #		Temperature (°C) (11:05/21)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28
AT5-073	Lab Control	13.0	~~13.4~~		12.4			12.5	8.1			8.3		8.0		8.4			8.7		8.3		29.3			30.4		30.1	
AT5-075		12.7			12.0			12.0	8.1			8.4		8.1		8.5			8.8		8.5		29.5			30.1		30.9	
AT5-076		12.3			12.1			11.8	8.1			8.3		8.2		8.6			8.6		8.6		29.8			30.2		31.1	
AT5-077		12.0			12.1			11.9	8.1			8.4		8.2		8.9			8.6		8.7		29.8			30.3		30.9	
AT5-078		12.0			12.1			11.9	8.1			8.4		8.2		8.8			8.7		8.7		29.9			30.2		31.0	
AT5-079		12.0			12.0			11.9	8.1			8.4		8.2		8.8			8.7		8.6		30.0			30.1		30.9	
AT5-080		12.0			12.0			11.9	8.1			8.4		8.2		8.1			8.7		8.6		30.0			30.1		31.0	
AT5-081		12.1			12.1			12.0	8.1			8.4		8.2		7.6			8.7		8.5		29.9			30.0		30.9	
AT5-082		12.0			12.0			12.0	8.1			8.4		8.2		8.3			8.6		8.5		30.0			30.2		31.0	
AT5-083		12.0			12.0			~~12.1~~ 12.1	8.1			8.4		8.2		8.6			8.6		8.5		29.9			30.0		31.0	
AT5-084		12.1			12.0			12.1	8.1			8.4		8.2		8.7			8.6		8.5		30.0			30.3		30.9	
AT5-085		12.1			11.9			12.1	8.1			8.4		8.2		8.6			8.6		8.5		29.9			30.1		31.1	
AT5-086		12.1			11.9			12.1	8.1			8.4		8.2		8.6			8.6		8.6		30.0			30.3		31.1	
AT5-087		12.1			12.0			12.1	8.1			8.4		8.3		8.6			8.6		8.7		30.0			30.1		31.0	
AT5-088		12.1			12.0			12.1	8.1			8.4		8.3		8.7			8.6		8.6		30.0			30.3		31.1	
Meter Number		677			677			678	677			677		678		677			677		678		677			677		678	
Time		0910			1020			0840	0910			1020		0840		0910			1020		0840		0910			1020		0840	
Initials		MJ			JM			HW	MJ			JM		HW		MJ			JM		HW		MJ			JM		HW	

JM 5/8

TOXICITY TEST WATER QUALITY DATA SHEET - OLD SOLUTIONS

Project Number: 70005.15
Client: Thimble Shoals
QC Test Number: TN-15-083

TEST ORGANISM
Common Name: Blunt nose clam
Scientific Name: *Macoma nasuta*

Beginning Date: 4/23/15 Time: 1100
Ending Date: 5/21/15 Time: 1230

TARGET VALUES Temp: 12 °C pH: 6.0 - 9.0 DO: >2.5 mg/L Salinity: 30 ppt Photoperiod: 16 ℓ, 8 d Light Intensity: 50 - 100 fc

Sample #		Temperature (°C) (HW 5/21)							pH							Dissolved Oxygen (mg/L)							Salinity (ppt)						
		22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28
AT5-089		12.1			12.0			12.1	8.1			8.3		8.3		8.6			8.1		8.0		30.3			30.1		31.3	
AT5-090		12.1			12.2			12.3	8.1			8.2		8.3		8.9			6.7		8.0		30.2			30.4		31.2	
AT5-091		12.2			12.1			12.2	8.2			8.3		8.3		8.8			8.1		8.0		29.7			30.2		31.1	
AT5-092		12.1			12.1			12.1	8.2			8.3		8.3		8.8			8.5		8.5		30.0			30.3		31.0	

TOXICOLOGY LABORATORY BENCH SHEET - OVERLYING WATER PREPARATION / USAGE LOG

Project Number: 70005.15 TEST ORGANISM

Client: Thimble Shoals Common Name: Blunt nose clam

QC Test Number: TN-15-083 Scientific Name: *Macoma nasuta*

Overlying Water: 30 ppt Crystal Sea Artificial Seawater

Sample Number	Preparation Time, Date	Initials	Date of First Use	Date of Final Use
LDS-169	1530, 4/14/15	MJ	4/15/15	4/15/15
LDS-176	1615, 4/19/15	MJ	4/20/15	4/20/15
LDS-183	1420, 4/21/15	MKC	4/24/15	4/24/15
LDS-184	1550, 4/23/15	MKC	4/27/15	4/27/15
LDS-193	1440, 4/26/15	MJ	4/27/15	4/29/15
LDS-197	1630, 4/27/15	MJ	4/29/15	5/1/15
LDS-201	1534, 4/29/15	MJ	5/1/15	5/4/15
LDS-210	1300, 5/2/15	MJ	5/4/15	5/6/15
LDS-218	5/4/15, 1400	MKC	5/6/15	5/8/15
LDS-222	5/6/15, 1555	MJ	5/8/15	5/11/15
LDS-230	5/9/15, 1617	MJ	5/11/15	5/13/15
LDS-235	5/11/15, 1630	MKC	5/13/15	5/15/15
LDS-241	5/13/15, 1530	DB	5/15/15	5/18/15
LDS-248	5/16/15, 1630	JM	5/18/15	5/21/15

TOXICOLOGY LABORATORY BENCH SHEET - RENEWAL RECORD

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-083

Day	Overlying Water	Date	Time	Initials
0				
1	LD5-183	4/24/15	1100	MK
2				
3				
4	LD5-184/193	4/27/15	1510	MK
5				
6	LD5-193/199	4/29/15	1050	MK/GB
7				
8	LD5-197/201	5/1/15	1300	MJ
9				
10				
11	LD5-201/210	5/4/15	1030	MK
12				
13	LD5-210/218	5/6/15	1400	IM/GB
14				
15	LD5-218/222	5/8/15	1100	IM
16				
17				
18	LD5-222	5/11/15	1600	MK
19				
20	LD5-230/235	5/13/15	1000	IM/DB
21				
22	LD5-235/241	5/15/15	1500	DB
23				
24				
25	LD5-241/248	5/18/15	1300	DB/IM
26				
27				
28				

TOXICOLOGY LABORATORY BENCH SHEET

Project Number: 70005.15

Client: Thimble Shoals

QC Test Number: TN-15-083

Date/Time/Initials	Comments/Activity

28-Day Bioaccumulation Test-Percent Recovery

Start Date:	4/23/2015	Test ID:	TN-15-083	Sample ID:	Thimble Shoals
End Date:	5/21/2015	Lab ID:		Sample Type:	Sediment
Sample Date:		Protocol:	EPAA 91-EPA Acute	Test Species:	MN-Macoma nasuta
Comments:					

Conc-%	1	2	3	4	5
Control	0.8000	0.8800	0.8200		
AT5-075	1.0000	1.0000	0.9600	0.9800	0.9400
AT5-076	0.9400	1.0000	0.9400	0.8800	0.9600
AT5-077	0.8600	0.9200	0.8600	0.9800	0.8800
AT5-078	0.8800	0.9800	0.9200	0.9600	0.9600
AT5-079	0.9200	0.9000	0.9000	0.9400	0.9800
AT5-080	0.9400	0.9200	0.9200	0.9200	0.9400
AT5-081	0.9400	0.8800	0.9200	0.9600	0.9600
AT5-082	0.8800	0.9400	0.8400	0.8800	0.8400
AT5-083	0.8800	0.9000	0.9400	0.9400	0.9000
AT5-084	0.9400	0.9200	0.9800	0.8800	0.8800
AT5-085	0.9600	0.8600	0.8800	0.9400	0.9000
AT5-086	0.9800	1.0000	0.9400	0.9200	0.9400
AT5-087	0.9800	0.9600	0.8800	0.9000	0.8800
AT5-088	0.9000	0.9000	0.9800	0.9200	0.9200
AT5-089	0.9600	0.9200	0.8600	0.9800	0.8800
AT5-090	0.9800	1.0000	0.9400	0.9400	0.9200
AT5-091	0.9400	0.9600	0.9200	0.8600	0.8600
AT5-092	0.9000	0.7800	0.9400	0.7800	0.8200

			Transform: Arcsin Square Root					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
Control	0.8333	1.0000	1.1523	1.1071	1.2171	4.992	3		
AT5-075	0.9760	1.1712	1.4243	1.3233	1.5000	5.516	5	30.00	19.00
AT5-076	0.9440	1.1328	1.3466	1.2171	1.5000	7.603	5	29.50	19.00
AT5-077	0.9000	1.0800	1.2609	1.1873	1.4289	8.080	5	27.50	19.00
AT5-078	0.9400	1.1280	1.3338	1.2171	1.4289	6.238	5	29.50	19.00
AT5-079	0.9280	1.1136	1.3069	1.2490	1.4289	5.722	5	30.00	19.00
AT5-080	0.9280	1.1136	1.2998	1.2840	1.3233	1.656	5	30.00	19.00
AT5-081	0.9320	1.1184	1.3127	1.2171	1.3694	4.896	5	29.50	19.00
AT5-082	0.8760	1.0512	1.2152	1.1593	1.3233	5.513	5	27.00	19.00
AT5-083	0.9120	1.0944	1.2724	1.2171	1.3233	3.798	5	29.50	19.00
AT5-084	0.9200	1.1040	1.2941	1.2171	1.4289	6.803	5	29.00	19.00
AT5-085	0.9080	1.0896	1.2692	1.1873	1.3694	5.950	5	28.50	19.00
AT5-086	0.9560	1.1472	1.3719	1.2840	1.5000	6.530	5	30.00	19.00
AT5-087	0.9200	1.1040	1.2963	1.2171	1.4289	7.492	5	29.00	19.00
AT5-088	0.9240	1.1088	1.2990	1.2490	1.4289	5.749	5	30.00	19.00
AT5-089	0.9200	1.1040	1.2973	1.1873	1.4289	7.826	5	28.50	19.00
AT5-090	0.9560	1.1472	1.3719	1.2840	1.5000	6.530	5	30.00	19.00
AT5-091	0.9080	1.0896	1.2703	1.1873	1.3694	6.421	5	28.00	19.00
AT5-092	0.8440	1.0128	1.1740	1.0826	1.3233	9.169	5	22.50	19.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.1648	1.035	0.48219	-0.7411
Bartlett's Test indicates equal variances (p = 0.88)	11.3107	34.8053		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Rank Sum Test indicates no significant differences

ATTACHMENT IV

Report Quality Assurance Record
(2 pages)

REPORT QUALITY ASSURANCE RECORD

Client: Thimble Shoal | Project Number: 1520401

Author: Michael Chanov | EA Report Number: 7124

REPORT CHECKLIST

QA/QC ITEM	REVIEWER	DATE
1. Samples collected, transported, and received according to study plan requirements.	MK CA	6/1/15
2. Samples prepared and processed according to study plan requirements.	MK CA	6/1/15
3. Data collected using calibrated instruments and equipment.	MK CA	6/1/15
4. Calculations checked:		
- Hand calculations checked	MK CA	6/1/15
- Documented and verified statistical procedure used.	MK CA	6/1/15
5. Data input/statistical analyses complete and correct.	[illegible]	6/17/15
6. Reported results and facts checked against original sources.	[illegible]	6/17/15
7. Data presented in figures and tables correct and in agreement with text.	[illegible]	6/17/15
8. Results reviewed for compliance with study plan requirements.	MK CA	6/1/15

	AUTHOR	DATE
9. Commentary reviewed and resolved.	MK CA	7/6/15

10. All study plan and quality assurance/control requirements have been met and the report is approved:

MK CA	7/6/15
PROJECT MANAGER	DATE
[illegible]	6/17/15
QUALITY CONTROL OFFICER	DATE
[illegible]	6/18/15
SENIOR TECHNICAL REVIEWER	DATE

ATTACHMENT V
ANALYTICAL RESULTS FOR TISSUE

Accession #	Sample ID
AT5-073	Clam Control
AT5-074	Worm Control
AT5-075	TS-1-SED
AT5-076	TS-2ST-SED
AT5-077	TS-2SB-SED
AT5-078	TS-2MT-SED
AT5-079	TS-2NT-SED
AT5-080	TS-2NB-SED
AT5-081	TS-3ST-SED
AT5-082	TS-3SB-SED
AT5-083	TS-3NT-SED
AT5-084	TS-3NB-SED
AT5-085	TS-4ST-SED
AT5-086	TS-4SB-SED
AT5-087	TS-4MT-SED
AT5-088	TS-4NT-SED
AT5-089	TS-4NB-SED
AT5-090	WBREF-T-SED
AT5-091	WBREF-B-SED
AT5-092	OCREF-SED
AT5-093	TS-WAT
AT5-162	CBCON-SED

CLAM RESULTS

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-44597-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/15/2015 10:35 AM

Carrie L Gamber, Senior Project Manager
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07/15/2015

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits
F2	MS/MSD RPD exceeds control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
V	Serial Dilution exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-44597-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 05/29/2015; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 7 coolers at receipt time were 1.3º C, 1.6º C, 1.7º C, 2.0º C, 2.1º C, 2.3º C and 2.7º C.

SEMIVOLATILES
Several samples were diluted due to the nature of the sample matrix. Elevated Reporting Limits (RLs) are provided.

Nitrobenzene-d5 (Surr) failed the surrogate recovery criteria low for AT5-078 B-C (180-44597-24). 2-Fluorobiphenyl and Nitrobenzene-d5 (Surr) failed the surrogate recovery criteria low for AT5-075 B-C (180-44597-8). Evidence of matrix interference is present and sample was analyzed at a dilution; therefore, re-extraction and/or re-analysis was not performed.

Several analytes exceeded the RPD limit for the MSD of sample AT5-073 C-C (180-44597-3) in batch 180-146014.

Internal standard response for Perylene-d12 was outside of acceptance limits for the following samples: AT5-078 D-C (180-44597-26) and AT5-078 E-C (180-44597-27). The samples show evidence of matrix interference. The data has been qualified and reported.

PESTICIDES
One surrogate for sample AT5-075 B-C (180-44597-8) recovered outside QC limits. At least one surrogate recovered within QC limits. All data was rpeorted.

METALS
The holding time for mercury on tissues is 28 days from the date sampled. These smaples were released from hold after the 28 day holding time for mercury. All results are flagged with the H qualifer and reported with this narration.

Several samples were diluted due to the nature of the sample matrix for mercury. Elevated reporting limits (RLs) are provided.

Chromium and Iron were detected in method blank MB 180-145319/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Antimony, Iron and Magnesium were detected in method blank MB 180-145442/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Chromium was detected in method blank MB 180-145448/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Several analytes were detected in method blank MB 180-145552/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Aluminum and Sodium failed the recovery criteria high for the MS of sample AT5-073 B-C (180-44597-2) in batch 180-146445. Aluminum, Iron, Magnesium and Sodium failed the recovery criteria high for the MSD of sample AT5-073 B-C (180-44597-2) in batch 180-146445.

The serial dilution performed for the following sample associated with batch 145319 was outside of the control limits for several analytes.:

MOISTURE
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT LIPIDS
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44597-1

Client Sample ID: AT5-073 A-C

Lab Sample ID: 180-44597-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	12		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.9		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.17	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.015	J	0.097	0.0073	mg/Kg	1		6020A	Total/NA
Cadmium	0.034	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	560		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.29	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.19		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.6		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	69	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.027	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2100		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	830		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	7100		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.44		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.16		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.027	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.33	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.015	J	0.097	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.15		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	16		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	1.8		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.49		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-073 B-C

Lab Sample ID: 180-44597-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	49	F1	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.2		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.27	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.043	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	1100		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.55	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.25		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	120	B F1	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.035	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2200		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	740	F1	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5900	F1	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.81		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.52		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.042	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.34	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0095	J	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.29		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	19		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	3.0		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.53		0.20	0.058	%	1		Lipids	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44597-1

Client Sample ID: AT5-073 C-C — Lab Sample ID: 180-44597-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	14		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.7		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.16	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.041	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	920		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.42	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.22		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.7		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	69	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.025	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2200		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	770		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6400		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.48		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.12		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.015	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.34	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0064	J	0.096	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.18		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	19		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.6		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.41		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: PRETEST A-C — Lab Sample ID: 180-44597-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	9.9		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	3.5		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.18	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.064	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	1100		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.28	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.22		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	76	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.030	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	3000		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	660		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4900		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.47		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.18		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.042	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.43	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.012	J	0.096	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.18		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	22		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	1.4		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.45		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: PRETEST B-C — Lab Sample ID: 180-44597-5

This Detection Summary does not include radiochemical test results.

Client Sample ID: PRETEST B-C (Continued) — Lab Sample ID: 180-44597-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	14		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.2		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.56	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.015	J	0.098	0.0074	mg/Kg	1		6020A	Total/NA
Cadmium	0.071	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	460		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.68	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.30		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.6		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	69	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.049	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2800		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	730		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5500		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.79		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.64		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.25		0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.41	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.022	J	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.25		0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	19		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.4		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.41		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: PRETEST C-C — Lab Sample ID: 180-44597-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	18		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.6		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.53	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.0085	J	0.098	0.0074	mg/Kg	1		6020A	Total/NA
Cadmium	0.084	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	620		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.70	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.30		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	3.1		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	79	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.058	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2900		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	680		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4900		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.87		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.70		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.14	J	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.41	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.015	J	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.29		0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	20		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.6		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.33		0.20	0.059	%	1		Lipids	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44597-1

Client Sample ID: AT5-075 A-C

Lab Sample ID: 180-44597-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	83		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.2		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.57	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.034	J	0.097	0.0073	mg/Kg	1		6020A	Total/NA
Cadmium	0.046	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	490		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.84	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.33		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	170	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.044	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2200		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	860		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	7000		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.94		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.73		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.096	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.29	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0087	J	0.097	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.37		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	16		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	2.8		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.39		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-075 B-C

Lab Sample ID: 180-44597-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	120		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.7		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.39	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Beryllium	0.011	J	0.10	0.0075	mg/Kg	1		6020A	Total/NA
Cadmium	0.051	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	700		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.50	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.33		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.3		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	270	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.030	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2600		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	790		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5900		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.64		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.34		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.068	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.42	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0098	J	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.42		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	19		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	3.4		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.48		0.20	0.059	%	1		Lipids	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44597-1

Client Sample ID: AT5-075 C-C — Lab Sample ID: 180-44597-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	100		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	3.9		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.30	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.052	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	470		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.50	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.31		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.5		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	220	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.039	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2600		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	800		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6200		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.64		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.31		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.021	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.33	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0031	J	0.096	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.49		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	18		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	3.0		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.36		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-075 D-C — Lab Sample ID: 180-44597-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	97		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.9		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.35	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.020	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	910		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.51	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.23		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.7		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	200	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.028	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2000		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	910		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7700		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.52		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.30		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.019	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.28	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.36		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	14		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.6		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.32		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-075 E-C — Lab Sample ID: 180-44597-11

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-075 E-C (Continued) — Lab Sample ID: 180-44597-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	110		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	3.5		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.34	J	0.95	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.013	J	0.095	0.0071	mg/Kg	1		6020A	Total/NA
Cadmium	0.034	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	600		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.52	B	0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.30		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	210	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.035	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	2400		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	790		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6200		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.60		0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.30		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Antimony	0.021	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.35	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0022	J	0.095	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.35		0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	19		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.9		0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.36		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-076 A-C — Lab Sample ID: 180-44597-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	37		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.5		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.19	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.045	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	520		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.61	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.19		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.4		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	100	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.018	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2000	B	50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	860	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7300	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.46		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0037	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.30	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0030	J	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.37	B	0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	15		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	1.2		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.79		0.20	0.059	%	1		Lipids	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44597-1

Client Sample ID: AT5-076 B-C — Lab Sample ID: 180-44597-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	56		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.27	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.038	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	980		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.52	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.21		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	110	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.017	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1800	B	50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	770	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6500	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.46		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.13		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.20	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0026	J	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.35	B	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	14		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.4		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.58		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-076 C-C — Lab Sample ID: 180-44597-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	42		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.8		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.17	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.030	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	350		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.49	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.19		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	100	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.013	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2200	B	50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	850	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7100	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.37		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.13		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0068	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.27	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0020	J	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.31	B	0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	15		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	1.5		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.55		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-076 D-C — Lab Sample ID: 180-44597-15

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-076 D-C (Continued) — Lab Sample ID: 180-44597-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	28		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.9		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.16	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.038	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	620		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.45	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.20		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.9		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	80	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.019	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1900	B	50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	800	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6700	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.47		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.12		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.055	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0065	J	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.21	B	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	15		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	0.80		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.74		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-076 E-C — Lab Sample ID: 180-44597-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	70		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.8		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.24	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.035	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	500		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.55	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.27		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.8		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	150	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.031	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2500	B	49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	800	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6000	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.57		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.19		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.015	J	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.31	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0026	J	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.39	B	0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	20		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.2		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.70		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-077 A-C — Lab Sample ID: 180-44597-17

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-077 A-C (Continued) — Lab Sample ID: 180-44597-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	31		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.2		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.13	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.041	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	410		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.34		0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.33		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.1		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	150	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.021	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2100		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	710	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5700		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.48		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.12		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.29	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.25		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	17		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	1.7		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.55		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-077 B-C — Lab Sample ID: 180-44597-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	61		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.4		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.30	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.077	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	400		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.48		0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.45		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	3.2		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	230	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.040	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2300		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	750	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5800		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.71		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.32		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.38	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.30		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	19		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	3.3		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.53		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: SRM-1 — Lab Sample ID: 180-44597-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2,4'-DDD	4.3	J	12	0.75	ug/Kg	1		8081B_LL	Total/NA
Aluminum	43		2.9	0.28	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SRM-1 (Continued) — Lab Sample ID: 180-44597-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.0		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	6.2		0.98	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.012	J	0.098	0.0074	mg/Kg	1		6020A	Total/NA
Cadmium	2.3		0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	770		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.38	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.37		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	70		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	180	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.61		0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	5900		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	1300		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4100		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	1.0		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.30		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.014	J	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	2.2		0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0031	J	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.38		0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	1500		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	19		0.49	0.010	mg/Kg	1		6020A	Total/NA

Client Sample ID: AT5-077 C-C — Lab Sample ID: 180-44597-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	49		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.2		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.22	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.044	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	570		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.38		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.42		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.3		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	220	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.033	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2200		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	820	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6600		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.58		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.17		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.34	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.22		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	17		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.3		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.36		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-077 D-C — Lab Sample ID: 180-44597-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	39		2.9	0.28	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-077 D-C (Continued) — Lab Sample ID: 180-44597-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.4		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.19	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.043	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	660		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.36		0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.39		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	210	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.029	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2000		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	750	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5900		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.48		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.20		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.30	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.23		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	17		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	1.9		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.46		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-077 E-C — Lab Sample ID: 180-44597-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	310	J	900	110	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	66		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	4.0		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.26	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.055	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	440		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.53	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.45		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	3.2		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	240		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.046	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2600		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	840		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6400		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.64		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.22		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.010	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.33	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0089	J	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.35		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	21		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.7		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.50		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-078 A-C — Lab Sample ID: 180-44597-23

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-078 A-C (Continued) — Lab Sample ID: 180-44597-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	39		2.8	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.7		0.094	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.25	J	0.94	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.049	J	0.094	0.0066	mg/Kg	1		6020A	Total/NA
Calcium	970		47	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.38	B	0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.22		0.047	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	140	B	4.7	0.33	mg/Kg	1		6020A	Total/NA
Silver	0.025	J	0.094	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	2100		47	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	820		47	0.18	mg/Kg	1		6020A	Total/NA
Sodium	7000		47	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.36		0.094	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.16		0.094	0.0036	mg/Kg	1		6020A	Total/NA
Antimony	0.011	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.28	J	0.47	0.047	mg/Kg	1		6020A	Total/NA
Vanadium	0.20		0.094	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	15		0.47	0.061	mg/Kg	1		6020A	Total/NA
Manganese	2.2		0.47	0.0097	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.24		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-078 B-C — Lab Sample ID: 180-44597-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	39		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	3.3		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.24	J	0.95	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.052	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	530		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.42	B	0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.27		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	120	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.029	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	2500		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	770		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6100		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.51		0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.24		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Antimony	0.020	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.34	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0042	J	0.095	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.28		0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	20		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	1.7		0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.49		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-078 C-C — Lab Sample ID: 180-44597-25

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-078 C-C (Continued) — Lab Sample ID: 180-44597-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	37		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	3.2		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.29	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.048	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	540		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.45	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.25		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.1		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	130	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.042	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2500		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	810		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6600		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.45		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.29		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.021	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.32	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0028	J	0.096	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.11		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	19		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.0		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.53		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-078 D-C — Lab Sample ID: 180-44597-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	32		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.1		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.19	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.041	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	450		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.40	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.23		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.2		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	120	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.030	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2400		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	830		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6900		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.44		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0069	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.33	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.21		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	16		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.6		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.32		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-078 E-C — Lab Sample ID: 180-44597-27

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-078 E-C (Continued) — Lab Sample ID: 180-44597-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	47		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	3.2		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.26	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.040	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	1100		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.55	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.28		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.5		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	170	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.038	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2500		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	790		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6200		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.50		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.19		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.012	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.35	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0019	J	0.096	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.21		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	18		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.6		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.34		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-079 A-C — Lab Sample ID: 180-44597-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	440	J	980	120	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	36		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.5		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.19	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.044	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	450		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.40	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.32		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.9		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	200		4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.018	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2500		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	820		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6300		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.44		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.15		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0049	J	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.34	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0048	J	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.34		0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	20		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.7		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.59		0.20	0.059	%	1		Lipids	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44597-1

Client Sample ID: AT5-079 B-C — Lab Sample ID: 180-44597-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	480	J	1200	140	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	43		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.9		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.26	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.040	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	630		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.43	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.30		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.9		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	170		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.020	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2200		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	810		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6500		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.46		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.27	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.30		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	16		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.0		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.60		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-079 C-C — Lab Sample ID: 180-44597-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	37		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.8		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.20	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.031	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	600		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.41	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.29		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.9		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	170		4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.032	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	1900		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	900		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	7600		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.44		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.27		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	16		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	2.1		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.50		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-079 D-C — Lab Sample ID: 180-44597-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	440	J	1000	120	ug/Kg	4	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-079 D-C (Continued) — Lab Sample ID: 180-44597-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	44		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	3.7		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.19	J	0.95	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.053	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	990		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.43	B	0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.35		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.2		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	200		4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.038	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	2400		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	800		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6100		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.50		0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.16		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Antimony	0.055	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.33	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0068	J	0.095	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.27		0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	22		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.6		0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.77		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-079 E-C — Lab Sample ID: 180-44597-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	520	J	1200	140	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	48		3.1	0.29	mg/Kg	1		6020A	Total/NA
Arsenic	3.3		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.24	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.038	J	0.10	0.0071	mg/Kg	1		6020A	Total/NA
Calcium	1100		51	1.4	mg/Kg	1		6020A	Total/NA
Chromium	0.42	B	0.20	0.0062	mg/Kg	1		6020A	Total/NA
Cobalt	0.33		0.051	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.9		0.20	0.034	mg/Kg	1		6020A	Total/NA
Iron	240		5.1	0.36	mg/Kg	1		6020A	Total/NA
Silver	0.021	J	0.10	0.0040	mg/Kg	1		6020A	Total/NA
Potassium	2000		51	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	910		51	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7600		51	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.47		0.10	0.012	mg/Kg	1		6020A	Total/NA
Lead	0.22		0.10	0.0039	mg/Kg	1		6020A	Total/NA
Antimony	0.012	J	0.20	0.0027	mg/Kg	1		6020A	Total/NA
Selenium	0.26	J	0.51	0.051	mg/Kg	1		6020A	Total/NA
Vanadium	0.25		0.10	0.0081	mg/Kg	1		6020A	Total/NA
Zinc	18		0.51	0.066	mg/Kg	1		6020A	Total/NA
Manganese	2.5		0.51	0.011	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.57		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-080 A-C — Lab Sample ID: 180-44597-33

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-080 A-C (Continued) — Lab Sample ID: 180-44597-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	35		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.20	J	0.95	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.030	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	1100		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.33	B	0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.31		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	150		4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.019	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	1800		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	900		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	8000		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.46		0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.16		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Antimony	0.0027	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.21		0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	18		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	1.5		0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.41		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-080 B-C — Lab Sample ID: 180-44597-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	200	J	1100	120	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	65		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	3.4		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.25	J	0.95	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.042	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	620		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.49	B	0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.43		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.7		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	220		4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.035	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	2300		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	820		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6400		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.59		0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.18		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Antimony	0.0050	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.28	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.35		0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	20		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.2		0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.63		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-080 C-C — Lab Sample ID: 180-44597-35

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-080 C-C (Continued) — Lab Sample ID: 180-44597-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	370	J	1100	130	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	37		3.0	0.29	mg/Kg	1		6020A	Total/NA
Arsenic	2.5		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.15	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.035	J	0.10	0.0071	mg/Kg	1		6020A	Total/NA
Calcium	620		51	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.37	B	0.20	0.0062	mg/Kg	1		6020A	Total/NA
Cobalt	0.30		0.051	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.2		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	150		5.1	0.36	mg/Kg	1		6020A	Total/NA
Silver	0.020	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1900		51	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	900		51	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7700		51	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.42		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.13		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.51	0.051	mg/Kg	1		6020A	Total/NA
Vanadium	0.21		0.10	0.0080	mg/Kg	1		6020A	Total/NA
Zinc	15		0.51	0.065	mg/Kg	1		6020A	Total/NA
Manganese	1.5		0.51	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.51		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-080 D-C — Lab Sample ID: 180-44597-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	480	J	1200	140	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	44		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.8		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.21	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.054	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	2200		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.45	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.37		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	200		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.024	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2000		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	920		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7800		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.54		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0060	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.21	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.28		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	15		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.8		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.46		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-080 E-C — Lab Sample ID: 180-44597-37

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-080 E-C (Continued) — Lab Sample ID: 180-44597-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	200	J	680	80	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	29		3.1	0.29	mg/Kg	1		6020A	Total/NA
Arsenic	3.1		0.10	0.019	mg/Kg	1		6020A	Total/NA
Barium	0.14	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.034	J	0.10	0.0072	mg/Kg	1		6020A	Total/NA
Calcium	460		52	1.4	mg/Kg	1		6020A	Total/NA
Chromium	0.35	B	0.21	0.0063	mg/Kg	1		6020A	Total/NA
Cobalt	0.35		0.052	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.21	0.034	mg/Kg	1		6020A	Total/NA
Iron	120		5.2	0.36	mg/Kg	1		6020A	Total/NA
Silver	0.022	J	0.10	0.0040	mg/Kg	1		6020A	Total/NA
Potassium	2000		52	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	910		52	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7800		52	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.42		0.10	0.012	mg/Kg	1		6020A	Total/NA
Lead	0.12		0.10	0.0039	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.52	0.052	mg/Kg	1		6020A	Total/NA
Vanadium	0.18		0.10	0.0081	mg/Kg	1		6020A	Total/NA
Zinc	16		0.52	0.067	mg/Kg	1		6020A	Total/NA
Manganese	1.6		0.52	0.011	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.53		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: SRM-2 — Lab Sample ID: 180-44597-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	38		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	7.2		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	5.9		0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	2.3		0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	700		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.38	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.38		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	73		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	180		4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.58		0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	5600		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	1400		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4400		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	1.0		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.30		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	2.1		0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.37		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	1700		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	20		0.49	0.010	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-073 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-1
Matrix: Tissue
Percent Solids: 13.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	110	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Acenaphthylene	ND		1200	130	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Anthracene	ND		1200	110	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Benzo[a]anthracene	ND		1200	140	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Benzo[b]fluoranthene	ND		1200	180	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Benzo[k]fluoranthene	ND		1200	230	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Benzo[g,h,i]perylene	ND		1200	110	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Bis(2-ethylhexyl) phthalate	ND		12000	930	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Chrysene	ND		1200	140	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Dibenz(a,h)anthracene	ND		1200	130	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Fluoranthene	ND		1200	120	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Fluorene	ND		1200	150	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Indeno[1,2,3-cd]pyrene	ND		1200	120	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Naphthalene	ND		1200	100	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Phenanthrene	ND		1200	180	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Phenol	ND		1200	140	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4
Pyrene	ND		1200	120	ug/Kg	☼	06/17/15 03:25	06/25/15 08:06	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*58*		*34 - 103*	*06/17/15 03:25*	*06/25/15 08:06*	*4*
2,4,6-Tribromophenol (Surr)	*56*		*20 - 113*	*06/17/15 03:25*	*06/25/15 08:06*	*4*
Phenol-d5 (Surr)	*59*		*35 - 103*	*06/17/15 03:25*	*06/25/15 08:06*	*4*
2-Fluorobiphenyl	*58*		*38 - 103*	*06/17/15 03:25*	*06/25/15 08:06*	*4*
Nitrobenzene-d5 (Surr)	*56*		*41 - 108*	*06/17/15 03:25*	*06/25/15 08:06*	*4*
Terphenyl-d14 (Surr)	*50*		*28 - 109*	*06/17/15 03:25*	*06/25/15 08:06*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-073 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-2
Matrix: Tissue
Percent Solids: 14.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Anthracene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Bis(2-ethylhexyl) phthalate	ND		11000	880	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Chrysene	ND		1100	130	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Fluorene	ND		1100	140	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Naphthalene	ND		1100	94	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Phenol	ND		1100	130	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4
Pyrene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/25/15 08:33	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*51*		*34 - 103*	*06/17/15 03:25*	*06/25/15 08:33*	*4*
2,4,6-Tribromophenol (Surr)	*51*		*20 - 113*	*06/17/15 03:25*	*06/25/15 08:33*	*4*
Phenol-d5 (Surr)	*51*		*35 - 103*	*06/17/15 03:25*	*06/25/15 08:33*	*4*
2-Fluorobiphenyl	*50*		*38 - 103*	*06/17/15 03:25*	*06/25/15 08:33*	*4*
Nitrobenzene-d5 (Surr)	*53*		*41 - 108*	*06/17/15 03:25*	*06/25/15 08:33*	*4*
Terphenyl-d14 (Surr)	*45*		*28 - 109*	*06/17/15 03:25*	*06/25/15 08:33*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-073 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-3
Matrix: Tissue
Percent Solids: 12.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND	F2	1300	120	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Acenaphthylene	ND	F2	1300	140	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Anthracene	ND	F2	1300	120	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Benzo[a]anthracene	ND	F2	1300	160	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Benzo[b]fluoranthene	ND		1300	200	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Benzo[k]fluoranthene	ND	F2	1300	250	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Benzo[g,h,i]perylene	ND	F2	1300	120	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Benzo[a]pyrene	ND	F2	1300	130	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Bis(2-ethylhexyl) phthalate	ND	F2	13000	1000	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Chrysene	ND	F2	1300	150	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Dibenz(a,h)anthracene	ND		1300	140	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Fluoranthene	ND	F2	1300	130	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Fluorene	ND	F2	1300	170	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Indeno[1,2,3-cd]pyrene	ND		1300	130	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Naphthalene	ND	F2	1300	110	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Phenanthrene	ND	F2	1300	200	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Phenol	ND		1300	150	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4
Pyrene	ND		1300	130	ug/Kg	☼	06/17/15 03:25	06/25/15 09:01	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*57*		*34 - 103*	*06/17/15 03:25*	*06/25/15 09:01*	*4*
2,4,6-Tribromophenol (Surr)	*53*		*20 - 113*	*06/17/15 03:25*	*06/25/15 09:01*	*4*
Phenol-d5 (Surr)	*57*		*35 - 103*	*06/17/15 03:25*	*06/25/15 09:01*	*4*
2-Fluorobiphenyl	*54*		*38 - 103*	*06/17/15 03:25*	*06/25/15 09:01*	*4*
Nitrobenzene-d5 (Surr)	*51*		*41 - 108*	*06/17/15 03:25*	*06/25/15 09:01*	*4*
Terphenyl-d14 (Surr)	*51*		*28 - 109*	*06/17/15 03:25*	*06/25/15 09:01*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: PRETEST A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-4
Matrix: Tissue
Percent Solids: 15.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	96	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Acenaphthylene	ND		1000	110	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Anthracene	ND		1000	98	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Bis(2-ethylhexyl) phthalate	ND		10000	810	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Chrysene	ND		1000	120	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Fluorene	ND		1000	130	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Naphthalene	ND		1000	86	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Phenol	ND		1000	120	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4
Pyrene	ND		1000	100	ug/Kg	☼	06/17/15 03:25	06/25/15 09:28	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*51*		*34 - 103*	*06/17/15 03:25*	*06/25/15 09:28*	*4*
2,4,6-Tribromophenol (Surr)	*53*		*20 - 113*	*06/17/15 03:25*	*06/25/15 09:28*	*4*
Phenol-d5 (Surr)	*48*		*35 - 103*	*06/17/15 03:25*	*06/25/15 09:28*	*4*
2-Fluorobiphenyl	*49*		*38 - 103*	*06/17/15 03:25*	*06/25/15 09:28*	*4*
Nitrobenzene-d5 (Surr)	*49*		*41 - 108*	*06/17/15 03:25*	*06/25/15 09:28*	*4*
Terphenyl-d14 (Surr)	*43*		*28 - 109*	*06/17/15 03:25*	*06/25/15 09:28*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: PRETEST B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-5
Matrix: Tissue
Percent Solids: 17.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		950	90	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Acenaphthylene	ND		950	110	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Anthracene	ND		950	92	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Benzo[a]anthracene	ND		950	120	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Benzo[b]fluoranthene	ND		950	150	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Benzo[k]fluoranthene	ND		950	190	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Benzo[g,h,i]perylene	ND		950	94	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Benzo[a]pyrene	ND		950	94	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Bis(2-ethylhexyl) phthalate	ND		9400	760	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Chrysene	ND		950	110	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Dibenz(a,h)anthracene	ND		950	100	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Fluoranthene	ND		950	100	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Fluorene	ND		950	120	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Indeno[1,2,3-cd]pyrene	ND		950	97	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Naphthalene	ND		950	81	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Phenanthrene	ND		950	150	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Phenol	ND		950	110	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4
Pyrene	ND		950	95	ug/Kg	☼	06/17/15 03:25	06/25/15 09:56	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*70*		*34 - 103*	*06/17/15 03:25*	*06/25/15 09:56*	*4*
2,4,6-Tribromophenol (Surr)	*62*		*20 - 113*	*06/17/15 03:25*	*06/25/15 09:56*	*4*
Phenol-d5 (Surr)	*69*		*35 - 103*	*06/17/15 03:25*	*06/25/15 09:56*	*4*
2-Fluorobiphenyl	*68*		*38 - 103*	*06/17/15 03:25*	*06/25/15 09:56*	*4*
Nitrobenzene-d5 (Surr)	*69*		*41 - 108*	*06/17/15 03:25*	*06/25/15 09:56*	*4*
Terphenyl-d14 (Surr)	*54*		*28 - 109*	*06/17/15 03:25*	*06/25/15 09:56*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: PRETEST C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-6
Matrix: Tissue
Percent Solids: 19.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		830	79	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Acenaphthylene	ND		830	95	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Anthracene	ND		830	81	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Benzo[a]anthracene	ND		830	100	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Benzo[b]fluoranthene	ND		830	130	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Benzo[k]fluoranthene	ND		830	170	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Benzo[g,h,i]perylene	ND		830	82	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Benzo[a]pyrene	ND		830	83	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Bis(2-ethylhexyl) phthalate	ND		8300	670	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Chrysene	ND		830	98	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Dibenz(a,h)anthracene	ND		830	92	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Fluoranthene	ND		830	88	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Fluorene	ND		830	110	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Indeno[1,2,3-cd]pyrene	ND		830	85	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Naphthalene	ND		830	71	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Phenanthrene	ND		830	130	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Phenol	ND		830	98	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4
Pyrene	ND		830	84	ug/Kg	☼	06/17/15 03:25	06/25/15 10:23	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*64*		*34 - 103*	*06/17/15 03:25*	*06/25/15 10:23*	*4*
2,4,6-Tribromophenol (Surr)	*55*		*20 - 113*	*06/17/15 03:25*	*06/25/15 10:23*	*4*
Phenol-d5 (Surr)	*60*		*35 - 103*	*06/17/15 03:25*	*06/25/15 10:23*	*4*
2-Fluorobiphenyl	*59*		*38 - 103*	*06/17/15 03:25*	*06/25/15 10:23*	*4*
Nitrobenzene-d5 (Surr)	*60*		*41 - 108*	*06/17/15 03:25*	*06/25/15 10:23*	*4*
Terphenyl-d14 (Surr)	*49*		*28 - 109*	*06/17/15 03:25*	*06/25/15 10:23*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-075 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Benzo[a]anthracene	ND		160	20	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Benzo[b]fluoranthene	ND		160	25	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Benzo[k]fluoranthene	ND		160	32	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Benzo[g,h,i]perylene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Benzo[a]pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Chrysene	ND		160	19	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Dibenz(a,h)anthracene	ND		160	18	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Fluoranthene	ND		160	17	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Fluorene	ND		160	21	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Indeno[1,2,3-cd]pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Phenanthrene	ND		160	25	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Acenaphthene	ND		160	15	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Acenaphthylene	ND		160	18	ug/Kg		06/17/15 03:25	06/25/15 10:51	4
Naphthalene	ND		160	14	ug/Kg		06/17/15 03:25	06/25/15 10:51	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*45*		*41 - 108*	*06/17/15 03:25*	*06/25/15 10:51*	*4*
2-Fluorobiphenyl	*45*		*38 - 103*	*06/17/15 03:25*	*06/25/15 10:51*	*4*
Terphenyl-d14 (Surr)	*41*		*28 - 109*	*06/17/15 03:25*	*06/25/15 10:51*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-075 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		160	15	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Benzo[a]anthracene	ND		160	20	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Benzo[b]fluoranthene	ND		160	25	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Benzo[k]fluoranthene	ND		160	32	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Benzo[g,h,i]perylene	ND		160	16	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Benzo[a]pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Chrysene	ND		160	19	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Dibenz(a,h)anthracene	ND		160	17	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Fluoranthene	ND		160	17	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Fluorene	ND		160	21	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Indeno[1,2,3-cd]pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Phenanthrene	ND		160	25	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Acenaphthene	ND		160	15	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Acenaphthylene	ND		160	18	ug/Kg		06/17/15 03:25	06/28/15 22:47	4
Naphthalene	ND		160	14	ug/Kg		06/17/15 03:25	06/28/15 22:47	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*34*	*X*	*41 - 108*	*06/17/15 03:25*	*06/28/15 22:47*	*4*
2-Fluorobiphenyl	*35*	*X*	*38 - 103*	*06/17/15 03:25*	*06/28/15 22:47*	*4*
Terphenyl-d14 (Surr)	*29*		*28 - 109*	*06/17/15 03:25*	*06/28/15 22:47*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-075 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Benzo[a]anthracene	ND		160	20	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Benzo[b]fluoranthene	ND		160	25	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Benzo[k]fluoranthene	ND		160	32	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Benzo[g,h,i]perylene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Benzo[a]pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Chrysene	ND		160	19	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Dibenz(a,h)anthracene	ND		160	18	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Fluoranthene	ND		160	17	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Fluorene	ND		160	21	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Indeno[1,2,3-cd]pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Phenanthrene	ND		160	25	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Acenaphthene	ND		160	15	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Acenaphthylene	ND		160	18	ug/Kg		06/17/15 03:25	06/25/15 11:46	4
Naphthalene	ND		160	14	ug/Kg		06/17/15 03:25	06/25/15 11:46	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*47*		*41 - 108*	*06/17/15 03:25*	*06/25/15 11:46*	*4*
2-Fluorobiphenyl	*45*		*38 - 103*	*06/17/15 03:25*	*06/25/15 11:46*	*4*
Terphenyl-d14 (Surr)	*42*		*28 - 109*	*06/17/15 03:25*	*06/25/15 11:46*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-075 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Benzo[a]anthracene	ND		160	20	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Benzo[b]fluoranthene	ND		160	25	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Benzo[k]fluoranthene	ND		160	32	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Benzo[g,h,i]perylene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Benzo[a]pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Chrysene	ND		160	19	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Dibenz(a,h)anthracene	ND		160	18	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Fluoranthene	ND		160	17	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Fluorene	ND		160	21	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Indeno[1,2,3-cd]pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Phenanthrene	ND		160	25	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Acenaphthene	ND		160	15	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Acenaphthylene	ND		160	18	ug/Kg		06/17/15 03:25	06/25/15 12:13	4
Naphthalene	ND		160	14	ug/Kg		06/17/15 03:25	06/25/15 12:13	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*42*		*41 - 108*	*06/17/15 03:25*	*06/25/15 12:13*	*4*
2-Fluorobiphenyl	*42*		*38 - 103*	*06/17/15 03:25*	*06/25/15 12:13*	*4*
Terphenyl-d14 (Surr)	*38*		*28 - 109*	*06/17/15 03:25*	*06/25/15 12:13*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-075 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		160	15	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Benzo[a]anthracene	ND		160	20	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Benzo[b]fluoranthene	ND		160	25	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Benzo[k]fluoranthene	ND		160	32	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Benzo[g,h,i]perylene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Benzo[a]pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Chrysene	ND		160	19	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Dibenz(a,h)anthracene	ND		160	17	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Fluoranthene	ND		160	17	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Fluorene	ND		160	21	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Indeno[1,2,3-cd]pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Phenanthrene	ND		160	25	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Pyrene	ND		160	16	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Acenaphthene	ND		160	15	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Acenaphthylene	ND		160	18	ug/Kg		06/17/15 03:25	06/25/15 12:41	4
Naphthalene	ND		160	14	ug/Kg		06/17/15 03:25	06/25/15 12:41	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*43*		*41 - 108*	*06/17/15 03:25*	*06/25/15 12:41*	*4*
2-Fluorobiphenyl	*42*		*38 - 103*	*06/17/15 03:25*	*06/25/15 12:41*	*4*
Terphenyl-d14 (Surr)	*36*		*28 - 109*	*06/17/15 03:25*	*06/25/15 12:41*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-077 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-17
Matrix: Tissue
Percent Solids: 14.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Anthracene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Benzo[k]fluoranthene	ND		1000	210	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Bis(2-ethylhexyl) phthalate	ND		10000	840	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Chrysene	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Dibenz(a,h)anthracene	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Fluorene	ND		1000	140	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Indeno[1,2,3-cd]pyrene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Naphthalene	ND		1000	89	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Phenol	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4
Pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 06:58	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*68*		*34 - 103*	*06/20/15 03:00*	*06/29/15 06:58*	*4*
2,4,6-Tribromophenol (Surr)	*70*		*20 - 113*	*06/20/15 03:00*	*06/29/15 06:58*	*4*
Phenol-d5 (Surr)	*66*		*35 - 103*	*06/20/15 03:00*	*06/29/15 06:58*	*4*
2-Fluorobiphenyl	*68*		*38 - 103*	*06/20/15 03:00*	*06/29/15 06:58*	*4*
Nitrobenzene-d5 (Surr)	*64*		*41 - 108*	*06/20/15 03:00*	*06/29/15 06:58*	*4*
Terphenyl-d14 (Surr)	*69*		*28 - 109*	*06/20/15 03:00*	*06/29/15 06:58*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-077 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-18
Matrix: Tissue
Percent Solids: 16.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	96	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Acenaphthylene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Anthracene	ND		1000	98	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Bis(2-ethylhexyl) phthalate	ND		10000	810	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Chrysene	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Fluorene	ND		1000	130	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Naphthalene	ND		1000	86	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Phenol	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4
Pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 07:26	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*55*		*34 - 103*	*06/20/15 03:00*	*06/29/15 07:26*	*4*
2,4,6-Tribromophenol (Surr)	*64*		*20 - 113*	*06/20/15 03:00*	*06/29/15 07:26*	*4*
Phenol-d5 (Surr)	*54*		*35 - 103*	*06/20/15 03:00*	*06/29/15 07:26*	*4*
2-Fluorobiphenyl	*58*		*38 - 103*	*06/20/15 03:00*	*06/29/15 07:26*	*4*
Nitrobenzene-d5 (Surr)	*54*		*41 - 108*	*06/20/15 03:00*	*06/29/15 07:26*	*4*
Terphenyl-d14 (Surr)	*60*		*28 - 109*	*06/20/15 03:00*	*06/29/15 07:26*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-077 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-20
Matrix: Tissue
Percent Solids: 15.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	97	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Anthracene	ND		1000	99	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Bis(2-ethylhexyl) phthalate	ND		10000	820	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Chrysene	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Fluorene	ND		1000	130	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Naphthalene	ND		1000	87	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Phenol	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4
Pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 07:53	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*59*		*34 - 103*	*06/20/15 03:00*	*06/29/15 07:53*	*4*
2,4,6-Tribromophenol (Surr)	*59*		*20 - 113*	*06/20/15 03:00*	*06/29/15 07:53*	*4*
Phenol-d5 (Surr)	*61*		*35 - 103*	*06/20/15 03:00*	*06/29/15 07:53*	*4*
2-Fluorobiphenyl	*57*		*38 - 103*	*06/20/15 03:00*	*06/29/15 07:53*	*4*
Nitrobenzene-d5 (Surr)	*58*		*41 - 108*	*06/20/15 03:00*	*06/29/15 07:53*	*4*
Terphenyl-d14 (Surr)	*54*		*28 - 109*	*06/20/15 03:00*	*06/29/15 07:53*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-077 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-21
Matrix: Tissue
Percent Solids: 16.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		980	94	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Acenaphthylene	ND		980	110	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Anthracene	ND		980	96	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Benzo[a]anthracene	ND		980	120	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Benzo[b]fluoranthene	ND		980	150	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Benzo[k]fluoranthene	ND		980	200	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Benzo[g,h,i]perylene	ND		980	98	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Benzo[a]pyrene	ND		980	98	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Bis(2-ethylhexyl) phthalate	ND		9800	790	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Chrysene	ND		980	120	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Dibenz(a,h)anthracene	ND		980	110	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Fluoranthene	ND		980	100	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Fluorene	ND		980	130	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Indeno[1,2,3-cd]pyrene	ND		980	100	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Naphthalene	ND		980	85	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Phenanthrene	ND		980	160	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Phenol	ND		980	120	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4
Pyrene	ND		980	99	ug/Kg	☼	06/20/15 03:00	06/29/15 08:20	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*55*		*34 - 103*	*06/20/15 03:00*	*06/29/15 08:20*	*4*
2,4,6-Tribromophenol (Surr)	*55*		*20 - 113*	*06/20/15 03:00*	*06/29/15 08:20*	*4*
Phenol-d5 (Surr)	*52*		*35 - 103*	*06/20/15 03:00*	*06/29/15 08:20*	*4*
2-Fluorobiphenyl	*52*		*38 - 103*	*06/20/15 03:00*	*06/29/15 08:20*	*4*
Nitrobenzene-d5 (Surr)	*50*		*41 - 108*	*06/20/15 03:00*	*06/29/15 08:20*	*4*
Terphenyl-d14 (Surr)	*49*		*28 - 109*	*06/20/15 03:00*	*06/29/15 08:20*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-077 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-22
Matrix: Tissue
Percent Solids: 17.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		900	86	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Acenaphthylene	ND		900	100	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Anthracene	ND		900	88	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Benzo[a]anthracene	ND		900	110	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Benzo[b]fluoranthene	ND		900	140	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Benzo[k]fluoranthene	ND		900	180	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Benzo[g,h,i]perylene	ND		900	89	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Benzo[a]pyrene	ND		900	90	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Bis(2-ethylhexyl) phthalate	ND		9000	730	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Chrysene	ND		900	110	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Dibenz(a,h)anthracene	ND		900	100	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Fluoranthene	ND		900	96	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Fluorene	ND		900	120	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Indeno[1,2,3-cd]pyrene	ND		900	93	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Naphthalene	ND		900	77	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Phenanthrene	ND		900	140	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Phenol	**310**	**J**	900	110	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4
Pyrene	ND		900	91	ug/Kg	☼	06/24/15 03:00	07/02/15 06:52	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*46*		*34 - 103*	*06/24/15 03:00*	*07/02/15 06:52*	*4*
2,4,6-Tribromophenol (Surr)	*56*		*20 - 113*	*06/24/15 03:00*	*07/02/15 06:52*	*4*
Phenol-d5 (Surr)	*47*		*35 - 103*	*06/24/15 03:00*	*07/02/15 06:52*	*4*
2-Fluorobiphenyl	*49*		*38 - 103*	*06/24/15 03:00*	*07/02/15 06:52*	*4*
Nitrobenzene-d5 (Surr)	*47*		*41 - 108*	*06/24/15 03:00*	*07/02/15 06:52*	*4*
Terphenyl-d14 (Surr)	*57*		*28 - 109*	*06/24/15 03:00*	*07/02/15 06:52*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-078 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-23
Matrix: Tissue
Percent Solids: 13.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		11000	920	ug/Kg	☼	06/17/15 03:25	06/25/15 13:08	4
Phenol	ND		1100	130	ug/Kg	☼	06/17/15 03:25	06/25/15 13:08	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*46*		*38 - 103*	*06/17/15 03:25*	*06/25/15 13:08*	*4*
2-Fluorophenol (Surr)	*47*		*34 - 103*	*06/17/15 03:25*	*06/25/15 13:08*	*4*
2,4,6-Tribromophenol (Surr)	*44*		*20 - 113*	*06/17/15 03:25*	*06/25/15 13:08*	*4*
Nitrobenzene-d5 (Surr)	*46*		*41 - 108*	*06/17/15 03:25*	*06/25/15 13:08*	*4*
Phenol-d5 (Surr)	*48*		*35 - 103*	*06/17/15 03:25*	*06/25/15 13:08*	*4*
Terphenyl-d14 (Surr)	*39*		*28 - 109*	*06/17/15 03:25*	*06/25/15 13:08*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-078 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-24
Matrix: Tissue
Percent Solids: 16.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		9200	750	ug/Kg	☼	06/17/15 03:25	06/25/15 13:36	4
Phenol	ND		930	110	ug/Kg	☼	06/17/15 03:25	06/25/15 13:36	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*41*		*38 - 103*	*06/17/15 03:25*	*06/25/15 13:36*	*4*
2-Fluorophenol (Surr)	*42*		*34 - 103*	*06/17/15 03:25*	*06/25/15 13:36*	*4*
2,4,6-Tribromophenol (Surr)	*42*		*20 - 113*	*06/17/15 03:25*	*06/25/15 13:36*	*4*
Nitrobenzene-d5 (Surr)	*39*	*X*	*41 - 108*	*06/17/15 03:25*	*06/25/15 13:36*	*4*
Phenol-d5 (Surr)	*41*		*35 - 103*	*06/17/15 03:25*	*06/25/15 13:36*	*4*
Terphenyl-d14 (Surr)	*36*		*28 - 109*	*06/17/15 03:25*	*06/25/15 13:36*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-078 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-25
Matrix: Tissue
Percent Solids: 16.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		9900	800	ug/Kg	☼	06/17/15 03:25	06/26/15 01:31	4
Phenol	ND		990	120	ug/Kg	☼	06/17/15 03:25	06/26/15 01:31	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*38 - 103*	*06/17/15 03:25*	*06/26/15 01:31*	*4*
2-Fluorophenol (Surr)	*57*		*34 - 103*	*06/17/15 03:25*	*06/26/15 01:31*	*4*
2,4,6-Tribromophenol (Surr)	*59*		*20 - 113*	*06/17/15 03:25*	*06/26/15 01:31*	*4*
Nitrobenzene-d5 (Surr)	*57*		*41 - 108*	*06/17/15 03:25*	*06/26/15 01:31*	*4*
Phenol-d5 (Surr)	*59*		*35 - 103*	*06/17/15 03:25*	*06/26/15 01:31*	*4*
Terphenyl-d14 (Surr)	*58*		*28 - 109*	*06/17/15 03:25*	*06/26/15 01:31*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-078 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-26
Matrix: Tissue
Percent Solids: 15.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		10000	830	ug/Kg	☼	06/17/15 03:25	06/25/15 14:30	4
Phenol	ND		1000	120	ug/Kg	☼	06/17/15 03:25	06/25/15 14:30	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*44*		*38 - 103*	*06/17/15 03:25*	*06/25/15 14:30*	*4*
2-Fluorophenol (Surr)	*50*		*34 - 103*	*06/17/15 03:25*	*06/25/15 14:30*	*4*
2,4,6-Tribromophenol (Surr)	*46*		*20 - 113*	*06/17/15 03:25*	*06/25/15 14:30*	*4*
Nitrobenzene-d5 (Surr)	*48*		*41 - 108*	*06/17/15 03:25*	*06/25/15 14:30*	*4*
Phenol-d5 (Surr)	*47*		*35 - 103*	*06/17/15 03:25*	*06/25/15 14:30*	*4*
Terphenyl-d14 (Surr)	*39*		*28 - 109*	*06/17/15 03:25*	*06/25/15 14:30*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-078 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-27
Matrix: Tissue
Percent Solids: 15.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		10000	830	ug/Kg	☼	06/17/15 03:25	06/25/15 14:58	4
Phenol	ND		1000	120	ug/Kg	☼	06/17/15 03:25	06/25/15 14:58	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*44*		*38 - 103*	*06/17/15 03:25*	*06/25/15 14:58*	*4*
2-Fluorophenol (Surr)	*45*		*34 - 103*	*06/17/15 03:25*	*06/25/15 14:58*	*4*
2,4,6-Tribromophenol (Surr)	*42*		*20 - 113*	*06/17/15 03:25*	*06/25/15 14:58*	*4*
Nitrobenzene-d5 (Surr)	*45*		*41 - 108*	*06/17/15 03:25*	*06/25/15 14:58*	*4*
Phenol-d5 (Surr)	*47*		*35 - 103*	*06/17/15 03:25*	*06/25/15 14:58*	*4*
Terphenyl-d14 (Surr)	*40*		*28 - 109*	*06/17/15 03:25*	*06/25/15 14:58*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-079 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-28
Matrix: Tissue
Percent Solids: 16.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		9800	790	ug/Kg	☼	06/24/15 03:00	07/02/15 07:20	4
Phenol	**440**	**J**	980	120	ug/Kg	☼	06/24/15 03:00	07/02/15 07:20	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*38 - 103*	*06/24/15 03:00*	*07/02/15 07:20*	*4*
2-Fluorophenol (Surr)	*57*		*34 - 103*	*06/24/15 03:00*	*07/02/15 07:20*	*4*
2,4,6-Tribromophenol (Surr)	*91*		*20 - 113*	*06/24/15 03:00*	*07/02/15 07:20*	*4*
Nitrobenzene-d5 (Surr)	*62*		*41 - 108*	*06/24/15 03:00*	*07/02/15 07:20*	*4*
Phenol-d5 (Surr)	*59*		*35 - 103*	*06/24/15 03:00*	*07/02/15 07:20*	*4*
Terphenyl-d14 (Surr)	*77*		*28 - 109*	*06/24/15 03:00*	*07/02/15 07:20*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-079 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-29
Matrix: Tissue
Percent Solids: 13.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		12000	940	ug/Kg	☼	06/24/15 03:00	07/02/15 07:47	4
Phenol	**480**	**J**	1200	140	ug/Kg	☼	06/24/15 03:00	07/02/15 07:47	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*47*		*38 - 103*	*06/24/15 03:00*	*07/02/15 07:47*	*4*
2-Fluorophenol (Surr)	*44*		*34 - 103*	*06/24/15 03:00*	*07/02/15 07:47*	*4*
2,4,6-Tribromophenol (Surr)	*65*		*20 - 113*	*06/24/15 03:00*	*07/02/15 07:47*	*4*
Nitrobenzene-d5 (Surr)	*44*		*41 - 108*	*06/24/15 03:00*	*07/02/15 07:47*	*4*
Phenol-d5 (Surr)	*44*		*35 - 103*	*06/24/15 03:00*	*07/02/15 07:47*	*4*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*06/24/15 03:00*	*07/02/15 07:47*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-079 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-30
Matrix: Tissue
Percent Solids: 14.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		11000	910	ug/Kg	☼	06/24/15 03:00	07/02/15 08:15	4
Phenol	ND		1100	130	ug/Kg	☼	06/24/15 03:00	07/02/15 08:15	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*55*		*38 - 103*	*06/24/15 03:00*	*07/02/15 08:15*	*4*
2-Fluorophenol (Surr)	*56*		*34 - 103*	*06/24/15 03:00*	*07/02/15 08:15*	*4*
2,4,6-Tribromophenol (Surr)	*71*		*20 - 113*	*06/24/15 03:00*	*07/02/15 08:15*	*4*
Nitrobenzene-d5 (Surr)	*55*		*41 - 108*	*06/24/15 03:00*	*07/02/15 08:15*	*4*
Phenol-d5 (Surr)	*55*		*35 - 103*	*06/24/15 03:00*	*07/02/15 08:15*	*4*
Terphenyl-d14 (Surr)	*60*		*28 - 109*	*06/24/15 03:00*	*07/02/15 08:15*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-079 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-31
Matrix: Tissue
Percent Solids: 15.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		10000	830	ug/Kg	☼	06/24/15 03:00	07/02/15 08:42	4
Phenol	**440**	**J**	1000	120	ug/Kg	☼	06/24/15 03:00	07/02/15 08:42	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*55*		*38 - 103*	*06/24/15 03:00*	*07/02/15 08:42*	*4*
2-Fluorophenol (Surr)	*56*		*34 - 103*	*06/24/15 03:00*	*07/02/15 08:42*	*4*
2,4,6-Tribromophenol (Surr)	*66*		*20 - 113*	*06/24/15 03:00*	*07/02/15 08:42*	*4*
Nitrobenzene-d5 (Surr)	*53*		*41 - 108*	*06/24/15 03:00*	*07/02/15 08:42*	*4*
Phenol-d5 (Surr)	*57*		*35 - 103*	*06/24/15 03:00*	*07/02/15 08:42*	*4*
Terphenyl-d14 (Surr)	*61*		*28 - 109*	*06/24/15 03:00*	*07/02/15 08:42*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-079 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-32
Matrix: Tissue
Percent Solids: 13.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		12000	940	ug/Kg	☼	06/24/15 03:00	07/02/15 09:10	4
Phenol	**520**	**J**	1200	140	ug/Kg	☼	06/24/15 03:00	07/02/15 09:10	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*38 - 103*	*06/24/15 03:00*	*07/02/15 09:10*	*4*
2-Fluorophenol (Surr)	*59*		*34 - 103*	*06/24/15 03:00*	*07/02/15 09:10*	*4*
2,4,6-Tribromophenol (Surr)	*79*		*20 - 113*	*06/24/15 03:00*	*07/02/15 09:10*	*4*
Nitrobenzene-d5 (Surr)	*59*		*41 - 108*	*06/24/15 03:00*	*07/02/15 09:10*	*4*
Phenol-d5 (Surr)	*60*		*35 - 103*	*06/24/15 03:00*	*07/02/15 09:10*	*4*
Terphenyl-d14 (Surr)	*70*		*28 - 109*	*06/24/15 03:00*	*07/02/15 09:10*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-080 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-33
Matrix: Tissue
Percent Solids: 13.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	110	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Acenaphthylene	ND		1200	140	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Anthracene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Benzo[b]fluoranthene	ND		1200	190	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Benzo[k]fluoranthene	ND		1200	240	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Bis(2-ethylhexyl) phthalate	ND		12000	960	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Chrysene	ND		1200	140	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Dibenz(a,h)anthracene	ND		1200	130	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Fluoranthene	ND		1200	130	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Fluorene	ND		1200	160	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Indeno[1,2,3-cd]pyrene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Naphthalene	ND		1200	100	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Phenol	ND		1200	140	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4
Pyrene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/02/15 09:37	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*60*		*34 - 103*	*06/24/15 03:00*	*07/02/15 09:37*	*4*
2,4,6-Tribromophenol (Surr)	*71*		*20 - 113*	*06/24/15 03:00*	*07/02/15 09:37*	*4*
Phenol-d5 (Surr)	*63*		*35 - 103*	*06/24/15 03:00*	*07/02/15 09:37*	*4*
2-Fluorobiphenyl	*58*		*38 - 103*	*06/24/15 03:00*	*07/02/15 09:37*	*4*
Nitrobenzene-d5 (Surr)	*59*		*41 - 108*	*06/24/15 03:00*	*07/02/15 09:37*	*4*
Terphenyl-d14 (Surr)	*64*		*28 - 109*	*06/24/15 03:00*	*07/02/15 09:37*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-080 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-34
Matrix: Tissue
Percent Solids: 14.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Anthracene	ND		1100	100	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Benzo[a]anthracene	ND		1100	130	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Benzo[k]fluoranthene	ND		1100	210	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Bis(2-ethylhexyl) phthalate	ND		11000	850	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Chrysene	ND		1100	130	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Fluoranthene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Fluorene	ND		1100	140	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Naphthalene	ND		1100	91	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Phenol	**200**	**J**	1100	120	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4
Pyrene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/02/15 10:05	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*48*		*34 - 103*	*06/24/15 03:00*	*07/02/15 10:05*	*4*
2,4,6-Tribromophenol (Surr)	*66*		*20 - 113*	*06/24/15 03:00*	*07/02/15 10:05*	*4*
Phenol-d5 (Surr)	*47*		*35 - 103*	*06/24/15 03:00*	*07/02/15 10:05*	*4*
2-Fluorobiphenyl	*48*		*38 - 103*	*06/24/15 03:00*	*07/02/15 10:05*	*4*
Nitrobenzene-d5 (Surr)	*49*		*41 - 108*	*06/24/15 03:00*	*07/02/15 10:05*	*4*
Terphenyl-d14 (Surr)	*57*		*28 - 109*	*06/24/15 03:00*	*07/02/15 10:05*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-080 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-35
Matrix: Tissue
Percent Solids: 14.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Acenaphthylene	ND		1100	130	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Anthracene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Bis(2-ethylhexyl) phthalate	ND		11000	890	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Chrysene	ND		1100	130	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Fluorene	ND		1100	150	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Naphthalene	ND		1100	95	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Phenanthrene	ND		1100	180	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Phenol	**370**	**J**	1100	130	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4
Pyrene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/02/15 10:32	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*52*		*34 - 103*	*06/24/15 03:00*	*07/02/15 10:32*	*4*
2,4,6-Tribromophenol (Surr)	*67*		*20 - 113*	*06/24/15 03:00*	*07/02/15 10:32*	*4*
Phenol-d5 (Surr)	*52*		*35 - 103*	*06/24/15 03:00*	*07/02/15 10:32*	*4*
2-Fluorobiphenyl	*51*		*38 - 103*	*06/24/15 03:00*	*07/02/15 10:32*	*4*
Nitrobenzene-d5 (Surr)	*56*		*41 - 108*	*06/24/15 03:00*	*07/02/15 10:32*	*4*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*06/24/15 03:00*	*07/02/15 10:32*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-080 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-36
Matrix: Tissue
Percent Solids: 12.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Acenaphthylene	ND		1200	140	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Anthracene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Benzo[b]fluoranthene	ND		1200	190	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Benzo[k]fluoranthene	ND		1200	250	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Bis(2-ethylhexyl) phthalate	ND		12000	980	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Chrysene	ND		1200	140	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Dibenz(a,h)anthracene	ND		1200	140	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Fluoranthene	ND		1200	130	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Fluorene	ND		1200	160	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Indeno[1,2,3-cd]pyrene	ND		1200	130	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Naphthalene	ND		1200	100	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Phenol	**480**	**J**	1200	140	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4
Pyrene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/02/15 11:00	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*50*		*34 - 103*	*06/24/15 03:00*	*07/02/15 11:00*	*4*
2,4,6-Tribromophenol (Surr)	*65*		*20 - 113*	*06/24/15 03:00*	*07/02/15 11:00*	*4*
Phenol-d5 (Surr)	*54*		*35 - 103*	*06/24/15 03:00*	*07/02/15 11:00*	*4*
2-Fluorobiphenyl	*52*		*38 - 103*	*06/24/15 03:00*	*07/02/15 11:00*	*4*
Nitrobenzene-d5 (Surr)	*50*		*41 - 108*	*06/24/15 03:00*	*07/02/15 11:00*	*4*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*06/24/15 03:00*	*07/02/15 11:00*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-080 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-37
Matrix: Tissue
Percent Solids: 23.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		680	65	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Acenaphthylene	ND		680	77	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Anthracene	ND		680	66	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Benzo[a]anthracene	ND		680	84	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Benzo[b]fluoranthene	ND		680	110	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Benzo[k]fluoranthene	ND		680	140	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Benzo[g,h,i]perylene	ND		680	67	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Benzo[a]pyrene	ND		680	67	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Bis(2-ethylhexyl) phthalate	ND		6700	540	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Chrysene	ND		680	80	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Dibenz(a,h)anthracene	ND		680	75	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Fluoranthene	ND		680	72	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Fluorene	ND		680	89	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Indeno[1,2,3-cd]pyrene	ND		680	69	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Naphthalene	ND		680	58	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Phenanthrene	ND		680	110	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Phenol	**200**	**J**	680	80	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4
Pyrene	ND		680	68	ug/Kg	☼	06/24/15 03:00	07/02/15 11:28	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*51*		*34 - 103*	*06/24/15 03:00*	*07/02/15 11:28*	*4*
2,4,6-Tribromophenol (Surr)	*68*		*20 - 113*	*06/24/15 03:00*	*07/02/15 11:28*	*4*
Phenol-d5 (Surr)	*51*		*35 - 103*	*06/24/15 03:00*	*07/02/15 11:28*	*4*
2-Fluorobiphenyl	*52*		*38 - 103*	*06/24/15 03:00*	*07/02/15 11:28*	*4*
Nitrobenzene-d5 (Surr)	*51*		*41 - 108*	*06/24/15 03:00*	*07/02/15 11:28*	*4*
Terphenyl-d14 (Surr)	*57*		*28 - 109*	*06/24/15 03:00*	*07/02/15 11:28*	*4*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-073 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 15:08	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 15:08	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 15:08	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 15:08	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 15:08	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 15:08	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 15:08	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:08*	*1*
Tetrachloro-m-xylene	*61*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:08*	*1*
DCB Decachlorobiphenyl (Surr)	*71*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:08*	*1*
DCB Decachlorobiphenyl (Surr)	*71*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:08*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-073 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 15:23	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 15:23	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 15:23	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 15:23	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 15:23	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 15:23	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 15:23	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*49*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:23*	*1*
Tetrachloro-m-xylene	*60*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:23*	*1*
DCB Decachlorobiphenyl (Surr)	*67*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:23*	*1*
DCB Decachlorobiphenyl (Surr)	*66*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:23*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-073 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 15:39	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 15:39	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 15:39	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 15:39	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 15:39	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 15:39	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 15:39	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 15:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*45*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:39*	*1*
Tetrachloro-m-xylene	*54*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:39*	*1*
DCB Decachlorobiphenyl (Surr)	*61*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:39*	*1*
DCB Decachlorobiphenyl (Surr)	*61*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:39*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: PRETEST A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 15:54	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 15:54	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 15:54	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 15:54	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 15:54	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 15:54	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 15:54	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 15:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*51*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:54*	*1*
Tetrachloro-m-xylene	*62*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:54*	*1*
DCB Decachlorobiphenyl (Surr)	*68*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:54*	*1*
DCB Decachlorobiphenyl (Surr)	*68*		*45 - 140*	*06/18/15 03:30*	*06/22/15 15:54*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: PRETEST B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 16:41	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 16:41	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 16:41	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 16:41	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 16:41	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 16:41	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 16:41	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 16:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*46*		*45 - 140*	*06/18/15 03:30*	*06/22/15 16:41*	*1*
Tetrachloro-m-xylene	*58*		*45 - 140*	*06/18/15 03:30*	*06/22/15 16:41*	*1*
DCB Decachlorobiphenyl (Surr)	*63*		*45 - 140*	*06/18/15 03:30*	*06/22/15 16:41*	*1*
DCB Decachlorobiphenyl (Surr)	*62*		*45 - 140*	*06/18/15 03:30*	*06/22/15 16:41*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: PRETEST C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 16:57	1
4,4'-DDE	ND		12	1.8	ug/Kg		06/18/15 03:30	06/22/15 16:57	1
4,4'-DDT	ND		12	1.8	ug/Kg		06/18/15 03:30	06/22/15 16:57	1
2,4'-DDD	ND		12	0.71	ug/Kg		06/18/15 03:30	06/22/15 16:57	1
2,4'-DDE	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 16:57	1
Endrin	ND		12	2.3	ug/Kg		06/18/15 03:30	06/22/15 16:57	1
2,4'-DDT	ND		12	1.0	ug/Kg		06/18/15 03:30	06/22/15 16:57	1
Mirex	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 16:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*50*		*45 - 140*	*06/18/15 03:30*	*06/22/15 16:57*	*1*
Tetrachloro-m-xylene	*60*		*45 - 140*	*06/18/15 03:30*	*06/22/15 16:57*	*1*
DCB Decachlorobiphenyl (Surr)	*65*		*45 - 140*	*06/18/15 03:30*	*06/22/15 16:57*	*1*
DCB Decachlorobiphenyl (Surr)	*67*		*45 - 140*	*06/18/15 03:30*	*06/22/15 16:57*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-075 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 17:12	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 17:12	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 17:12	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 17:12	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 17:12	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 17:12	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 17:12	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*52*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:12*	*1*
Tetrachloro-m-xylene	*60*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:12*	*1*
DCB Decachlorobiphenyl (Surr)	*69*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:12*	*1*
DCB Decachlorobiphenyl (Surr)	*68*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:12*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-075 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 17:28	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 17:28	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 17:28	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 17:28	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 17:28	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 17:28	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 17:28	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*41*	*X*	*45 - 140*	*06/18/15 03:30*	*06/22/15 17:28*	*1*
Tetrachloro-m-xylene	*49*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:28*	*1*
DCB Decachlorobiphenyl (Surr)	*56*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:28*	*1*
DCB Decachlorobiphenyl (Surr)	*58*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:28*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-075 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 17:43	1
4,4'-DDE	ND		12	1.8	ug/Kg		06/18/15 03:30	06/22/15 17:43	1
4,4'-DDT	ND		12	1.8	ug/Kg		06/18/15 03:30	06/22/15 17:43	1
2,4'-DDD	ND		12	0.71	ug/Kg		06/18/15 03:30	06/22/15 17:43	1
2,4'-DDE	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 17:43	1
Endrin	ND		12	2.3	ug/Kg		06/18/15 03:30	06/22/15 17:43	1
2,4'-DDT	ND		12	1.0	ug/Kg		06/18/15 03:30	06/22/15 17:43	1
Mirex	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*55*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:43*	*1*
Tetrachloro-m-xylene	*65*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:43*	*1*
DCB Decachlorobiphenyl (Surr)	*68*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:43*	*1*
DCB Decachlorobiphenyl (Surr)	*69*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:43*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-075 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 17:59	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 17:59	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 17:59	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 17:59	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 17:59	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 17:59	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 17:59	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 17:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*53*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:59*	*1*
Tetrachloro-m-xylene	*63*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:59*	*1*
DCB Decachlorobiphenyl (Surr)	*68*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:59*	*1*
DCB Decachlorobiphenyl (Surr)	*71*		*45 - 140*	*06/18/15 03:30*	*06/22/15 17:59*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-075 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 18:14	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 18:14	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 18:14	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 18:14	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 18:14	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 18:14	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 18:14	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 18:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*49*		*45 - 140*	*06/18/15 03:30*	*06/22/15 18:14*	*1*
Tetrachloro-m-xylene	*56*		*45 - 140*	*06/18/15 03:30*	*06/22/15 18:14*	*1*
DCB Decachlorobiphenyl (Surr)	*64*		*45 - 140*	*06/18/15 03:30*	*06/22/15 18:14*	*1*
DCB Decachlorobiphenyl (Surr)	*64*		*45 - 140*	*06/18/15 03:30*	*06/22/15 18:14*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: SRM-1
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 18:30	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 18:30	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 18:30	1
2,4'-DDD	**4.3**	**J**	12	0.75	ug/Kg		06/18/15 03:30	06/22/15 18:30	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 18:30	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 18:30	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 18:30	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*51*		*45 - 140*	*06/18/15 03:30*	*06/22/15 18:30*	*1*
Tetrachloro-m-xylene	*55*		*45 - 140*	*06/18/15 03:30*	*06/22/15 18:30*	*1*
DCB Decachlorobiphenyl (Surr)	*65*		*45 - 140*	*06/18/15 03:30*	*06/22/15 18:30*	*1*
DCB Decachlorobiphenyl (Surr)	*69*		*45 - 140*	*06/18/15 03:30*	*06/22/15 18:30*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-078 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 18:46	1
4,4'-DDE	ND		12	1.8	ug/Kg		06/18/15 03:30	06/22/15 18:46	1
4,4'-DDT	ND		12	1.8	ug/Kg		06/18/15 03:30	06/22/15 18:46	1
2,4'-DDD	ND		12	0.71	ug/Kg		06/18/15 03:30	06/22/15 18:46	1
2,4'-DDE	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 18:46	1
Endrin	ND		12	2.3	ug/Kg		06/18/15 03:30	06/22/15 18:46	1
2,4'-DDT	ND		12	1.0	ug/Kg		06/18/15 03:30	06/22/15 18:46	1
Mirex	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*52*		*45 - 140*	*06/18/15 03:30*	*06/22/15 18:46*	*1*
Tetrachloro-m-xylene	*60*		*45 - 140*	*06/18/15 03:30*	*06/22/15 18:46*	*1*
DCB Decachlorobiphenyl (Surr)	*67*		*45 - 140*	*06/18/15 03:30*	*06/22/15 18:46*	*1*
DCB Decachlorobiphenyl (Surr)	*69*		*45 - 140*	*06/18/15 03:30*	*06/22/15 18:46*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-078 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 19:01	1
4,4'-DDE	ND		12	1.8	ug/Kg		06/18/15 03:30	06/22/15 19:01	1
4,4'-DDT	ND		12	1.8	ug/Kg		06/18/15 03:30	06/22/15 19:01	1
2,4'-DDD	ND		12	0.71	ug/Kg		06/18/15 03:30	06/22/15 19:01	1
2,4'-DDE	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 19:01	1
Endrin	ND		12	2.3	ug/Kg		06/18/15 03:30	06/22/15 19:01	1
2,4'-DDT	ND		12	1.0	ug/Kg		06/18/15 03:30	06/22/15 19:01	1
Mirex	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 19:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*56*		*45 - 140*	*06/18/15 03:30*	*06/22/15 19:01*	*1*
Tetrachloro-m-xylene	*61*		*45 - 140*	*06/18/15 03:30*	*06/22/15 19:01*	*1*
DCB Decachlorobiphenyl (Surr)	*70*		*45 - 140*	*06/18/15 03:30*	*06/22/15 19:01*	*1*
DCB Decachlorobiphenyl (Surr)	*70*		*45 - 140*	*06/18/15 03:30*	*06/22/15 19:01*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-078 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 19:17	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 19:17	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 19:17	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 19:17	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 19:17	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 19:17	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 19:17	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*55*		*45 - 140*	*06/18/15 03:30*	*06/22/15 19:17*	*1*
Tetrachloro-m-xylene	*61*		*45 - 140*	*06/18/15 03:30*	*06/22/15 19:17*	*1*
DCB Decachlorobiphenyl (Surr)	*71*		*45 - 140*	*06/18/15 03:30*	*06/22/15 19:17*	*1*
DCB Decachlorobiphenyl (Surr)	*70*		*45 - 140*	*06/18/15 03:30*	*06/22/15 19:17*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-078 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 19:32	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 19:32	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 19:32	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 19:32	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 19:32	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 19:32	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 19:32	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*54*		*45 - 140*	*06/18/15 03:30*	*06/22/15 19:32*	*1*
Tetrachloro-m-xylene	*64*		*45 - 140*	*06/18/15 03:30*	*06/22/15 19:32*	*1*
DCB Decachlorobiphenyl (Surr)	*68*		*45 - 140*	*06/18/15 03:30*	*06/22/15 19:32*	*1*
DCB Decachlorobiphenyl (Surr)	*72*		*45 - 140*	*06/18/15 03:30*	*06/22/15 19:32*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-078 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-27
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 21:06	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 21:06	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 21:06	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 21:06	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 21:06	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 21:06	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 21:06	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 21:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*63*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:06*	*1*
Tetrachloro-m-xylene	*66*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:06*	*1*
DCB Decachlorobiphenyl (Surr)	*72*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:06*	*1*
DCB Decachlorobiphenyl (Surr)	*78*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:06*	*1*

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-073 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	12		2.9	0.28	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Arsenic	2.9		0.097	0.018	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Barium	0.17	J	0.97	0.010	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Beryllium	0.015	J	0.097	0.0073	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Cadmium	0.034	J	0.097	0.0068	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Calcium	560		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Chromium	0.29	B	0.19	0.0059	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Cobalt	0.19		0.049	0.0015	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Copper	1.6		0.19	0.032	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Iron	69	B	4.9	0.34	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Silver	0.027	J	0.097	0.0038	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Potassium	2100		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Magnesium	830		49	0.18	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Sodium	7100		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Nickel	0.44		0.097	0.011	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Lead	0.16		0.097	0.0037	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Antimony	0.027	J	0.19	0.0025	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Selenium	0.33	J	0.49	0.049	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Thallium	0.015	J	0.097	0.0019	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Vanadium	0.15		0.097	0.0077	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Zinc	16		0.49	0.063	mg/Kg		06/17/15 13:34	06/26/15 21:15	1
Manganese	1.8		0.49	0.010	mg/Kg		06/17/15 13:34	06/26/15 21:15	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-073 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	49	F1	3.0	0.28	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Arsenic	3.2		0.10	0.018	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Barium	0.27	J	1.0	0.011	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Cadmium	0.043	J	0.10	0.0070	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Calcium	1100		50	1.3	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Chromium	0.55	B	0.20	0.0061	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Cobalt	0.25		0.050	0.0015	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Copper	2.0		0.20	0.033	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Iron	120	B F1	5.0	0.35	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Silver	0.035	J	0.10	0.0039	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Potassium	2200		50	1.4	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Magnesium	740	F1	50	0.19	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Sodium	5900	F1	50	1.4	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Nickel	0.81		0.10	0.011	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Lead	0.52		0.10	0.0038	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Antimony	0.042	J	0.20	0.0026	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Selenium	0.34	J	0.50	0.050	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Thallium	0.0095	J	0.10	0.0020	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Vanadium	0.29		0.10	0.0079	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Zinc	19		0.50	0.065	mg/Kg		06/17/15 13:34	06/26/15 22:02	1
Manganese	3.0		0.50	0.010	mg/Kg		06/17/15 13:34	06/26/15 22:02	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-073 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**14**		2.9	0.27	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Arsenic	**2.7**		0.096	0.017	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Barium	**0.16**	**J**	0.96	0.010	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Cadmium	**0.041**	**J**	0.096	0.0067	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Calcium	**920**		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Chromium	**0.42**	**B**	0.19	0.0059	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Cobalt	**0.22**		0.048	0.0014	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Copper	**1.7**		0.19	0.032	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Iron	**69**	**B**	4.8	0.34	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Silver	**0.025**	**J**	0.096	0.0038	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Potassium	**2200**		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Magnesium	**770**		48	0.18	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Sodium	**6400**		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Nickel	**0.48**		0.096	0.011	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Lead	**0.12**		0.096	0.0037	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Antimony	**0.015**	**J**	0.19	0.0025	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Selenium	**0.34**	**J**	0.48	0.048	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Thallium	**0.0064**	**J**	0.096	0.0019	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Vanadium	**0.18**		0.096	0.0076	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Zinc	**19**		0.48	0.062	mg/Kg		06/17/15 13:34	06/26/15 21:20	1
Manganese	**2.6**		0.48	0.0099	mg/Kg		06/17/15 13:34	06/26/15 21:20	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: PRETEST A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9.9		2.9	0.27	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Arsenic	3.5		0.096	0.017	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Barium	0.18	J	0.96	0.010	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Cadmium	0.064	J	0.096	0.0067	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Calcium	1100		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Chromium	0.28	B	0.19	0.0059	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Cobalt	0.22		0.048	0.0014	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Copper	2.0		0.19	0.032	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Iron	76	B	4.8	0.34	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Silver	0.030	J	0.096	0.0038	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Potassium	3000		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Magnesium	660		48	0.18	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Sodium	4900		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Nickel	0.47		0.096	0.011	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Lead	0.18		0.096	0.0037	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Antimony	0.042	J	0.19	0.0025	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Selenium	0.43	J	0.48	0.048	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Thallium	0.012	J	0.096	0.0019	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Vanadium	0.18		0.096	0.0076	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Zinc	22		0.48	0.062	mg/Kg		06/17/15 13:34	06/26/15 21:57	1
Manganese	1.4		0.48	0.0099	mg/Kg		06/17/15 13:34	06/26/15 21:57	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: PRETEST B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	14		2.9	0.28	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Arsenic	3.2		0.098	0.018	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Barium	0.56	J	0.98	0.010	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Beryllium	0.015	J	0.098	0.0074	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Cadmium	0.071	J	0.098	0.0069	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Calcium	460		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Chromium	0.68	B	0.20	0.0060	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Cobalt	0.30		0.049	0.0015	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Copper	2.6		0.20	0.032	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Iron	69	B	4.9	0.35	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Silver	0.049	J	0.098	0.0038	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Potassium	2800		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Magnesium	730		49	0.18	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Sodium	5500		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Nickel	0.79		0.098	0.011	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Lead	0.64		0.098	0.0037	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Antimony	0.25		0.20	0.0025	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Selenium	0.41	J	0.49	0.049	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Thallium	0.022	J	0.098	0.0020	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Vanadium	0.25		0.098	0.0077	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Zinc	19		0.49	0.064	mg/Kg		06/17/15 13:34	06/26/15 22:28	1
Manganese	1.4		0.49	0.010	mg/Kg		06/17/15 13:34	06/26/15 22:28	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: PRETEST C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	18		2.9	0.28	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Arsenic	3.6		0.098	0.018	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Barium	0.53	J	0.98	0.010	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Beryllium	0.0085	J	0.098	0.0074	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Cadmium	0.084	J	0.098	0.0069	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Calcium	620		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Chromium	0.70	B	0.20	0.0060	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Cobalt	0.30		0.049	0.0015	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Copper	3.1		0.20	0.032	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Iron	79	B	4.9	0.35	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Silver	0.058	J	0.098	0.0038	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Potassium	2900		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Magnesium	680		49	0.18	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Sodium	4900		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Nickel	0.87		0.098	0.011	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Lead	0.70		0.098	0.0037	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Antimony	0.14	J	0.20	0.0025	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Selenium	0.41	J	0.49	0.049	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Thallium	0.015	J	0.098	0.0020	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Vanadium	0.29		0.098	0.0077	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Zinc	20		0.49	0.064	mg/Kg		06/17/15 13:34	06/26/15 22:33	1
Manganese	1.6		0.49	0.010	mg/Kg		06/17/15 13:34	06/26/15 22:33	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-075 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	83		2.9	0.28	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Arsenic	3.2		0.097	0.018	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Barium	0.57	J	0.97	0.010	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Beryllium	0.034	J	0.097	0.0073	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Cadmium	0.046	J	0.097	0.0068	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Calcium	490		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Chromium	0.84	B	0.19	0.0059	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Cobalt	0.33		0.049	0.0015	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Copper	2.0		0.19	0.032	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Iron	170	B	4.9	0.34	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Silver	0.044	J	0.097	0.0038	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Potassium	2200		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Magnesium	860		49	0.18	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Sodium	7000		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Nickel	0.94		0.097	0.011	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Lead	0.73		0.097	0.0037	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Antimony	0.096	J	0.19	0.0025	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Selenium	0.29	J	0.49	0.049	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Thallium	0.0087	J	0.097	0.0019	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Vanadium	0.37		0.097	0.0077	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Zinc	16		0.49	0.063	mg/Kg		06/17/15 13:34	06/26/15 22:38	1
Manganese	2.8		0.49	0.010	mg/Kg		06/17/15 13:34	06/26/15 22:38	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-075 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	120		3.0	0.28	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Arsenic	3.7		0.10	0.018	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Barium	0.39	J	1.0	0.011	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Beryllium	0.011	J	0.10	0.0075	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Cadmium	0.051	J	0.10	0.0070	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Calcium	700		50	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Chromium	0.50	B	0.20	0.0061	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Cobalt	0.33		0.050	0.0015	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Copper	2.3		0.20	0.033	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Iron	270	B	5.0	0.35	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Silver	0.030	J	0.10	0.0039	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Potassium	2600		50	1.4	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Magnesium	790		50	0.19	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Sodium	5900		50	1.4	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Nickel	0.64		0.10	0.011	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Lead	0.34		0.10	0.0038	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Antimony	0.068	J	0.20	0.0026	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Selenium	0.42	J	0.50	0.050	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Thallium	0.0098	J	0.10	0.0020	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Vanadium	0.42		0.10	0.0079	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Zinc	19		0.50	0.065	mg/Kg		06/17/15 13:34	06/26/15 23:02	1
Manganese	3.4		0.50	0.010	mg/Kg		06/17/15 13:34	06/26/15 23:02	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-075 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**100**		2.9	0.27	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Arsenic	**3.9**		0.096	0.017	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Barium	**0.30**	**J**	0.96	0.010	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Cadmium	**0.052**	**J**	0.096	0.0067	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Calcium	**470**		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Chromium	**0.50**	**B**	0.19	0.0059	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Cobalt	**0.31**		0.048	0.0014	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Copper	**2.5**		0.19	0.032	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Iron	**220**	**B**	4.8	0.34	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Silver	**0.039**	**J**	0.096	0.0038	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Potassium	**2600**		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Magnesium	**800**		48	0.18	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Sodium	**6200**		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Nickel	**0.64**		0.096	0.011	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Lead	**0.31**		0.096	0.0037	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Antimony	**0.021**	**J**	0.19	0.0025	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Selenium	**0.33**	**J**	0.48	0.048	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Thallium	**0.0031**	**J**	0.096	0.0019	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Vanadium	**0.49**		0.096	0.0076	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Zinc	**18**		0.48	0.062	mg/Kg		06/17/15 13:34	06/26/15 23:07	1
Manganese	**3.0**		0.48	0.0099	mg/Kg		06/17/15 13:34	06/26/15 23:07	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-075 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**97**		3.0	0.28	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Arsenic	**2.9**		0.10	0.018	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Barium	**0.35**	**J**	1.0	0.011	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Cadmium	**0.020**	**J**	0.10	0.0070	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Calcium	**910**		50	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Chromium	**0.51**	**B**	0.20	0.0061	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Cobalt	**0.23**		0.050	0.0015	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Copper	**1.7**		0.20	0.033	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Iron	**200**	**B**	5.0	0.35	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Silver	**0.028**	**J**	0.10	0.0039	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Potassium	**2000**		50	1.4	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Magnesium	**910**		50	0.19	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Sodium	**7700**		50	1.4	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Nickel	**0.52**		0.10	0.011	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Lead	**0.30**		0.10	0.0038	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Antimony	**0.019**	**J**	0.20	0.0026	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Selenium	**0.28**	**J**	0.50	0.050	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Thallium	ND		0.10	0.0020	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Vanadium	**0.36**		0.10	0.0079	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Zinc	**14**		0.50	0.065	mg/Kg		06/17/15 13:34	06/26/15 23:12	1
Manganese	**2.6**		0.50	0.010	mg/Kg		06/17/15 13:34	06/26/15 23:12	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-075 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	110		2.9	0.27	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Arsenic	3.5		0.095	0.017	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Barium	0.34	J	0.95	0.010	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Beryllium	0.013	J	0.095	0.0071	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Cadmium	0.034	J	0.095	0.0067	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Calcium	600		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Chromium	0.52	B	0.19	0.0058	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Cobalt	0.30		0.048	0.0014	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Copper	2.0		0.19	0.031	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Iron	210	B	4.8	0.34	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Silver	0.035	J	0.095	0.0037	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Potassium	2400		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Magnesium	790		48	0.18	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Sodium	6200		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Nickel	0.60		0.095	0.011	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Lead	0.30		0.095	0.0036	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Antimony	0.021	J	0.19	0.0025	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Selenium	0.35	J	0.48	0.048	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Thallium	0.0022	J	0.095	0.0019	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Vanadium	0.35		0.095	0.0075	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Zinc	19		0.48	0.062	mg/Kg		06/17/15 13:34	06/26/15 23:17	1
Manganese	2.9		0.48	0.0098	mg/Kg		06/17/15 13:34	06/26/15 23:17	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-076 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	37		3.0	0.28	mg/Kg		06/19/15 09:16	06/25/15 17:17	1
Arsenic	2.5		0.10	0.018	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Barium	0.19	J	1.0	0.011	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Cadmium	0.045	J	0.10	0.0070	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Calcium	520		50	1.3	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Chromium	0.61	B	0.20	0.0061	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Cobalt	0.19		0.050	0.0015	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Copper	2.4		0.20	0.033	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Iron	100	B	5.0	0.35	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Silver	0.018	J	0.10	0.0039	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Potassium	2000	B	50	1.4	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Magnesium	860	B	50	0.19	mg/Kg		06/19/15 09:16	06/25/15 17:17	1
Sodium	7300	B	50	1.4	mg/Kg		06/19/15 09:16	06/25/15 17:17	1
Nickel	0.46		0.10	0.011	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Lead	0.14		0.10	0.0038	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Antimony	0.0037	J	0.20	0.0026	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Selenium	0.30	J	0.50	0.050	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Thallium	0.0030	J	0.10	0.0020	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Vanadium	0.37	B	0.10	0.0079	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Zinc	15		0.50	0.065	mg/Kg		06/19/15 09:16	06/24/15 17:21	1
Manganese	1.2		0.50	0.010	mg/Kg		06/19/15 09:16	06/24/15 17:21	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-076 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**56**		3.0	0.28	mg/Kg		06/19/15 09:16	06/25/15 17:22	1
Arsenic	**2.6**		0.099	0.018	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Barium	**0.27**	**J**	0.99	0.011	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Cadmium	**0.038**	**J**	0.099	0.0069	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Calcium	**980**		50	1.3	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Chromium	**0.52**	**B**	0.20	0.0060	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Cobalt	**0.21**		0.050	0.0015	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Copper	**2.0**		0.20	0.033	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Iron	**110**	**B**	5.0	0.35	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Silver	**0.017**	**J**	0.099	0.0039	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Potassium	**1800**	**B**	50	1.3	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Magnesium	**770**	**B**	50	0.19	mg/Kg		06/19/15 09:16	06/25/15 17:22	1
Sodium	**6500**	**B**	50	1.4	mg/Kg		06/19/15 09:16	06/25/15 17:22	1
Nickel	**0.46**		0.099	0.011	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Lead	**0.13**		0.099	0.0038	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Antimony	ND		0.20	0.0026	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Selenium	**0.20**	**J**	0.50	0.050	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Thallium	**0.0026**	**J**	0.099	0.0020	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Vanadium	**0.35**	**B**	0.099	0.0078	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Zinc	**14**		0.50	0.064	mg/Kg		06/19/15 09:16	06/24/15 17:26	1
Manganese	**1.4**		0.50	0.010	mg/Kg		06/19/15 09:16	06/24/15 17:26	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-076 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**42**		3.0	0.28	mg/Kg		06/19/15 09:16	06/25/15 17:27	1
Arsenic	**2.8**		0.10	0.018	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Barium	**0.17**	**J**	1.0	0.011	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Cadmium	**0.030**	**J**	0.10	0.0070	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Calcium	**350**		50	1.3	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Chromium	**0.49**	**B**	0.20	0.0061	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Cobalt	**0.19**		0.050	0.0015	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Copper	**2.0**		0.20	0.033	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Iron	**100**	**B**	5.0	0.35	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Silver	**0.013**	**J**	0.10	0.0039	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Potassium	**2200**	**B**	50	1.4	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Magnesium	**850**	**B**	50	0.19	mg/Kg		06/19/15 09:16	06/25/15 17:27	1
Sodium	**7100**	**B**	50	1.4	mg/Kg		06/19/15 09:16	06/25/15 17:27	1
Nickel	**0.37**		0.10	0.011	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Lead	**0.13**		0.10	0.0038	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Antimony	**0.0068**	**J**	0.20	0.0026	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Selenium	**0.27**	**J**	0.50	0.050	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Thallium	**0.0020**	**J**	0.10	0.0020	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Vanadium	**0.31**	**B**	0.10	0.0079	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Zinc	**15**		0.50	0.065	mg/Kg		06/19/15 09:16	06/24/15 17:31	1
Manganese	**1.5**		0.50	0.010	mg/Kg		06/19/15 09:16	06/24/15 17:31	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-076 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	28		3.0	0.28	mg/Kg		06/19/15 09:16	06/25/15 17:51	1
Arsenic	2.9		0.099	0.018	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Barium	0.16	J	0.99	0.011	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Cadmium	0.038	J	0.099	0.0069	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Calcium	620		50	1.3	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Chromium	0.45	B	0.20	0.0060	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Cobalt	0.20		0.050	0.0015	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Copper	1.9		0.20	0.033	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Iron	80	B	5.0	0.35	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Silver	0.019	J	0.099	0.0039	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Potassium	1900	B	50	1.3	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Magnesium	800	B	50	0.19	mg/Kg		06/19/15 09:16	06/25/15 17:51	1
Sodium	6700	B	50	1.4	mg/Kg		06/19/15 09:16	06/25/15 17:51	1
Nickel	0.47		0.099	0.011	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Lead	0.12		0.099	0.0038	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Antimony	0.055	J	0.20	0.0026	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Selenium	0.24	J	0.50	0.050	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Thallium	0.0065	J	0.099	0.0020	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Vanadium	0.21	B	0.099	0.0078	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Zinc	15		0.50	0.064	mg/Kg		06/19/15 09:16	06/24/15 18:05	1
Manganese	0.80		0.50	0.010	mg/Kg		06/19/15 09:16	06/24/15 18:05	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-076 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70		2.9	0.28	mg/Kg		06/19/15 09:16	06/25/15 17:56	1
Arsenic	3.8		0.098	0.018	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Barium	0.24	J	0.98	0.010	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Cadmium	0.035	J	0.098	0.0069	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Calcium	500		49	1.3	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Chromium	0.55	B	0.20	0.0060	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Cobalt	0.27		0.049	0.0015	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Copper	2.8		0.20	0.032	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Iron	150	B	4.9	0.35	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Silver	0.031	J	0.098	0.0038	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Potassium	2500	B	49	1.3	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Magnesium	800	B	49	0.18	mg/Kg		06/19/15 09:16	06/25/15 17:56	1
Sodium	6000	B	49	1.3	mg/Kg		06/19/15 09:16	06/25/15 17:56	1
Nickel	0.57		0.098	0.011	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Lead	0.19		0.098	0.0037	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Antimony	0.015	J	0.20	0.0025	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Selenium	0.31	J	0.49	0.049	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Thallium	0.0026	J	0.098	0.0020	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Vanadium	0.39	B	0.098	0.0077	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Zinc	20		0.49	0.064	mg/Kg		06/19/15 09:16	06/24/15 18:10	1
Manganese	2.2		0.49	0.010	mg/Kg		06/19/15 09:16	06/24/15 18:10	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-077 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**31**		2.9	0.28	mg/Kg		06/18/15 11:07	06/26/15 01:11	1
Arsenic	**3.2**		0.097	0.018	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Barium	**0.13**	**J**	0.97	0.010	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Cadmium	**0.041**	**J**	0.097	0.0068	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Calcium	**410**		49	1.3	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Chromium	**0.34**		0.19	0.0059	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Cobalt	**0.33**		0.049	0.0015	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Copper	**2.1**		0.19	0.032	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Iron	**150**	**B**	4.9	0.34	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Silver	**0.021**	**J**	0.097	0.0038	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Potassium	**2100**		49	1.3	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Magnesium	**710**	**B**	49	0.18	mg/Kg		06/18/15 11:07	06/26/15 01:11	1
Sodium	**5700**		49	1.3	mg/Kg		06/18/15 11:07	06/26/15 01:11	1
Nickel	**0.48**		0.097	0.011	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Lead	**0.12**		0.097	0.0037	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Antimony	ND		0.19	0.0025	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Selenium	**0.29**	**J**	0.49	0.049	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Thallium	ND		0.097	0.0019	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Vanadium	**0.25**		0.097	0.0077	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Zinc	**17**		0.49	0.063	mg/Kg		06/18/15 11:07	06/25/15 02:26	1
Manganese	**1.7**		0.49	0.010	mg/Kg		06/18/15 11:07	06/25/15 02:26	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-077 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**61**		3.0	0.28	mg/Kg		06/18/15 11:07	06/26/15 01:16	1
Arsenic	**3.4**		0.10	0.018	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Barium	**0.30**	**J**	1.0	0.011	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Cadmium	**0.077**	**J**	0.10	0.0070	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Calcium	**400**		50	1.3	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Chromium	**0.48**		0.20	0.0061	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Cobalt	**0.45**		0.050	0.0015	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Copper	**3.2**		0.20	0.033	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Iron	**230**	**B**	5.0	0.35	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Silver	**0.040**	**J**	0.10	0.0039	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Potassium	**2300**		50	1.4	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Magnesium	**750**	**B**	50	0.19	mg/Kg		06/18/15 11:07	06/26/15 01:16	1
Sodium	**5800**		50	1.4	mg/Kg		06/18/15 11:07	06/26/15 01:16	1
Nickel	**0.71**		0.10	0.011	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Lead	**0.32**		0.10	0.0038	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Antimony	ND		0.20	0.0026	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Selenium	**0.38**	**J**	0.50	0.050	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Thallium	ND		0.10	0.0020	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Vanadium	**0.30**		0.10	0.0079	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Zinc	**19**		0.50	0.065	mg/Kg		06/18/15 11:07	06/25/15 02:31	1
Manganese	**3.3**		0.50	0.010	mg/Kg		06/18/15 11:07	06/25/15 02:31	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: SRM-1
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	43		2.9	0.28	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Arsenic	7.0		0.098	0.018	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Barium	6.2		0.98	0.010	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Beryllium	0.012	J	0.098	0.0074	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Cadmium	2.3		0.098	0.0069	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Calcium	770		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Chromium	0.38	B	0.20	0.0060	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Cobalt	0.37		0.049	0.0015	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Copper	70		0.20	0.032	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Iron	180	B	4.9	0.35	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Silver	0.61		0.098	0.0038	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Potassium	5900		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Magnesium	1300		49	0.18	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Sodium	4100		49	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Nickel	1.0		0.098	0.011	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Lead	0.30		0.098	0.0037	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Antimony	0.014	J	0.20	0.0025	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Selenium	2.2		0.49	0.049	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Thallium	0.0031	J	0.098	0.0020	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Vanadium	0.38		0.098	0.0077	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Zinc	1500		0.49	0.064	mg/Kg		06/17/15 13:34	06/26/15 23:22	1
Manganese	19		0.49	0.010	mg/Kg		06/17/15 13:34	06/26/15 23:22	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-077 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**49**		3.0	0.28	mg/Kg		06/18/15 11:07	06/26/15 01:21	1
Arsenic	**3.2**		0.099	0.018	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Barium	**0.22**	**J**	0.99	0.011	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Cadmium	**0.044**	**J**	0.099	0.0069	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Calcium	**570**		50	1.3	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Chromium	**0.38**		0.20	0.0060	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Cobalt	**0.42**		0.050	0.0015	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Copper	**2.3**		0.20	0.033	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Iron	**220**	**B**	5.0	0.35	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Silver	**0.033**	**J**	0.099	0.0039	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Potassium	**2200**		50	1.3	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Magnesium	**820**	**B**	50	0.19	mg/Kg		06/18/15 11:07	06/26/15 01:21	1
Sodium	**6600**		50	1.4	mg/Kg		06/18/15 11:07	06/26/15 01:21	1
Nickel	**0.58**		0.099	0.011	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Lead	**0.17**		0.099	0.0038	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Antimony	ND		0.20	0.0026	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Selenium	**0.34**	**J**	0.50	0.050	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Thallium	ND		0.099	0.0020	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Vanadium	**0.22**		0.099	0.0078	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Zinc	**17**		0.50	0.064	mg/Kg		06/18/15 11:07	06/25/15 02:36	1
Manganese	**2.3**		0.50	0.010	mg/Kg		06/18/15 11:07	06/25/15 02:36	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-077 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**39**		2.9	0.28	mg/Kg		06/18/15 11:14	06/26/15 01:26	1
Arsenic	**3.4**		0.097	0.018	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Barium	**0.19**	**J**	0.97	0.010	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Cadmium	**0.043**	**J**	0.097	0.0068	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Calcium	**660**		49	1.3	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Chromium	**0.36**		0.19	0.0059	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Cobalt	**0.39**		0.049	0.0015	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Copper	**2.0**		0.19	0.032	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Iron	**210**	**B**	4.9	0.34	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Silver	**0.029**	**J**	0.097	0.0038	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Potassium	**2000**		49	1.3	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Magnesium	**750**	**B**	49	0.18	mg/Kg		06/18/15 11:14	06/26/15 01:26	1
Sodium	**5900**		49	1.3	mg/Kg		06/18/15 11:14	06/26/15 01:26	1
Nickel	**0.48**		0.097	0.011	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Lead	**0.20**		0.097	0.0037	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Antimony	ND		0.19	0.0025	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Selenium	**0.30**	**J**	0.49	0.049	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Thallium	ND		0.097	0.0019	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Vanadium	**0.23**		0.097	0.0077	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Zinc	**17**		0.49	0.063	mg/Kg		06/18/15 11:14	06/25/15 02:41	1
Manganese	**1.9**		0.49	0.010	mg/Kg		06/18/15 11:14	06/25/15 02:41	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-077 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**66**		3.0	0.28	mg/Kg		06/18/15 11:35	06/25/15 19:39	1
Arsenic	**4.0**		0.10	0.018	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Barium	**0.26**	**J**	1.0	0.011	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Cadmium	**0.055**	**J**	0.10	0.0070	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Calcium	**440**		50	1.3	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Chromium	**0.53**	**B**	0.20	0.0061	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Cobalt	**0.45**		0.050	0.0015	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Copper	**3.2**		0.20	0.033	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Iron	**240**		5.0	0.35	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Silver	**0.046**	**J**	0.10	0.0039	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Potassium	**2600**		50	1.4	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Magnesium	**840**		50	0.19	mg/Kg		06/18/15 11:35	06/25/15 19:39	1
Sodium	**6400**		50	1.4	mg/Kg		06/18/15 11:35	06/25/15 19:39	1
Nickel	**0.64**		0.10	0.011	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Lead	**0.22**		0.10	0.0038	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Antimony	**0.010**	**J**	0.20	0.0026	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Selenium	**0.33**	**J**	0.50	0.050	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Thallium	**0.0089**	**J**	0.10	0.0020	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Vanadium	**0.35**		0.10	0.0079	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Zinc	**21**		0.50	0.065	mg/Kg		06/18/15 11:35	06/24/15 19:58	1
Manganese	**2.7**		0.50	0.010	mg/Kg		06/18/15 11:35	06/24/15 19:58	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-078 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**39**		2.8	0.27	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Arsenic	**2.7**		0.094	0.017	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Barium	**0.25**	**J**	0.94	0.010	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Beryllium	ND		0.094	0.0071	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Cadmium	**0.049**	**J**	0.094	0.0066	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Calcium	**970**		47	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Chromium	**0.38**	**B**	0.19	0.0058	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Cobalt	**0.22**		0.047	0.0014	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Copper	**1.8**		0.19	0.031	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Iron	**140**	**B**	4.7	0.33	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Silver	**0.025**	**J**	0.094	0.0037	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Potassium	**2100**		47	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Magnesium	**820**		47	0.18	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Sodium	**7000**		47	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Nickel	**0.36**		0.094	0.011	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Lead	**0.16**		0.094	0.0036	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Antimony	**0.011**	**J**	0.19	0.0025	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Selenium	**0.28**	**J**	0.47	0.047	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Thallium	ND		0.094	0.0019	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Vanadium	**0.20**		0.094	0.0075	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Zinc	**15**		0.47	0.061	mg/Kg		06/17/15 13:34	06/26/15 23:27	1
Manganese	**2.2**		0.47	0.0097	mg/Kg		06/17/15 13:34	06/26/15 23:27	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-078 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	39		2.9	0.27	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Arsenic	3.3		0.095	0.017	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Barium	0.24	J	0.95	0.010	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Cadmium	0.052	J	0.095	0.0067	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Calcium	530		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Chromium	0.42	B	0.19	0.0058	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Cobalt	0.27		0.048	0.0014	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Copper	2.0		0.19	0.031	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Iron	120	B	4.8	0.34	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Silver	0.029	J	0.095	0.0037	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Potassium	2500		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Magnesium	770		48	0.18	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Sodium	6100		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Nickel	0.51		0.095	0.011	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Lead	0.24		0.095	0.0036	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Antimony	0.020	J	0.19	0.0025	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Selenium	0.34	J	0.48	0.048	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Thallium	0.0042	J	0.095	0.0019	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Vanadium	0.28		0.095	0.0075	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Zinc	20		0.48	0.062	mg/Kg		06/17/15 13:34	06/26/15 23:32	1
Manganese	1.7		0.48	0.0098	mg/Kg		06/17/15 13:34	06/26/15 23:32	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-078 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**37**		2.9	0.27	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Arsenic	**3.2**		0.096	0.017	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Barium	**0.29**	**J**	0.96	0.010	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Cadmium	**0.048**	**J**	0.096	0.0067	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Calcium	**540**		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Chromium	**0.45**	**B**	0.19	0.0059	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Cobalt	**0.25**		0.048	0.0014	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Copper	**2.1**		0.19	0.032	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Iron	**130**	**B**	4.8	0.34	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Silver	**0.042**	**J**	0.096	0.0038	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Potassium	**2500**		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Magnesium	**810**		48	0.18	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Sodium	**6600**		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Nickel	**0.45**		0.096	0.011	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Lead	**0.29**		0.096	0.0037	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Antimony	**0.021**	**J**	0.19	0.0025	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Selenium	**0.32**	**J**	0.48	0.048	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Thallium	**0.0028**	**J**	0.096	0.0019	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Vanadium	**0.11**		0.096	0.0076	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Zinc	**19**		0.48	0.062	mg/Kg		06/17/15 13:34	06/26/15 23:37	1
Manganese	**2.0**		0.48	0.0099	mg/Kg		06/17/15 13:34	06/26/15 23:37	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-078 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	32		3.0	0.28	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Arsenic	3.1		0.099	0.018	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Barium	0.19	J	0.99	0.011	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Cadmium	0.041	J	0.099	0.0069	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Calcium	450		50	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Chromium	0.40	B	0.20	0.0060	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Cobalt	0.23		0.050	0.0015	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Copper	2.2		0.20	0.033	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Iron	120	B	5.0	0.35	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Silver	0.030	J	0.099	0.0039	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Potassium	2400		50	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Magnesium	830		50	0.19	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Sodium	6900		50	1.4	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Nickel	0.44		0.099	0.011	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Lead	0.14		0.099	0.0038	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Antimony	0.0069	J	0.20	0.0026	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Selenium	0.33	J	0.50	0.050	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Thallium	ND		0.099	0.0020	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Vanadium	0.21		0.099	0.0078	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Zinc	16		0.50	0.064	mg/Kg		06/17/15 13:34	06/26/15 23:42	1
Manganese	1.6		0.50	0.010	mg/Kg		06/17/15 13:34	06/26/15 23:42	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-078 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-27
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	47		2.9	0.27	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Arsenic	3.2		0.096	0.017	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Barium	0.26	J	0.96	0.010	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Cadmium	0.040	J	0.096	0.0067	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Calcium	1100		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Chromium	0.55	B	0.19	0.0059	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Cobalt	0.28		0.048	0.0014	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Copper	2.5		0.19	0.032	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Iron	170	B	4.8	0.34	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Silver	0.038	J	0.096	0.0038	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Potassium	2500		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Magnesium	790		48	0.18	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Sodium	6200		48	1.3	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Nickel	0.50		0.096	0.011	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Lead	0.19		0.096	0.0037	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Antimony	0.012	J	0.19	0.0025	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Selenium	0.35	J	0.48	0.048	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Thallium	0.0019	J	0.096	0.0019	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Vanadium	0.21		0.096	0.0076	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Zinc	18		0.48	0.062	mg/Kg		06/17/15 13:34	06/26/15 23:48	1
Manganese	2.6		0.48	0.0099	mg/Kg		06/17/15 13:34	06/26/15 23:48	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-079 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-28
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	36		2.9	0.28	mg/Kg		06/18/15 11:35	06/25/15 19:44	1
Arsenic	3.5		0.098	0.018	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Barium	0.19	J	0.98	0.010	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Cadmium	0.044	J	0.098	0.0069	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Calcium	450		49	1.3	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Chromium	0.40	B	0.20	0.0060	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Cobalt	0.32		0.049	0.0015	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Copper	1.9		0.20	0.032	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Iron	200		4.9	0.35	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Silver	0.018	J	0.098	0.0038	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Potassium	2500		49	1.3	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Magnesium	820		49	0.18	mg/Kg		06/18/15 11:35	06/25/15 19:44	1
Sodium	6300		49	1.3	mg/Kg		06/18/15 11:35	06/25/15 19:44	1
Nickel	0.44		0.098	0.011	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Lead	0.15		0.098	0.0037	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Antimony	0.0049	J	0.20	0.0025	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Selenium	0.34	J	0.49	0.049	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Thallium	0.0048	J	0.098	0.0020	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Vanadium	0.34		0.098	0.0077	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Zinc	20		0.49	0.064	mg/Kg		06/18/15 11:35	06/24/15 20:03	1
Manganese	2.7		0.49	0.010	mg/Kg		06/18/15 11:35	06/24/15 20:03	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-079 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-29
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**43**		3.0	0.28	mg/Kg		06/18/15 11:35	06/25/15 19:49	1
Arsenic	**2.9**		0.099	0.018	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Barium	**0.26**	**J**	0.99	0.011	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Cadmium	**0.040**	**J**	0.099	0.0069	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Calcium	**630**		50	1.3	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Chromium	**0.43**	**B**	0.20	0.0060	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Cobalt	**0.30**		0.050	0.0015	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Copper	**1.9**		0.20	0.033	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Iron	**170**		5.0	0.35	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Silver	**0.020**	**J**	0.099	0.0039	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Potassium	**2200**		50	1.3	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Magnesium	**810**		50	0.19	mg/Kg		06/18/15 11:35	06/25/15 19:49	1
Sodium	**6500**		50	1.4	mg/Kg		06/18/15 11:35	06/25/15 19:49	1
Nickel	**0.46**		0.099	0.011	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Lead	**0.14**		0.099	0.0038	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Antimony	ND		0.20	0.0026	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Selenium	**0.27**	**J**	0.50	0.050	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Thallium	ND		0.099	0.0020	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Vanadium	**0.30**		0.099	0.0078	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Zinc	**16**		0.50	0.064	mg/Kg		06/18/15 11:35	06/24/15 20:08	1
Manganese	**2.0**		0.50	0.010	mg/Kg		06/18/15 11:35	06/24/15 20:08	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-079 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-30
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**37**		2.9	0.28	mg/Kg		06/18/15 11:35	06/25/15 19:55	1
Arsenic	**2.8**		0.097	0.018	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Barium	**0.20**	**J**	0.97	0.010	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Cadmium	**0.031**	**J**	0.097	0.0068	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Calcium	**600**		49	1.3	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Chromium	**0.41**	**B**	0.19	0.0059	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Cobalt	**0.29**		0.049	0.0015	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Copper	**1.9**		0.19	0.032	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Iron	**170**		4.9	0.34	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Silver	**0.032**	**J**	0.097	0.0038	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Potassium	**1900**		49	1.3	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Magnesium	**900**		49	0.18	mg/Kg		06/18/15 11:35	06/25/15 19:55	1
Sodium	**7600**		49	1.3	mg/Kg		06/18/15 11:35	06/25/15 19:55	1
Nickel	**0.44**		0.097	0.011	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Lead	**0.14**		0.097	0.0037	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Antimony	ND		0.19	0.0025	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Selenium	**0.25**	**J**	0.49	0.049	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Thallium	ND		0.097	0.0019	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Vanadium	**0.27**		0.097	0.0077	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Zinc	**16**		0.49	0.063	mg/Kg		06/18/15 11:35	06/24/15 20:13	1
Manganese	**2.1**		0.49	0.010	mg/Kg		06/18/15 11:35	06/24/15 20:13	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-079 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-31
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	44		2.9	0.27	mg/Kg		06/18/15 11:35	06/25/15 20:18	1
Arsenic	3.7		0.095	0.017	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Barium	0.19	J	0.95	0.010	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Cadmium	0.053	J	0.095	0.0067	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Calcium	990		48	1.3	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Chromium	0.43	B	0.19	0.0058	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Cobalt	0.35		0.048	0.0014	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Copper	2.2		0.19	0.031	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Iron	200		4.8	0.34	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Silver	0.038	J	0.095	0.0037	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Potassium	2400		48	1.3	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Magnesium	800		48	0.18	mg/Kg		06/18/15 11:35	06/25/15 20:18	1
Sodium	6100		48	1.3	mg/Kg		06/18/15 11:35	06/25/15 20:18	1
Nickel	0.50		0.095	0.011	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Lead	0.16		0.095	0.0036	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Antimony	0.055	J	0.19	0.0025	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Selenium	0.33	J	0.48	0.048	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Thallium	0.0068	J	0.095	0.0019	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Vanadium	0.27		0.095	0.0075	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Zinc	22		0.48	0.062	mg/Kg		06/18/15 11:35	06/24/15 20:42	1
Manganese	2.6		0.48	0.0098	mg/Kg		06/18/15 11:35	06/24/15 20:42	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-079 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-32
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**48**		3.1	0.29	mg/Kg		06/18/15 11:35	06/25/15 20:23	1
Arsenic	**3.3**		0.10	0.018	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Barium	**0.24**	**J**	1.0	0.011	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Beryllium	ND		0.10	0.0077	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Cadmium	**0.038**	**J**	0.10	0.0071	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Calcium	**1100**		51	1.4	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Chromium	**0.42**	**B**	0.20	0.0062	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Cobalt	**0.33**		0.051	0.0015	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Copper	**1.9**		0.20	0.034	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Iron	**240**		5.1	0.36	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Silver	**0.021**	**J**	0.10	0.0040	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Potassium	**2000**		51	1.4	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Magnesium	**910**		51	0.19	mg/Kg		06/18/15 11:35	06/25/15 20:23	1
Sodium	**7600**		51	1.4	mg/Kg		06/18/15 11:35	06/25/15 20:23	1
Nickel	**0.47**		0.10	0.012	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Lead	**0.22**		0.10	0.0039	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Antimony	**0.012**	**J**	0.20	0.0027	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Selenium	**0.26**	**J**	0.51	0.051	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Thallium	ND		0.10	0.0020	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Vanadium	**0.25**		0.10	0.0081	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Zinc	**18**		0.51	0.066	mg/Kg		06/18/15 11:35	06/24/15 20:47	1
Manganese	**2.5**		0.51	0.011	mg/Kg		06/18/15 11:35	06/24/15 20:47	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-080 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-33
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**35**		2.9	0.27	mg/Kg		06/18/15 11:35	06/25/15 20:28	1
Arsenic	**2.6**		0.095	0.017	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Barium	**0.20**	**J**	0.95	0.010	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Cadmium	**0.030**	**J**	0.095	0.0067	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Calcium	**1100**		48	1.3	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Chromium	**0.33**	**B**	0.19	0.0058	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Cobalt	**0.31**		0.048	0.0014	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Copper	**1.8**		0.19	0.031	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Iron	**150**		4.8	0.34	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Silver	**0.019**	**J**	0.095	0.0037	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Potassium	**1800**		48	1.3	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Magnesium	**900**		48	0.18	mg/Kg		06/18/15 11:35	06/25/15 20:28	1
Sodium	**8000**		48	1.3	mg/Kg		06/18/15 11:35	06/25/15 20:28	1
Nickel	**0.46**		0.095	0.011	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Lead	**0.16**		0.095	0.0036	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Antimony	**0.0027**	**J**	0.19	0.0025	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Selenium	**0.24**	**J**	0.48	0.048	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Thallium	ND		0.095	0.0019	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Vanadium	**0.21**		0.095	0.0075	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Zinc	**18**		0.48	0.062	mg/Kg		06/18/15 11:35	06/24/15 20:52	1
Manganese	**1.5**		0.48	0.0098	mg/Kg		06/18/15 11:35	06/24/15 20:52	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-080 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-34
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**65**		2.9	0.27	mg/Kg		06/18/15 11:35	06/25/15 20:33	1
Arsenic	**3.4**		0.095	0.017	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Barium	**0.25**	**J**	0.95	0.010	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Cadmium	**0.042**	**J**	0.095	0.0067	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Calcium	**620**		48	1.3	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Chromium	**0.49**	**B**	0.19	0.0058	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Cobalt	**0.43**		0.048	0.0014	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Copper	**2.7**		0.19	0.031	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Iron	**220**		4.8	0.34	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Silver	**0.035**	**J**	0.095	0.0037	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Potassium	**2300**		48	1.3	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Magnesium	**820**		48	0.18	mg/Kg		06/18/15 11:35	06/25/15 20:33	1
Sodium	**6400**		48	1.3	mg/Kg		06/18/15 11:35	06/25/15 20:33	1
Nickel	**0.59**		0.095	0.011	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Lead	**0.18**		0.095	0.0036	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Antimony	**0.0050**	**J**	0.19	0.0025	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Selenium	**0.28**	**J**	0.48	0.048	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Thallium	ND		0.095	0.0019	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Vanadium	**0.35**		0.095	0.0075	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Zinc	**20**		0.48	0.062	mg/Kg		06/18/15 11:35	06/24/15 20:57	1
Manganese	**2.2**		0.48	0.0098	mg/Kg		06/18/15 11:35	06/24/15 20:57	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-080 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-35
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**37**		3.0	0.29	mg/Kg		06/18/15 11:35	06/25/15 20:39	1
Arsenic	**2.5**		0.10	0.018	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Barium	**0.15**	**J**	1.0	0.011	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Beryllium	ND		0.10	0.0076	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Cadmium	**0.035**	**J**	0.10	0.0071	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Calcium	**620**		51	1.3	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Chromium	**0.37**	**B**	0.20	0.0062	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Cobalt	**0.30**		0.051	0.0015	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Copper	**2.2**		0.20	0.033	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Iron	**150**		5.1	0.36	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Silver	**0.020**	**J**	0.10	0.0039	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Potassium	**1900**		51	1.4	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Magnesium	**900**		51	0.19	mg/Kg		06/18/15 11:35	06/25/15 20:39	1
Sodium	**7700**		51	1.4	mg/Kg		06/18/15 11:35	06/25/15 20:39	1
Nickel	**0.42**		0.10	0.011	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Lead	**0.13**		0.10	0.0038	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Antimony	ND		0.20	0.0026	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Selenium	**0.25**	**J**	0.51	0.051	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Thallium	ND		0.10	0.0020	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Vanadium	**0.21**		0.10	0.0080	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Zinc	**15**		0.51	0.065	mg/Kg		06/18/15 11:35	06/24/15 21:02	1
Manganese	**1.5**		0.51	0.010	mg/Kg		06/18/15 11:35	06/24/15 21:02	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-080 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-36
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	44		3.0	0.28	mg/Kg		06/18/15 11:35	06/25/15 20:44	1
Arsenic	2.8		0.099	0.018	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Barium	0.21	J	0.99	0.011	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Cadmium	0.054	J	0.099	0.0069	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Calcium	2200		50	1.3	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Chromium	0.45	B	0.20	0.0060	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Cobalt	0.37		0.050	0.0015	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Copper	2.0		0.20	0.033	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Iron	200		5.0	0.35	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Silver	0.024	J	0.099	0.0039	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Potassium	2000		50	1.3	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Magnesium	920		50	0.19	mg/Kg		06/18/15 11:35	06/25/15 20:44	1
Sodium	7800		50	1.4	mg/Kg		06/18/15 11:35	06/25/15 20:44	1
Nickel	0.54		0.099	0.011	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Lead	0.14		0.099	0.0038	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Antimony	0.0060	J	0.20	0.0026	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Selenium	0.21	J	0.50	0.050	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Thallium	ND		0.099	0.0020	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Vanadium	0.28		0.099	0.0078	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Zinc	15		0.50	0.064	mg/Kg		06/18/15 11:35	06/24/15 21:07	1
Manganese	1.8		0.50	0.010	mg/Kg		06/18/15 11:35	06/24/15 21:07	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-080 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-37
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**29**		3.1	0.29	mg/Kg		06/18/15 11:35	06/25/15 20:49	1
Arsenic	**3.1**		0.10	0.019	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Barium	**0.14**	**J**	1.0	0.011	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Beryllium	ND		0.10	0.0077	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Cadmium	**0.034**	**J**	0.10	0.0072	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Calcium	**460**		52	1.4	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Chromium	**0.35**	**B**	0.21	0.0063	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Cobalt	**0.35**		0.052	0.0015	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Copper	**1.8**		0.21	0.034	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Iron	**120**		5.2	0.36	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Silver	**0.022**	**J**	0.10	0.0040	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Potassium	**2000**		52	1.4	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Magnesium	**910**		52	0.19	mg/Kg		06/18/15 11:35	06/25/15 20:49	1
Sodium	**7800**		52	1.4	mg/Kg		06/18/15 11:35	06/25/15 20:49	1
Nickel	**0.42**		0.10	0.012	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Lead	**0.12**		0.10	0.0039	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Antimony	ND		0.21	0.0027	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Selenium	**0.25**	**J**	0.52	0.052	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Thallium	ND		0.10	0.0021	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Vanadium	**0.18**		0.10	0.0081	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Zinc	**16**		0.52	0.067	mg/Kg		06/18/15 11:35	06/24/15 21:12	1
Manganese	**1.6**		0.52	0.011	mg/Kg		06/18/15 11:35	06/24/15 21:12	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: SRM-2
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-38
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**38**		2.9	0.28	mg/Kg		06/18/15 11:35	06/25/15 20:54	1
Arsenic	**7.2**		0.097	0.018	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Barium	**5.9**		0.97	0.010	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Cadmium	**2.3**		0.097	0.0068	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Calcium	**700**		49	1.3	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Chromium	**0.38**	**B**	0.19	0.0059	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Cobalt	**0.38**		0.049	0.0015	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Copper	**73**		0.19	0.032	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Iron	**180**		4.9	0.34	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Silver	**0.58**		0.097	0.0038	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Potassium	**5600**		49	1.3	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Magnesium	**1400**		49	0.18	mg/Kg		06/18/15 11:35	06/25/15 20:54	1
Sodium	**4400**		49	1.3	mg/Kg		06/18/15 11:35	06/25/15 20:54	1
Nickel	**1.0**		0.097	0.011	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Lead	**0.30**		0.097	0.0037	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Antimony	ND		0.19	0.0025	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Selenium	**2.1**		0.49	0.049	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Thallium	ND		0.097	0.0019	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Vanadium	**0.37**		0.097	0.0077	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Zinc	**1700**		0.49	0.063	mg/Kg		06/18/15 11:35	06/24/15 21:17	1
Manganese	**20**		0.49	0.010	mg/Kg		06/18/15 11:35	06/24/15 21:17	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-073 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:17	06/25/15 13:26	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-073 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.055	mg/Kg		06/25/15 09:17	06/25/15 13:28	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-073 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.054	mg/Kg		06/25/15 09:17	06/25/15 13:34	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: PRETEST A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.048	mg/Kg		06/25/15 09:17	06/25/15 13:36	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: PRETEST B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.051	mg/Kg		06/25/15 09:17	06/25/15 13:38	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: PRETEST C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.051	mg/Kg		06/25/15 09:17	06/25/15 13:40	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-075 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.13	0.046	mg/Kg		06/25/15 09:17	06/25/15 13:46	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-075 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.055	mg/Kg		06/25/15 09:17	06/25/15 13:47	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-075 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.048	mg/Kg		06/25/15 09:17	06/25/15 13:49	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-075 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.055	mg/Kg		06/25/15 09:17	06/25/15 13:51	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-075 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.053	mg/Kg		06/25/15 09:17	06/25/15 13:53	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-076 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 13:27	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-076 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 13:28	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-076 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 13:30	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-076 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 13:32	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-076 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 13:34	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-077 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.13	0.045	mg/Kg		06/25/15 09:27	06/26/15 13:09	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-077 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:27	06/26/15 13:11	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: SRM-1
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.17	0.057	mg/Kg		06/25/15 09:17	06/25/15 13:55	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-077 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.051	mg/Kg		06/25/15 09:27	06/26/15 13:13	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-077 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.049	mg/Kg		06/25/15 09:27	06/26/15 13:15	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-077 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:10	06/26/15 14:03	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-078 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.048	mg/Kg		06/25/15 09:17	06/25/15 13:57	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-078 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.048	mg/Kg		06/25/15 09:17	06/25/15 13:59	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-078 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.051	mg/Kg		06/25/15 09:17	06/25/15 14:01	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-078 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:17	06/25/15 14:02	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-078 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-27
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:17	06/25/15 14:08	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-079 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-28
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:10	06/26/15 10:47	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-079 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-29
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:10	06/26/15 10:48	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-079 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-30
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:10	06/26/15 10:50	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-079 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-31
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:10	06/26/15 14:06	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-079 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-32
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:10	06/26/15 14:04	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-080 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-33
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:10	06/26/15 10:56	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-080 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-34
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:10	06/26/15 10:58	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-080 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-35
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:10	06/26/15 11:00	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-080 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-36
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:10	06/26/15 11:02	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: AT5-080 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-37
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:10	06/26/15 11:03	5

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Client Sample ID: SRM-2
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-38
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:10	06/26/15 11:09	5

General Chemistry

Client Sample ID: AT5-073 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	86		0.10	0.10	%			06/25/15 11:40	1
Percent Lipids	0.49		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-073 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/25/15 12:47	1
Percent Lipids	**0.53**		0.20	0.058	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-073 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/25/15 13:21	1
Percent Lipids	0.41		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: PRETEST A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/25/15 13:55	1
Percent Lipids	**0.45**		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: PRETEST B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/25/15 14:28	1
Percent Lipids	**0.41**		0.20	0.058	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: PRETEST C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**81**		0.10	0.10	%			06/25/15 15:02	1
Percent Lipids	**0.33**		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-075 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/25/15 15:35	1
Percent Lipids	0.39		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-075 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/25/15 16:09	1
Percent Lipids	0.48		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-075 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/25/15 16:43	1
Percent Lipids	0.36		0.20	0.058	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-075 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/25/15 17:16	1
Percent Lipids	0.32		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-075 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/25/15 17:50	1
Percent Lipids	**0.36**		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-076 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**88**		0.10	0.10	%			06/25/15 18:57	1
Percent Lipids	**0.79**		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-076 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	88		0.10	0.10	%			06/25/15 19:31	1
Percent Lipids	0.58		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-076 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/25/15 20:04	1
Percent Lipids	**0.55**		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-076 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**92**		0.10	0.10	%			06/25/15 21:11	1
Percent Lipids	**0.74**		0.20	0.058	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-076 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/26/15 22:03	1
Percent Lipids	**0.70**		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-077 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/25/15 21:45	1
Percent Lipids	**0.55**		0.20	0.058	%		06/20/15 05:00	06/20/15 05:00	1

General Chemistry

Client Sample ID: AT5-077 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/25/15 22:19	1
Percent Lipids	0.53		0.20	0.059	%		06/20/15 05:00	06/20/15 05:00	1

General Chemistry

Client Sample ID: AT5-077 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/25/15 22:52	1
Percent Lipids	**0.36**		0.20	0.059	%		06/20/15 05:00	06/20/15 05:00	1

General Chemistry

Client Sample ID: AT5-077 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/25/15 23:26	1
Percent Lipids	**0.46**		0.20	0.059	%		06/20/15 05:00	06/20/15 05:00	1

General Chemistry

Client Sample ID: AT5-077 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/25/15 12:23	1
Percent Lipids	**0.50**		0.20	0.058	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-078 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/25/15 14:20	1
Percent Lipids	**0.24**		0.19	0.057	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-078 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/25/15 15:18	1
Percent Lipids	**0.49**		0.20	0.058	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-078 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/25/15 16:17	1
Percent Lipids	0.53		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-078 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/25/15 17:15	1
Percent Lipids	**0.32**		0.20	0.058	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-078 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-27
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/25/15 18:14	1
Percent Lipids	**0.34**		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44597-1

General Chemistry

Client Sample ID: AT5-079 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-28
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/25/15 19:12	1
Percent Lipids	0.59		0.20	0.059	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-079 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-29
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/25/15 20:11	1
Percent Lipids	**0.60**		0.20	0.059	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-079 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-30
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/25/15 21:09	1
Percent Lipids	**0.50**		0.20	0.058	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-079 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-31
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/25/15 22:08	1
Percent Lipids	0.77		0.20	0.059	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-079 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-32
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	86		0.10	0.10	%			06/25/15 23:07	1
Percent Lipids	0.57		0.20	0.059	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-080 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-33
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/26/15 01:04	1
Percent Lipids	0.41		0.20	0.059	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-080 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-34
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/26/15 02:02	1
Percent Lipids	**0.63**		0.20	0.058	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-080 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-35
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/26/15 03:01	1
Percent Lipids	**0.51**		0.20	0.059	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-080 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-36
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/26/15 03:59	1
Percent Lipids	0.46		0.20	0.059	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-080 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44597-37
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	76		0.10	0.10	%			06/26/15 04:58	1
Percent Lipids	0.53		0.20	0.059	%		06/24/15 03:25	06/24/15 03:25	1

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44597-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
Acenaphthene	6.7	0.64	ug/Kg	8270D LL
Acenaphthylene	6.7	0.76	ug/Kg	8270D LL
Anthracene	6.7	0.65	ug/Kg	8270D LL
Benzo[a]anthracene	6.7	0.84	ug/Kg	8270D LL
Benzo[a]pyrene	6.7	0.67	ug/Kg	8270D LL
Benzo[b]fluoranthene	6.7	1.0	ug/Kg	8270D LL
Benzo[g,h,i]perylene	6.7	0.66	ug/Kg	8270D LL
Benzo[k]fluoranthene	6.7	1.3	ug/Kg	8270D LL
Bis(2-ethylhexyl) phthalate	67	5.4	ug/Kg	8270D LL
Chrysene	6.7	0.79	ug/Kg	8270D LL
Dibenz(a,h)anthracene	6.7	0.74	ug/Kg	8270D LL
Fluoranthene	6.7	0.71	ug/Kg	8270D LL
Fluorene	6.7	0.88	ug/Kg	8270D LL
Indeno[1,2,3-cd]pyrene	6.7	0.69	ug/Kg	8270D LL
Naphthalene	6.7	0.58	ug/Kg	8270D LL
Phenanthrene	6.7	1.1	ug/Kg	8270D LL
Phenol	6.7	0.79	ug/Kg	8270D LL
Pyrene	6.7	0.67	ug/Kg	8270D LL

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.083	0.0050	ug/Kg	8081B_LL
2,4'-DDE	0.083	0.0077	ug/Kg	8081B_LL
2,4'-DDT	0.083	0.0072	ug/Kg	8081B_LL
4,4'-DDD	0.083	0.011	ug/Kg	8081B_LL
4,4'-DDE	0.083	0.013	ug/Kg	8081B_LL
4,4'-DDT	0.083	0.013	ug/Kg	8081B_LL
Endrin	0.083	0.016	ug/Kg	8081B_LL
Mirex	0.083	0.0077	ug/Kg	8081B_LL

Method: 6020A - Metals (ICP/MS)

Analyte	RL	MDL	Units	Method
Aluminum	3.0	0.28	mg/Kg	6020A
Antimony	0.20	0.0026	mg/Kg	6020A
Arsenic	0.10	0.018	mg/Kg	6020A
Barium	1.0	0.011	mg/Kg	6020A
Beryllium	0.10	0.0075	mg/Kg	6020A
Cadmium	0.10	0.0070	mg/Kg	6020A
Calcium	50	1.3	mg/Kg	6020A
Chromium	0.20	0.0061	mg/Kg	6020A
Cobalt	0.050	0.0015	mg/Kg	6020A
Copper	0.20	0.033	mg/Kg	6020A
Iron	5.0	0.35	mg/Kg	6020A
Lead	0.10	0.0038	mg/Kg	6020A
Magnesium	50	0.19	mg/Kg	6020A
Manganese	0.50	0.010	mg/Kg	6020A
Nickel	0.10	0.011	mg/Kg	6020A
Potassium	50	1.4	mg/Kg	6020A
Selenium	0.50	0.050	mg/Kg	6020A
Silver	0.10	0.0039	mg/Kg	6020A

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44597-1

Method: 6020A - Metals (ICP/MS) (Continued)

Analyte	RL	MDL	Units	Method
Sodium	50	1.4	mg/Kg	6020A
Thallium	0.10	0.0020	mg/Kg	6020A
Vanadium	0.10	0.0079	mg/Kg	6020A
Zinc	0.50	0.065	mg/Kg	6020A

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	RL	MDL	Units	Method
Mercury	0.033	0.011	mg/Kg	7471B

General Chemistry

Analyte	RL	MDL	Units	Method
Percent Moisture	0.10	0.10	%	2540G
Percent Lipids	0.10	0.030	%	Lipids

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44597-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Tissue **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		2FP	TBP	PHL	FBP	NBZ	TPH
Lab Sample ID	Client Sample ID	(34-103)	(20-113)	(35-103)	(38-103)	(41-108)	(28-109)
180-44597-1	AT5-073 A-C	58	56	59	58	56	50
180-44597-2	AT5-073 B-C	51	51	51	50	53	45
180-44597-3	AT5-073 C-C	57	53	57	54	51	51
180-44597-3 MS	AT5-073C-C	62	63	64	65	61	58
180-44597-3 MSD	AT5-073 C-C	58	52	58	54	54	51
180-44597-4	PRETEST A-C	51	53	48	49	49	43
180-44597-5	PRETEST B-C	70	62	69	68	69	54
180-44597-6	PRETEST C-C	64	55	60	59	60	49
180-44597-7	AT5-075 A-C				45	45	41
180-44597-8	AT5-075 B-C				35 X	34 X	29
180-44597-9	AT5-075 C-C				45	47	42
180-44597-10	AT5-075 D-C				42	42	38
180-44597-11	AT5-075 E-C				42	43	36
180-44597-17	AT5-077 A-C	68	70	66	68	64	69
180-44597-18	AT5-077 B-C	55	64	54	58	54	60
180-44597-20	AT5-077 C-C	59	59	61	57	58	54
180-44597-21	AT5-077 D-C	55	55	52	52	50	49
180-44597-22	AT5-077 E-C	46	56	47	49	47	57
180-44597-23	AT5-078 A-C	47	44	48	46	46	39
180-44597-24	AT5-078 B-C	42	42	41	41	39 X	36
180-44597-25	AT5-078 C-C	57	59	59	62	57	58
180-44597-26	AT5-078 D-C	50	46	47	44	48	39
180-44597-27	AT5-078 E-C	45	42	47	44	45	40
180-44597-28	AT5-079 A-C	57	91	59	63	62	77
180-44597-29	AT5-079 B-C	44	65	44	47	44	56
180-44597-30	AT5-079 C-C	56	71	55	55	55	60
180-44597-31	AT5-079 D-C	56	66	57	55	53	61
180-44597-32	AT5-079 E-C	59	79	60	59	59	70
180-44597-33	AT5-080 A-C	60	71	63	58	59	64
180-44597-34	AT5-080 B-C	48	66	47	48	49	57
180-44597-35	AT5-080 C-C	52	67	52	51	56	56
180-44597-36	AT5-080 D-C	50	65	54	52	50	56
180-44597-37	AT5-080 E-C	51	68	51	52	51	57
LCS 180-145214/2-B	Lab Control Sample	51	40	48	45	45	41
LCS 180-145623/2-B	Lab Control Sample	68	58	67	65	62	61
LCS 180-145921/2-B	Lab Control Sample	59	68	61	56	56	62
MB 180-145214/1-B	Method Blank	60	37	59	54	54	48
MB 180-145623/1-B	Method Blank	62	37	61	55	55	56
MB 180-145921/1-B	Method Blank	70	58	74	70	66	80

Surrogate Legend

2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
PHL = Phenol-d5 (Surr)
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44597-1

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Tissue **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(45-140)	(45-140)	(45-140)	(45-140)
180-44597-1	AT5-073 A-C	60	61	71	71
180-44597-2	AT5-073 B-C	49	60	67	66
180-44597-3	AT5-073 C-C	45	54	61	61
180-44597-4	PRETEST A-C	51	62	68	68
180-44597-4 MS	PRETEST A-C	46	55	61	62
180-44597-4 MSD	PRETEST A-C	50	62	64	67
180-44597-5	PRETEST B-C	46	58	63	62
180-44597-6	PRETEST C-C	50	60	65	67
180-44597-7	AT5-075 A-C	52	60	69	68
180-44597-8	AT5-075 B-C	41 X	49	56	58
180-44597-9	AT5-075 C-C	55	65	68	69
180-44597-10	AT5-075 D-C	53	63	68	71
180-44597-11	AT5-075 E-C	49	56	64	64
180-44597-19	SRM-1	51	55	65	69
180-44597-23	AT5-078 A-C	52	60	67	69
180-44597-24	AT5-078 B-C	56	61	70	70
180-44597-25	AT5-078 C-C	55	61	71	70
180-44597-26	AT5-078 D-C	54	64	68	72
180-44597-27	AT5-078 E-C	63	66	72	78
LCS 180-145348/2-B	Lab Control Sample	60	67	73	74
MB 180-145348/1-B	Method Blank	63	64	69	69

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-145214/1-B
Matrix: Tissue
Analysis Batch: 146014

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145214

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		40	3.9	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Benzo[a]anthracene	ND		40	5.0	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Benzo[b]fluoranthene	ND		40	6.3	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Benzo[k]fluoranthene	ND		40	8.1	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Benzo[g,h,i]perylene	ND		40	4.0	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Benzo[a]pyrene	ND		40	4.0	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Bis(2-ethylhexyl) phthalate	ND		400	32	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Chrysene	ND		40	4.8	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Acenaphthene	ND		40	3.8	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Dibenz(a,h)anthracene	ND		40	4.5	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Acenaphthylene	ND		40	4.6	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Fluoranthene	ND		40	4.3	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Fluorene	ND		40	5.3	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Indeno[1,2,3-cd]pyrene	ND		40	4.1	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Naphthalene	ND		40	3.5	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Phenanthrene	ND		40	6.4	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Phenol	ND		40	4.7	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Pyrene	ND		40	4.0	ug/Kg		06/17/15 03:25	06/25/15 05:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*60*		*34 - 103*	*06/17/15 03:25*	*06/25/15 05:50*	*1*
2,4,6-Tribromophenol (Surr)	*37*		*20 - 113*	*06/17/15 03:25*	*06/25/15 05:50*	*1*
Phenol-d5 (Surr)	*59*		*35 - 103*	*06/17/15 03:25*	*06/25/15 05:50*	*1*
2-Fluorobiphenyl	*54*		*38 - 103*	*06/17/15 03:25*	*06/25/15 05:50*	*1*
Nitrobenzene-d5 (Surr)	*54*		*41 - 108*	*06/17/15 03:25*	*06/25/15 05:50*	*1*
Terphenyl-d14 (Surr)	*48*		*28 - 109*	*06/17/15 03:25*	*06/25/15 05:50*	*1*

Lab Sample ID: LCS 180-145214/2-B
Matrix: Tissue
Analysis Batch: 146014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Anthracene	2000	1000		ug/Kg		50	35 - 100
Benzo[a]anthracene	2000	999		ug/Kg		50	37 - 100
Benzo[b]fluoranthene	2000	911		ug/Kg		46	31 - 100
Benzo[k]fluoranthene	2000	932		ug/Kg		47	34 - 100
Benzo[g,h,i]perylene	2000	955		ug/Kg		48	29 - 106
Benzo[a]pyrene	2000	997		ug/Kg		50	36 - 100
Bis(2-ethylhexyl) phthalate	2000	1120		ug/Kg		56	32 - 106
Chrysene	2000	953		ug/Kg		48	37 - 100
Acenaphthene	2000	923		ug/Kg		46	34 - 100
Dibenz(a,h)anthracene	2000	1000		ug/Kg		50	31 - 106
Acenaphthylene	2000	947		ug/Kg		47	34 - 100
Fluoranthene	2000	1040		ug/Kg		52	36 - 100
Fluorene	2000	1010		ug/Kg		51	35 - 100
Indeno[1,2,3-cd]pyrene	2000	985		ug/Kg		49	31 - 103
Naphthalene	2000	917		ug/Kg		46	32 - 100
Phenanthrene	2000	965		ug/Kg		48	33 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-145214/2-B
Matrix: Tissue
Analysis Batch: 146014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145214

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Phenol			2000	1010		ug/Kg		51	34 - 100		
Pyrene			2000	936		ug/Kg		47	32 - 100		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*51*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*40*		*20 - 113*
Phenol-d5 (Surr)	*48*		*35 - 103*
2-Fluorobiphenyl	*45*		*38 - 103*
Nitrobenzene-d5 (Surr)	*45*		*41 - 108*
Terphenyl-d14 (Surr)	*41*		*28 - 109*

Lab Sample ID: 180-44597-3 MS
Matrix: Tissue
Analysis Batch: 146014

Client Sample ID: AT5-073C-C
Prep Type: Total/NA
Prep Batch: 145214

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acenaphthene	ND	F2	15700	10800		ug/Kg	☼	69	34 - 100		
Acenaphthylene	ND	F2	15700	11100		ug/Kg	☼	71	34 - 100		
Anthracene	ND	F2	15700	11500		ug/Kg	☼	73	35 - 100		
Benzo[a]anthracene	ND	F2	15700	11600		ug/Kg	☼	74	37 - 100		
Benzo[b]fluoranthene	ND		15700	10100		ug/Kg	☼	65	31 - 100		
Benzo[k]fluoranthene	ND	F2	15700	10800		ug/Kg	☼	69	34 - 100		
Benzo[g,h,i]perylene	ND	F2	15700	11900		ug/Kg	☼	76	29 - 106		
Benzo[a]pyrene	ND	F2	15700	10800		ug/Kg	☼	69	36 - 100		
Bis(2-ethylhexyl) phthalate	ND	F2	15700	13700		ug/Kg	☼	87	32 - 106		
Chrysene	ND	F2	15700	10900		ug/Kg	☼	70	37 - 100		
Dibenz(a,h)anthracene	ND		15700	12600		ug/Kg	☼	80	31 - 106		
Fluoranthene	ND	F2	15700	13100		ug/Kg	☼	84	36 - 100		
Fluorene	ND	F2	15700	11600		ug/Kg	☼	74	35 - 100		
Indeno[1,2,3-cd]pyrene	ND		15700	12000		ug/Kg	☼	77	31 - 103		
Naphthalene	ND	F2	15700	10300		ug/Kg	☼	66	32 - 100		
Phenanthrene	ND	F2	15700	11500		ug/Kg	☼	73	33 - 100		
Phenol	ND		15700	10400		ug/Kg	☼	67	34 - 100		
Pyrene	ND		15700	10400		ug/Kg	☼	67	32 - 100		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*62*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*63*		*20 - 113*
Phenol-d5 (Surr)	*64*		*35 - 103*
2-Fluorobiphenyl	*65*		*38 - 103*
Nitrobenzene-d5 (Surr)	*61*		*41 - 108*
Terphenyl-d14 (Surr)	*58*		*28 - 109*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-44597-3 MSD
Matrix: Tissue
Analysis Batch: 146014

Client Sample ID: AT5-073 C-C
Prep Type: Total/NA
Prep Batch: 145214

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND	F2	15400	8410	F2	ug/Kg	☼	55	34 - 100	25	23
Acenaphthylene	ND	F2	15400	8330	F2	ug/Kg	☼	54	34 - 100	28	23
Anthracene	ND	F2	15400	8700	F2	ug/Kg	☼	57	35 - 100	27	20
Benzo[a]anthracene	ND	F2	15400	9410	F2	ug/Kg	☼	61	37 - 100	21	20
Benzo[b]fluoranthene	ND		15400	8300		ug/Kg	☼	54	31 - 100	20	22
Benzo[k]fluoranthene	ND	F2	15400	8150	F2	ug/Kg	☼	53	34 - 100	28	21
Benzo[g,h,i]perylene	ND	F2	15400	9390	F2	ug/Kg	☼	61	29 - 106	24	20
Benzo[a]pyrene	ND	F2	15400	8610	F2	ug/Kg	☼	56	36 - 100	22	21
Bis(2-ethylhexyl) phthalate	ND	F2	15400	10000	J F2	ug/Kg	☼	65	32 - 106	31	20
Chrysene	ND	F2	15400	8760	F2	ug/Kg	☼	57	37 - 100	22	20
Dibenz(a,h)anthracene	ND		15400	9730		ug/Kg	☼	63	31 - 106	26	26
Fluoranthene	ND	F2	15400	9240	F2	ug/Kg	☼	60	36 - 100	35	20
Fluorene	ND	F2	15400	9230	F2	ug/Kg	☼	60	35 - 100	22	21
Indeno[1,2,3-cd]pyrene	ND		15400	9710		ug/Kg	☼	63	31 - 103	21	25
Naphthalene	ND	F2	15400	8020	F2	ug/Kg	☼	52	32 - 100	25	20
Phenanthrene	ND	F2	15400	9000	F2	ug/Kg	☼	58	33 - 100	24	20
Phenol	ND		15400	8650		ug/Kg	☼	56	34 - 100	19	20
Pyrene	ND		15400	8430		ug/Kg	☼	55	32 - 100	21	21

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorophenol (Surr)	*58*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*52*		*20 - 113*
Phenol-d5 (Surr)	*58*		*35 - 103*
2-Fluorobiphenyl	*54*		*38 - 103*
Nitrobenzene-d5 (Surr)	*54*		*41 - 108*
Terphenyl-d14 (Surr)	*51*		*28 - 109*

Lab Sample ID: MB 180-145623/1-B
Matrix: Tissue
Analysis Batch: 146319

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145623

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		40	3.9	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Benzo[a]anthracene	ND		40	5.0	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Benzo[b]fluoranthene	ND		40	6.3	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Benzo[k]fluoranthene	ND		40	8.1	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Benzo[g,h,i]perylene	ND		40	4.0	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Benzo[a]pyrene	ND		40	4.0	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Bis(2-ethylhexyl) phthalate	ND		400	32	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Chrysene	ND		40	4.8	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Acenaphthene	ND		40	3.8	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Dibenz(a,h)anthracene	ND		40	4.5	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Acenaphthylene	ND		40	4.6	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Fluoranthene	ND		40	4.3	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Fluorene	ND		40	5.3	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Indeno[1,2,3-cd]pyrene	ND		40	4.1	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Naphthalene	ND		40	3.5	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Phenanthrene	ND		40	6.4	ug/Kg		06/20/15 03:00	06/28/15 21:18	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-145623/1-B
Matrix: Tissue
Analysis Batch: 146319

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145623

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		40	4.7	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Pyrene	ND		40	4.0	ug/Kg		06/20/15 03:00	06/28/15 21:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*62*		*34 - 103*	*06/20/15 03:00*	*06/28/15 21:18*	*1*
2,4,6-Tribromophenol (Surr)	*37*		*20 - 113*	*06/20/15 03:00*	*06/28/15 21:18*	*1*
Phenol-d5 (Surr)	*61*		*35 - 103*	*06/20/15 03:00*	*06/28/15 21:18*	*1*
2-Fluorobiphenyl	*55*		*38 - 103*	*06/20/15 03:00*	*06/28/15 21:18*	*1*
Nitrobenzene-d5 (Surr)	*55*		*41 - 108*	*06/20/15 03:00*	*06/28/15 21:18*	*1*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*06/20/15 03:00*	*06/28/15 21:18*	*1*

Lab Sample ID: LCS 180-145623/2-B
Matrix: Tissue
Analysis Batch: 146319

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145623

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Anthracene	2000	1450		ug/Kg		73	35 - 100
Benzo[a]anthracene	2000	1520		ug/Kg		76	37 - 100
Benzo[b]fluoranthene	2000	1410		ug/Kg		70	31 - 100
Benzo[k]fluoranthene	2000	1380		ug/Kg		69	34 - 100
Benzo[g,h,i]perylene	2000	1460		ug/Kg		73	29 - 106
Benzo[a]pyrene	2000	1480		ug/Kg		74	36 - 100
Bis(2-ethylhexyl) phthalate	2000	1800		ug/Kg		90	32 - 106
Chrysene	2000	1460		ug/Kg		73	37 - 100
Acenaphthene	2000	1360		ug/Kg		68	34 - 100
Dibenz(a,h)anthracene	2000	1600		ug/Kg		80	31 - 106
Acenaphthylene	2000	1380		ug/Kg		69	34 - 100
Fluoranthene	2000	1560		ug/Kg		78	36 - 100
Fluorene	2000	1530		ug/Kg		76	35 - 100
Indeno[1,2,3-cd]pyrene	2000	1550		ug/Kg		77	31 - 103
Naphthalene	2000	1300		ug/Kg		65	32 - 100
Phenanthrene	2000	1410		ug/Kg		71	33 - 100
Phenol	2000	1400		ug/Kg		70	34 - 100
Pyrene	2000	1330		ug/Kg		66	32 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*68*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*58*		*20 - 113*
Phenol-d5 (Surr)	*67*		*35 - 103*
2-Fluorobiphenyl	*65*		*38 - 103*
Nitrobenzene-d5 (Surr)	*62*		*41 - 108*
Terphenyl-d14 (Surr)	*61*		*28 - 109*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-145921/1-B
Matrix: Tissue
Analysis Batch: 146587

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145921

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		40	3.9	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Benzo[a]anthracene	ND		40	5.0	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Benzo[b]fluoranthene	ND		40	6.3	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Benzo[k]fluoranthene	ND		40	8.1	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Benzo[g,h,i]perylene	ND		40	4.0	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Benzo[a]pyrene	ND		40	4.0	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Bis(2-ethylhexyl) phthalate	ND		400	32	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Chrysene	ND		40	4.8	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Acenaphthene	ND		40	3.8	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Dibenz(a,h)anthracene	ND		40	4.5	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Acenaphthylene	ND		40	4.6	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Fluoranthene	ND		40	4.3	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Fluorene	ND		40	5.3	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Indeno[1,2,3-cd]pyrene	ND		40	4.1	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Naphthalene	ND		40	3.5	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Phenanthrene	ND		40	6.4	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Phenol	ND		40	4.7	ug/Kg		06/24/15 03:00	07/01/15 06:59	1
Pyrene	ND		40	4.0	ug/Kg		06/24/15 03:00	07/01/15 06:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*70*		*34 - 103*	*06/24/15 03:00*	*07/01/15 06:59*	*1*
2,4,6-Tribromophenol (Surr)	*58*		*20 - 113*	*06/24/15 03:00*	*07/01/15 06:59*	*1*
Phenol-d5 (Surr)	*74*		*35 - 103*	*06/24/15 03:00*	*07/01/15 06:59*	*1*
2-Fluorobiphenyl	*70*		*38 - 103*	*06/24/15 03:00*	*07/01/15 06:59*	*1*
Nitrobenzene-d5 (Surr)	*66*		*41 - 108*	*06/24/15 03:00*	*07/01/15 06:59*	*1*
Terphenyl-d14 (Surr)	*80*		*28 - 109*	*06/24/15 03:00*	*07/01/15 06:59*	*1*

Lab Sample ID: LCS 180-145921/2-B
Matrix: Tissue
Analysis Batch: 146587

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145921

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Anthracene	2000	1210		ug/Kg		60	35 - 100
Benzo[a]anthracene	2000	1270		ug/Kg		63	37 - 100
Benzo[b]fluoranthene	2000	1280		ug/Kg		64	31 - 100
Benzo[k]fluoranthene	2000	1330		ug/Kg		66	34 - 100
Benzo[g,h,i]perylene	2000	1320		ug/Kg		66	29 - 106
Benzo[a]pyrene	2000	1330		ug/Kg		67	36 - 100
Bis(2-ethylhexyl) phthalate	2000	1770		ug/Kg		88	32 - 106
Chrysene	2000	1230		ug/Kg		62	37 - 100
Acenaphthene	2000	1140		ug/Kg		57	34 - 100
Dibenz(a,h)anthracene	2000	1500		ug/Kg		75	31 - 106
Acenaphthylene	2000	1160		ug/Kg		58	34 - 100
Fluoranthene	2000	1230		ug/Kg		62	36 - 100
Fluorene	2000	1170		ug/Kg		59	35 - 100
Indeno[1,2,3-cd]pyrene	2000	1470		ug/Kg		74	31 - 103
Naphthalene	2000	1110		ug/Kg		55	32 - 100
Phenanthrene	2000	1180		ug/Kg		59	33 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-145921/2-B
Matrix: Tissue
Analysis Batch: 146587

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145921

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	2000	1230		ug/Kg		62	34 - 100
Pyrene	2000	1240		ug/Kg		62	32 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*59*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*68*		*20 - 113*
Phenol-d5 (Surr)	*61*		*35 - 103*
2-Fluorobiphenyl	*56*		*38 - 103*
Nitrobenzene-d5 (Surr)	*56*		*41 - 108*
Terphenyl-d14 (Surr)	*62*		*28 - 109*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-145348/1-B
Matrix: Tissue
Analysis Batch: 145682

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145348

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 14:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*63*		*45 - 140*	*06/18/15 03:30*	*06/22/15 14:52*	*1*
Tetrachloro-m-xylene	*64*		*45 - 140*	*06/18/15 03:30*	*06/22/15 14:52*	*1*
DCB Decachlorobiphenyl (Surr)	*69*		*45 - 140*	*06/18/15 03:30*	*06/22/15 14:52*	*1*
DCB Decachlorobiphenyl (Surr)	*69*		*45 - 140*	*06/18/15 03:30*	*06/22/15 14:52*	*1*

Lab Sample ID: LCS 180-145348/2-B
Matrix: Tissue
Analysis Batch: 145682

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145348

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	25.0	13.3		ug/Kg		53	50 - 150
4,4'-DDE	25.0	13.6		ug/Kg		54	50 - 150
4,4'-DDT	25.0	11.0	J	ug/Kg		44	30 - 150
Endrin	25.0	14.5		ug/Kg		58	30 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*60*		*45 - 140*
Tetrachloro-m-xylene	*67*		*45 - 140*
DCB Decachlorobiphenyl (Surr)	*73*		*45 - 140*

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-145348/2-B
Matrix: Tissue
Analysis Batch: 145682

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145348

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*74*		*45 - 140*

Lab Sample ID: 180-44597-4 MS
Matrix: Tissue
Analysis Batch: 145682

Client Sample ID: PRETEST A-C
Prep Type: Total/NA
Prep Batch: 145348

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	ND		25.0	12.6		ug/Kg		50	50 - 150
4,4'-DDE	ND		25.0	13.2		ug/Kg		53	50 - 150
4,4'-DDT	ND		25.0	13.8		ug/Kg		55	30 - 150
Endrin	ND		25.0	13.7		ug/Kg		55	30 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene	*46*		*45 - 140*
Tetrachloro-m-xylene	*55*		*45 - 140*
DCB Decachlorobiphenyl (Surr)	*61*		*45 - 140*
DCB Decachlorobiphenyl (Surr)	*62*		*45 - 140*

Lab Sample ID: 180-44597-4 MSD
Matrix: Tissue
Analysis Batch: 145682

Client Sample ID: PRETEST A-C
Prep Type: Total/NA
Prep Batch: 145348

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	ND		23.8	15.2		ug/Kg		64	50 - 150	19	20
4,4'-DDE	ND		23.8	13.6		ug/Kg		57	50 - 150	3	20
4,4'-DDT	ND		23.8	14.6		ug/Kg		61	30 - 150	6	37
Endrin	ND		23.8	14.4		ug/Kg		60	30 - 150	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*50*		*45 - 140*
Tetrachloro-m-xylene	*62*		*45 - 140*
DCB Decachlorobiphenyl (Surr)	*64*		*45 - 140*
DCB Decachlorobiphenyl (Surr)	*67*		*45 - 140*

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-145319/1-A
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145319

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		3.0	0.28	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Arsenic	ND		0.099	0.018	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Barium	ND		0.99	0.011	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Cadmium	ND		0.099	0.0069	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Calcium	ND		50	1.3	mg/Kg		06/17/15 13:34	06/26/15 21:04	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-145319/1-A
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145319

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.0137	J	0.20	0.0060	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Cobalt	ND		0.050	0.0015	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Copper	ND		0.20	0.033	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Iron	0.405	J	5.0	0.35	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Silver	ND		0.099	0.0039	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Potassium	ND		50	1.3	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Magnesium	ND		50	0.19	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Sodium	ND		50	1.4	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Nickel	ND		0.099	0.011	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Lead	ND		0.099	0.0038	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Antimony	ND		0.20	0.0026	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Selenium	ND		0.50	0.050	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Thallium	ND		0.099	0.0020	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Vanadium	ND		0.099	0.0078	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Zinc	ND		0.50	0.064	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Manganese	ND		0.50	0.010	mg/Kg		06/17/15 13:34	06/26/15 21:04	1

Lab Sample ID: LCS 180-145319/2-A
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145319

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	190	203		mg/Kg		107	80 - 120
Arsenic	3.81	3.58		mg/Kg		94	80 - 120
Barium	190	179		mg/Kg		94	80 - 120
Beryllium	4.76	4.18		mg/Kg		88	80 - 120
Cadmium	4.76	4.83		mg/Kg		101	80 - 120
Calcium	4760	4340		mg/Kg		91	80 - 120
Chromium	19.0	18.4		mg/Kg		97	80 - 120
Cobalt	47.6	46.4		mg/Kg		98	80 - 120
Copper	23.8	22.5		mg/Kg		95	80 - 120
Iron	95.2	104		mg/Kg		109	80 - 120
Silver	4.76	4.72		mg/Kg		99	80 - 120
Potassium	4760	4020		mg/Kg		85	80 - 120
Magnesium	4760	5450		mg/Kg		114	80 - 120
Sodium	4760	5560		mg/Kg		117	80 - 120
Nickel	47.6	46.5		mg/Kg		98	80 - 120
Lead	1.90	2.08		mg/Kg		109	80 - 120
Antimony	47.6	48.0		mg/Kg		101	80 - 120
Selenium	0.952	0.963		mg/Kg		101	80 - 120
Thallium	4.76	5.03		mg/Kg		106	80 - 120
Vanadium	47.6	45.2		mg/Kg		95	80 - 120
Zinc	47.6	45.8		mg/Kg		96	80 - 120
Manganese	47.6	47.6		mg/Kg		100	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-44597-2 MS
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: AT5-073 B-C
Prep Type: Total/NA
Prep Batch: 145319

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	49	F1	200	318	F1	mg/Kg		134	75 - 125
Arsenic	3.2		4.00	7.13		mg/Kg		99	75 - 125
Barium	0.27	J	200	187		mg/Kg		93	75 - 125
Beryllium	ND		5.00	4.87		mg/Kg		97	75 - 125
Cadmium	0.043	J	5.00	4.86		mg/Kg		96	75 - 125
Calcium	1100		5000	5840		mg/Kg		95	75 - 125
Chromium	0.55	B	20.0	20.0		mg/Kg		97	75 - 125
Cobalt	0.25		50.0	51.1		mg/Kg		102	75 - 125
Copper	2.0		25.0	26.1		mg/Kg		96	75 - 125
Iron	120	B F1	100	241		mg/Kg		124	75 - 125
Silver	0.035	J	5.00	4.74		mg/Kg		94	75 - 125
Potassium	2200		5000	6890		mg/Kg		93	75 - 125
Magnesium	740	F1	5000	6980		mg/Kg		125	75 - 125
Sodium	5900	F1	5000	12500	F1	mg/Kg		132	75 - 125
Nickel	0.81		50.0	50.3		mg/Kg		99	75 - 125
Lead	0.52		2.00	2.25		mg/Kg		87	75 - 125
Antimony	0.042	J	50.0	49.6		mg/Kg		99	75 - 125
Selenium	0.34	J	1.00	1.39		mg/Kg		105	75 - 125
Thallium	0.0095	J	5.00	5.08		mg/Kg		101	75 - 125
Vanadium	0.29		50.0	49.6		mg/Kg		99	75 - 125
Zinc	19		50.0	66.6		mg/Kg		96	75 - 125
Manganese	3.0		50.0	58.2		mg/Kg		110	75 - 125

Lab Sample ID: 180-44597-2 MSD
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: AT5-073 B-C
Prep Type: Total/NA
Prep Batch: 145319

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	49	F1	192	320	F1	mg/Kg		141	75 - 125	1	20
Arsenic	3.2		3.85	6.98		mg/Kg		99	75 - 125	2	20
Barium	0.27	J	192	179		mg/Kg		93	75 - 125	5	20
Beryllium	ND		4.81	4.64		mg/Kg		96	75 - 125	5	20
Cadmium	0.043	J	4.81	4.69		mg/Kg		97	75 - 125	4	20
Calcium	1100		4810	6000		mg/Kg		102	75 - 125	3	20
Chromium	0.55	B	19.2	20.3		mg/Kg		103	75 - 125	1	20
Cobalt	0.25		48.1	49.7		mg/Kg		103	75 - 125	3	20
Copper	2.0		24.0	25.7		mg/Kg		99	75 - 125	2	20
Iron	120	B F1	96.2	238	F1	mg/Kg		126	75 - 125	1	20
Silver	0.035	J	4.81	4.64		mg/Kg		96	75 - 125	2	20
Potassium	2200		4810	6850		mg/Kg		96	75 - 125	1	20
Magnesium	740	F1	4810	6780	F1	mg/Kg		126	75 - 125	3	20
Sodium	5900	F1	4810	12100	F1	mg/Kg		128	75 - 125	3	20
Nickel	0.81		48.1	49.3		mg/Kg		101	75 - 125	2	20
Lead	0.52		1.92	2.68		mg/Kg		112	75 - 125	17	20
Antimony	0.042	J	48.1	47.6		mg/Kg		99	75 - 125	4	20
Selenium	0.34	J	0.962	1.33		mg/Kg		103	75 - 125	5	20
Thallium	0.0095	J	4.81	4.89		mg/Kg		101	75 - 125	4	20
Vanadium	0.29		48.1	49.4		mg/Kg		102	75 - 125	0	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-44597-2 MSD
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: AT5-073 B-C
Prep Type: Total/NA
Prep Batch: 145319

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Zinc	19		48.1	66.7		mg/Kg		100	75 - 125	0	20
Manganese	3.0		48.1	56.8		mg/Kg		112	75 - 125	2	20

Lab Sample ID: MB 180-145442/1-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145442

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.097	0.018	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Barium	ND		0.97	0.010	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Cadmium	ND		0.097	0.0068	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Calcium	ND		49	1.3	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Chromium	ND		0.19	0.0059	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Cobalt	ND		0.049	0.0015	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Copper	ND		0.19	0.032	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Iron	0.878	J	4.9	0.34	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Silver	ND		0.097	0.0038	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Potassium	ND		49	1.3	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Nickel	ND		0.097	0.011	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Lead	ND		0.097	0.0037	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Antimony	0.00883	J	0.19	0.0025	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Selenium	ND		0.49	0.049	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Thallium	ND		0.097	0.0019	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Vanadium	ND		0.097	0.0077	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Zinc	ND		0.49	0.063	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Manganese	ND		0.49	0.010	mg/Kg		06/18/15 11:07	06/24/15 23:42	1

Lab Sample ID: MB 180-145442/1-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145442

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		2.9	0.28	mg/Kg		06/18/15 11:07	06/25/15 22:37	1
Magnesium	0.432	J	49	0.18	mg/Kg		06/18/15 11:07	06/25/15 22:37	1
Sodium	ND		49	1.3	mg/Kg		06/18/15 11:07	06/25/15 22:37	1

Lab Sample ID: LCS 180-145442/2-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145442

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.92	3.55		mg/Kg		90	80 - 120
Barium	196	180		mg/Kg		92	80 - 120
Beryllium	4.90	4.06		mg/Kg		83	80 - 120
Cadmium	4.90	5.12		mg/Kg		105	80 - 120
Calcium	4900	4120		mg/Kg		84	80 - 120
Chromium	19.6	19.9		mg/Kg		102	80 - 120
Cobalt	49.0	50.2		mg/Kg		102	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-145442/2-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145442

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	24.5	23.3		mg/Kg		95	80 - 120
Silver	4.90	4.87		mg/Kg		99	80 - 120
Potassium	4900	4020		mg/Kg		82	80 - 120
Nickel	49.0	49.6		mg/Kg		101	80 - 120
Lead	1.96	2.23		mg/Kg		114	80 - 120
Antimony	49.0	49.7		mg/Kg		101	80 - 120
Selenium	0.980	0.921		mg/Kg		94	80 - 120
Thallium	4.90	5.15		mg/Kg		105	80 - 120
Vanadium	49.0	49.2		mg/Kg		100	80 - 120
Zinc	49.0	50.9		mg/Kg		104	80 - 120
Manganese	49.0	52.3		mg/Kg		107	80 - 120

Lab Sample ID: LCS 180-145442/2-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145442

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	196	208		mg/Kg		106	80 - 120
Iron	98.0	116		mg/Kg		118	80 - 120
Magnesium	4900	5620		mg/Kg		115	80 - 120
Sodium	4900	5720		mg/Kg		117	80 - 120

Lab Sample ID: MB 180-145448/1-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.10	0.019	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Barium	ND		1.0	0.011	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Beryllium	ND		0.10	0.0077	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Cadmium	ND		0.10	0.0072	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Calcium	ND		52	1.4	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Chromium	0.0177	J	0.21	0.0063	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Cobalt	ND		0.052	0.0015	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Copper	ND		0.21	0.034	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Iron	ND		5.2	0.36	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Silver	ND		0.10	0.0040	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Potassium	ND		52	1.4	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Nickel	ND		0.10	0.012	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Lead	ND		0.10	0.0039	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Antimony	ND		0.21	0.0027	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Selenium	ND		0.52	0.052	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Thallium	ND		0.10	0.0021	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Vanadium	ND		0.10	0.0081	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Zinc	ND		0.52	0.067	mg/Kg		06/18/15 11:35	06/24/15 19:43	1
Manganese	ND		0.52	0.011	mg/Kg		06/18/15 11:35	06/24/15 19:43	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-145448/1-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		3.1	0.29	mg/Kg		06/18/15 11:35	06/25/15 19:25	1
Magnesium	ND		52	0.19	mg/Kg		06/18/15 11:35	06/25/15 19:25	1
Sodium	ND		52	1.4	mg/Kg		06/18/15 11:35	06/25/15 19:25	1

Lab Sample ID: LCS 180-145448/2-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145448

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	4.00	3.99		mg/Kg		100	80 - 120
Barium	200	182		mg/Kg		91	80 - 120
Beryllium	5.00	4.23		mg/Kg		85	80 - 120
Cadmium	5.00	5.08		mg/Kg		102	80 - 120
Calcium	5000	4490		mg/Kg		90	80 - 120
Chromium	20.0	21.6		mg/Kg		108	80 - 120
Cobalt	50.0	54.4		mg/Kg		109	80 - 120
Copper	25.0	25.9		mg/Kg		103	80 - 120
Iron	100	117		mg/Kg		117	80 - 120
Silver	5.00	4.85		mg/Kg		97	80 - 120
Potassium	5000	4400		mg/Kg		88	80 - 120
Nickel	50.0	53.7		mg/Kg		107	80 - 120
Lead	2.00	2.19		mg/Kg		110	80 - 120
Antimony	50.0	47.7		mg/Kg		95	80 - 120
Selenium	1.00	1.05		mg/Kg		105	80 - 120
Thallium	5.00	5.26		mg/Kg		105	80 - 120
Vanadium	50.0	53.1		mg/Kg		106	80 - 120
Zinc	50.0	54.3		mg/Kg		109	80 - 120
Manganese	50.0	55.4		mg/Kg		111	80 - 120

Lab Sample ID: LCS 180-145448/2-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145448

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	200	211		mg/Kg		105	80 - 120
Magnesium	5000	5800		mg/Kg		116	80 - 120
Sodium	5000	5880		mg/Kg		118	80 - 120

Lab Sample ID: MB 180-145552/1-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.095	0.017	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Barium	ND		0.95	0.010	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Cadmium	ND		0.095	0.0067	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Calcium	ND		48	1.3	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Chromium	0.0151	J	0.19	0.0058	mg/Kg		06/19/15 09:16	06/24/15 16:46	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-145552/1-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		0.048	0.0014	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Copper	ND		0.19	0.031	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Iron	1.19	J	4.8	0.34	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Silver	ND		0.095	0.0037	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Potassium	3.25	J	48	1.3	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Nickel	ND		0.095	0.011	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Lead	ND		0.095	0.0036	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Antimony	ND		0.19	0.0025	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Selenium	ND		0.48	0.048	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Thallium	ND		0.095	0.0019	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Vanadium	0.0182	J	0.095	0.0075	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Zinc	ND		0.48	0.062	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Manganese	ND		0.48	0.0098	mg/Kg		06/19/15 09:16	06/24/15 16:46	1

Lab Sample ID: MB 180-145552/1-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		2.9	0.27	mg/Kg		06/19/15 09:16	06/25/15 16:46	1
Magnesium	0.349	J	48	0.18	mg/Kg		06/19/15 09:16	06/25/15 16:46	1
Sodium	4.37	J	48	1.3	mg/Kg		06/19/15 09:16	06/25/15 16:46	1

Lab Sample ID: LCS 180-145552/2-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.85	3.58		mg/Kg		93	80 - 120
Barium	192	176		mg/Kg		92	80 - 120
Beryllium	4.81	4.11		mg/Kg		85	80 - 120
Cadmium	4.81	4.67		mg/Kg		97	80 - 120
Calcium	4810	4330		mg/Kg		90	80 - 120
Chromium	19.2	19.8		mg/Kg		103	80 - 120
Cobalt	48.1	49.1		mg/Kg		102	80 - 120
Copper	24.0	23.4		mg/Kg		97	80 - 120
Iron	96.2	110		mg/Kg		115	80 - 120
Silver	4.81	4.65		mg/Kg		97	80 - 120
Potassium	4810	4320		mg/Kg		90	80 - 120
Nickel	48.1	48.9		mg/Kg		102	80 - 120
Lead	1.92	2.11		mg/Kg		110	80 - 120
Antimony	48.1	46.5		mg/Kg		97	80 - 120
Selenium	0.962	1.03		mg/Kg		107	80 - 120
Thallium	4.81	5.01		mg/Kg		104	80 - 120
Vanadium	48.1	49.2		mg/Kg		102	80 - 120
Zinc	48.1	48.2		mg/Kg		100	80 - 120
Manganese	48.1	51.1		mg/Kg		106	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-145552/2-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	192	206		mg/Kg		107	80 - 120
Magnesium	4810	5630		mg/Kg		117	80 - 120
Sodium	4810	5440		mg/Kg		113	80 - 120

Lab Sample ID: LCSD 180-145552/3-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145552

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.85	3.61		mg/Kg		94	80 - 120	1	20
Barium	192	169		mg/Kg		88	80 - 120	4	20
Beryllium	4.81	4.00		mg/Kg		83	80 - 120	3	20
Cadmium	4.81	4.46		mg/Kg		93	80 - 120	5	20
Calcium	4810	4210		mg/Kg		88	80 - 120	3	20
Chromium	19.2	19.6		mg/Kg		102	80 - 120	1	20
Cobalt	48.1	49.3		mg/Kg		102	80 - 120	0	20
Copper	24.0	23.5		mg/Kg		98	80 - 120	0	20
Iron	96.2	113		mg/Kg		117	80 - 120	2	20
Silver	4.81	4.33		mg/Kg		90	80 - 120	7	20
Potassium	4810	4200		mg/Kg		87	80 - 120	3	20
Nickel	48.1	48.9		mg/Kg		102	80 - 120	0	20
Lead	1.92	1.99		mg/Kg		103	80 - 120	6	20
Antimony	48.1	43.9		mg/Kg		91	80 - 120	6	20
Selenium	0.962	0.876		mg/Kg		91	80 - 120	16	20
Thallium	4.81	4.71		mg/Kg		98	80 - 120	6	20
Vanadium	48.1	48.9		mg/Kg		102	80 - 120	1	20
Zinc	48.1	48.8		mg/Kg		102	80 - 120	1	20
Manganese	48.1	50.8		mg/Kg		106	80 - 120	1	20

Lab Sample ID: LCSD 180-145552/3-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145552

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	192	195		mg/Kg		102	80 - 120	5	20
Magnesium	4810	5300		mg/Kg		110	80 - 120	6	20
Sodium	4810	5200		mg/Kg		108	80 - 120	4	20

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Lab Sample ID: MB 180-146067/1-A
Matrix: Tissue
Analysis Batch: 146254

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146067

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/25/15 09:10	06/26/15 10:22	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique) (Continued)

Lab Sample ID: LCS 180-146067/2-A
Matrix: Tissue
Analysis Batch: 146254

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146067

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.401		mg/Kg		96	80 - 120

Lab Sample ID: MB 180-146068/1-A
Matrix: Tissue
Analysis Batch: 146136

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146068

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/25/15 09:17	06/25/15 13:22	1

Lab Sample ID: LCS 180-146068/2-A
Matrix: Tissue
Analysis Batch: 146136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146068

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.437		mg/Kg		105	80 - 120

Lab Sample ID: 180-44597-2 MS
Matrix: Tissue
Analysis Batch: 146136

Client Sample ID: AT5-073 B-C
Prep Type: Total/NA
Prep Batch: 146068

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	H	0.152	0.171	H	mg/Kg		113	75 - 125

Lab Sample ID: 180-44597-2 MSD
Matrix: Tissue
Analysis Batch: 146136

Client Sample ID: AT5-073 B-C
Prep Type: Total/NA
Prep Batch: 146068

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	H	0.167	0.180	H	mg/Kg		108	75 - 125	5	20

Lab Sample ID: MB 180-146070/1-A
Matrix: Tissue
Analysis Batch: 146254

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146070

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/25/15 09:27	06/26/15 10:30	1

Lab Sample ID: LCS 180-146070/2-A
Matrix: Tissue
Analysis Batch: 146254

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146070

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.418		mg/Kg		100	80 - 120

Lab Sample ID: MB 180-146075/1-A
Matrix: Tissue
Analysis Batch: 146254

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146075

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/25/15 09:45	06/26/15 10:34	1

Lab Sample ID: LCS 180-146075/2-A
Matrix: Tissue
Analysis Batch: 146254

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146075

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.417	0.410		mg/Kg		98	80 - 120		

Lab Sample ID: LCSD 180-146075/3-A
Matrix: Tissue
Analysis Batch: 146254

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 146075

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.417	0.420		mg/Kg		101	80 - 120	2	20

Method: 2540G - SM 2540G

Lab Sample ID: 180-44597-1 DU
Matrix: Tissue
Analysis Batch: 146106

Client Sample ID: AT5-073 A-C
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	86			86		%				0.2	20

Lab Sample ID: 180-44597-11 DU
Matrix: Tissue
Analysis Batch: 146106

Client Sample ID: AT5-075 E-C
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	85			83		%				3	20

Lab Sample ID: 180-44597-22 DU
Matrix: Tissue
Analysis Batch: 146112

Client Sample ID: AT5-077 E-C
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	83			83		%				0.8	20

Lab Sample ID: 180-44597-32 DU
Matrix: Tissue
Analysis Batch: 146112

Client Sample ID: AT5-079 E-C
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	86			86		%				0.4	20

Method: Lipids - Percent Lipids

Lab Sample ID: MB 180-145215/1-A
Matrix: Tissue
Analysis Batch: 145502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145215

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

Method: Lipids - Percent Lipids (Continued)

Lab Sample ID: LCS 180-145215/2-A
Matrix: Tissue
Analysis Batch: 145502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145215

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Percent Lipids	16.7	14.7		%		88	30 - 150

Lab Sample ID: LCSD 180-145215/3-A
Matrix: Tissue
Analysis Batch: 145502

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145215

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids	16.7	15.3		%		92	30 - 150	4	25

Lab Sample ID: 180-44597-5 DU
Matrix: Tissue
Analysis Batch: 145502

Client Sample ID: PRETEST B-C
Prep Type: Total/NA
Prep Batch: 145215

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Lipids	0.41		0.414		%		1	25

Lab Sample ID: MB 180-145626/1-A
Matrix: Tissue
Analysis Batch: 146218

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145626

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/20/15 05:00	06/20/15 05:00	1

Lab Sample ID: LCS 180-145626/2-A
Matrix: Tissue
Analysis Batch: 146218

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145626

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Percent Lipids	17.6	16.1		%		92	30 - 150

Lab Sample ID: LCSD 180-145626/3-A
Matrix: Tissue
Analysis Batch: 146218

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145626

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids	17.4	16.1		%		93	30 - 150	0	25

Lab Sample ID: MB 180-145927/1-A
Matrix: Tissue
Analysis Batch: 146249

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145927

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/24/15 03:25	06/24/15 03:25	1

Lab Sample ID: LCS 180-145927/2-A
Matrix: Tissue
Analysis Batch: 146249

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145927

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Percent Lipids	16.8	16.6		%		99	30 - 150

Lab Sample ID: LCSD 180-145927/3-A
Matrix: Tissue
Analysis Batch: 146249

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145927

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids			16.8	15.3		%		91	30 - 150	8	25

Lab Sample ID: MB 180-145928/1-A
Matrix: Tissue
Analysis Batch: 146250

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145928

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

Lab Sample ID: LCS 180-145928/2-A
Matrix: Tissue
Analysis Batch: 146250

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145928

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Percent Lipids			17.1	15.7		%		92	30 - 150		

Lab Sample ID: LCSD 180-145928/3-A
Matrix: Tissue
Analysis Batch: 146250

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145928

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids			16.8	15.8		%		94	30 - 150	1	25

Lab Sample ID: 180-44597-13 DU
Matrix: Tissue
Analysis Batch: 146250

Client Sample ID: AT5-076 B-C
Prep Type: Total/NA
Prep Batch: 145928

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Lipids	0.58			0.647		%				11	25

Shipping and Receiving Documents

44597

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: **860.287.0745**		.2.963.2428
Project Name: Parallel Thimble Shoal Tunnel			)63.2468
Project#: **15204.01**		180-44597-01 Chain of Custody	'arrie Gamber
Page 1 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-073A-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-073B-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-073C-C	1	X	
4/23/2015	1200	X		PRETESTA-C	1	X	
4/23/2015	1200	X		PRETESTB-C	1	X	
4/23/2015	1200	X		PRETESTC-C	1	X	
5/21/2015	1200	X		AT5-075A-C	1	X	
5/21/2015	1200	X		AT5-075B-C	1	X	
5/21/2015	1200	X		AT5-075C-C	1	X	
5/21/2015	1200	X		AT5-075D-C	1	X	
5/21/2015	1200	X		AT5-075E-C	1	X	
5/21/2015	1200	X		AT5-076A-C	1	X	
5/21/2015	1200	X		AT5-076B-C	1	X	
5/21/2015	1200	X		AT5-076C-C	1	X	
5/21/2015	1200	X		AT5-076D-C	1	X	
5/21/2015	1200	X		AT5-076E-C	1	X	
5/21/2015	1200	X		AT5-077A-C	1	X	
5/21/2015	1200	X		AT5-077B-C	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1000			**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1700	Denise Watson	5-29-15 8:50	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick** Phone: **410.329.5126**		Laboratory: **TestAmerica - Pittsburgh** **301 Alpha Drive** **Pittsburgh, PA 15238**
225 Schilling Circle **Hunt Valley, MD 21031**	Project Contact: **Morgan Gelinas** Phone: **860.287.0745**		**phone: 412.963.2428** **fax: 412.963.2468**
Project Name: Parallel Thimble Shoal Tunnel Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 2 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-077C-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-077D-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-077E-C	1	X	
5/21/2015	1200	X		AT5-078A-C	1	X	
5/21/2015	1200	X		AT5-078B-C	1	X	
5/21/2015	1200	X		AT5-078C-C	1	X	
5/21/2015	1200	X		AT5-078D-C	1	X	
5/21/2015	1200	X		AT5-078E-C	1	X	
5/21/2015	1200	X		AT5-079A-C	1	X	
5/21/2015	1200	X		AT5-079B-C	1	X	
5/21/2015	1200	X		AT5-079C-C	1	X	
5/21/2015	1200	X		AT5-079D-C	1	X	
5/21/2015	1200	X		AT5-079E-C	1	X	
5/21/2015	1200	X		AT5-080A-C	1	X	
5/21/2015	1200	X		AT5-080B-C	1	X	
5/21/2015	1200	X		AT5-080C-C	1	X	
5/21/2015	1200	X		AT5-080D-C	1	X	
5/21/2015	1200	X		AT5-080E-C	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600			**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1600		5-29-15 8:50	

2 Coolers

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		**phone: 412.963.2428**
	Phone: **860.287.0745**		**fax: 412.963.2468**
Project Name: Parallel Thimble Shoal Tunnel		180-44597-02 Chain of Custody	**ATTN: Carrie Gamber**
Project#: **15204.01**			
Page 1 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-073A-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-073B-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-073C-C	1	X	
4/23/2015	1200	X		PRETESTA-C	1	X	
4/23/2015	1200	X		PRETESTB-C	1	X	
4/23/2015	1200	X		PRETESTC-C	1	X	
5/21/2015	1200	X		AT5-075A-C	1	X	
5/21/2015	1200	X		AT5-075B-C	1	X	
5/21/2015	1200	X		AT5-075C-C	1	X	
5/21/2015	1200	X		AT5-075D-C	1	X	
5/21/2015	1200	X		AT5-075E-C	1	X	
5/21/2015	1200	X		AT5-076A-C	1	X	
5/21/2015	1200	X		AT5-076B-C	1	X	
5/21/2015	1200	X		AT5-076C-C	1	X	
5/21/2015	1200	X		AT5-076D-C	1	X	
5/21/2015	1200	X		AT5-076E-C	1	X	
5/21/2015	1200	X		AT5-077A-C	1	X	
5/21/2015	1200	X		AT5-077B-C	1	X	

Sampled by: (Signature)	Date/Time 5/20/15 1000	Relinquished by: (Signature)	Date/Time 6/1/15 1235	Parallel Thimble Shoal Tunnel Tissue
Relinquished by: (Signature)	Date/Time 5/20/15 1900	Received by Laboratory: (Signature)	Date/Time 6/1/15 1235	

1235
MAC
6/1/15

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		**phone: 412.963.2428**
	Phone: **860.287.0745**		**fax: 412.963.2468**
Project Name: Parallel Thimble Shoal Tunnel			**ATTN: Carrie Gamber**
Project#: **15204.01**			
Page 2 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-077C-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-077D-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-077E-C	1	X	
5/21/2015	1200	X		AT5-078A-C	1	X	
5/21/2015	1200	X		AT5-078B-C	1	X	
5/21/2015	1200	X		AT5-078C-C	1	X	
5/21/2015	1200	X		AT5-078D-C	1	X	
5/21/2015	1200	X		AT5-078E-C	1	X	
5/21/2015	1200	X		AT5-079A-C	1	X	
5/21/2015	1200	X		AT5-079B-C	1	X	
5/21/2015	1200	X		AT5-079C-C	1	X	
5/21/2015	1200	X		AT5-079D-C	1	X	
5/21/2015	1200	X		AT5-079E-C	1	X	
5/21/2015	1200	X		AT5-080A-C	1	X	
5/21/2015	1200	X		AT5-080B-C	1	X	
5/21/2015	1200	X		AT5-080C-C	1	X	
5/21/2015	1200	X		AT5-080D-C	1	X	
5/21/2015	1200	X		AT5-080E-C	1	X	

Sampled by: (Signature)	Date/Time 5/28/15 1600	Relinquished by: (Signature)	Date/Time 6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time 5/28/15 1600	Received by Laboratory: (Signature)	Date/Time 6/1/15 1235	

Client:	Project Manager:
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**
	Phone: **410.329.5126**
225 Schilling Circle	Project Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: **860.287.0745**

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 1 of 6

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Moisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-073A-C	1	X	X	X	X	X	X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-073B-C	1	X	X	X	X	X	X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-073C-C	1	X	X	X	X	X	X	X	X	
4/23/2015	1200	X		PRETESTA-C	1	X	X	X	X	X	X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
4/23/2015	1200	X		PRETESTB-C	1	X	X	X	X	X	X	X	X	
4/23/2015	1200	X		PRETESTC-C	1	X	X	X	X	X	X	X	X	
5/21/2015	1200	X		AT5-075A-C	1	X	X	X	X		X	X	X	
5/21/2015	1200	X		AT5-075B-C	1	X	X	X	X		X	X	X	
5/21/2015	1200	X		AT5-075C-C	1	X	X	X	X		X	X	X	
5/21/2015	1200	X		AT5-075D-C	1	X	X	X	X		X	X	X	
5/21/2015	1200	X		AT5-075E-C	1	X	X	X	X		X	X	X	
5/21/2015	1200	X		AT5-076A-C	1	X	X				X	X	X	
5/21/2015	1200	X		AT5-076B-C	1	X	X				X	X	X	
5/21/2015	1200	X		AT5-076C-C	1	X	X				X	X	X	
5/21/2015	1200	X		AT5-076D-C	1	X	X				X	X	X	
5/21/2015	1200	X		AT5-076E-C	1	X	X				X	X	X	
5/21/2015	1200	X		AT5-077A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-077B-C	1	X	X	X		X	X	X	X	

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
Danita Corum	6/10/15 1530		6/12/15 0800	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	

Client:	Project Manager:
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**
	Phone: **410.329.5126**
225 Schilling Circle	Project Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: **860.287.0745**

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 2 of 6

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Moisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-077C-C	1	X	X	X		X	X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-077D-C	1	X	X	X		X	X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-077E-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-078A-C	1	X	X		X	X	X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
5/21/2015	1200	X		AT5-078B-C	1	X	X		X	X	X	X	X	
5/21/2015	1200	X		AT5-078C-C	1	X	X		X	X	X	X	X	
5/21/2015	1200	X		AT5-078D-C	1	X	X		X	X	X	X	X	
5/21/2015	1200	X		AT5-078E-C	1	X	X		X	X	X	X	X	
5/21/2015	1200	X		AT5-079A-C	1	X	X			X	X	X	X	
5/21/2015	1200	X		AT5-079B-C	1	X	X			X	X	X	X	
5/21/2015	1200	X		AT5-079C-C	1	X	X			X	X	X	X	
5/21/2015	1200	X		AT5-079D-C	1	X	X			X	X	X	X	
5/21/2015	1200	X		AT5-079E-C	1	X	X			X	X	X	X	
5/21/2015	1200	X		AT5-080A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-080B-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-080C-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-080D-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-080E-C	1	X	X	X		X	X	X	X	

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
Anita Corum	6/10/15 1530		6/10/15 0800	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print but[illegible] dialog box that appears. Note: If your browser does not support this function select P[illegible] menu to print the label.

2. **Fold th[illegible] at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not h[illegible] fix the folded label using clear plastic shipping tape over the entire label.

3. **GETTIN[illegible] MENT TO UPS**
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Schedul[illegible] future day Pickup to have a UPS driver pickup all your CampusShip package
Hand th[illegible] y UPS driver in your area.
Take yo[illegible] ny location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliance [illegible]® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return [illegible] including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

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Your driver will pickup your shipment(s) as usual.

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KATHRYN MINCZUK
4105847000 5206
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

60 LBS 3 OF 7
DWT: 24,18,18

SHIP TO:
CARRIE GAMBER
4129632428
TESTAMERICA
301 ALPHA DRIVE
PITTSBURGH PA 15238-2907

PA 152 9-22
Uncorrected temp °C
Thermometer ID
CF Initials
PT-WI-SR-001 effective 7/28/13

UPS EARLY A.M. 1 +

TRACKING #: 1Z 288 682 15 9061 4446

BILLING: P/P

Department Code: 2123
Project Phase AND Task: 1520401 0012
CS 17.2.07 WNTNV50 63.0A 04/2015

5/29

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   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

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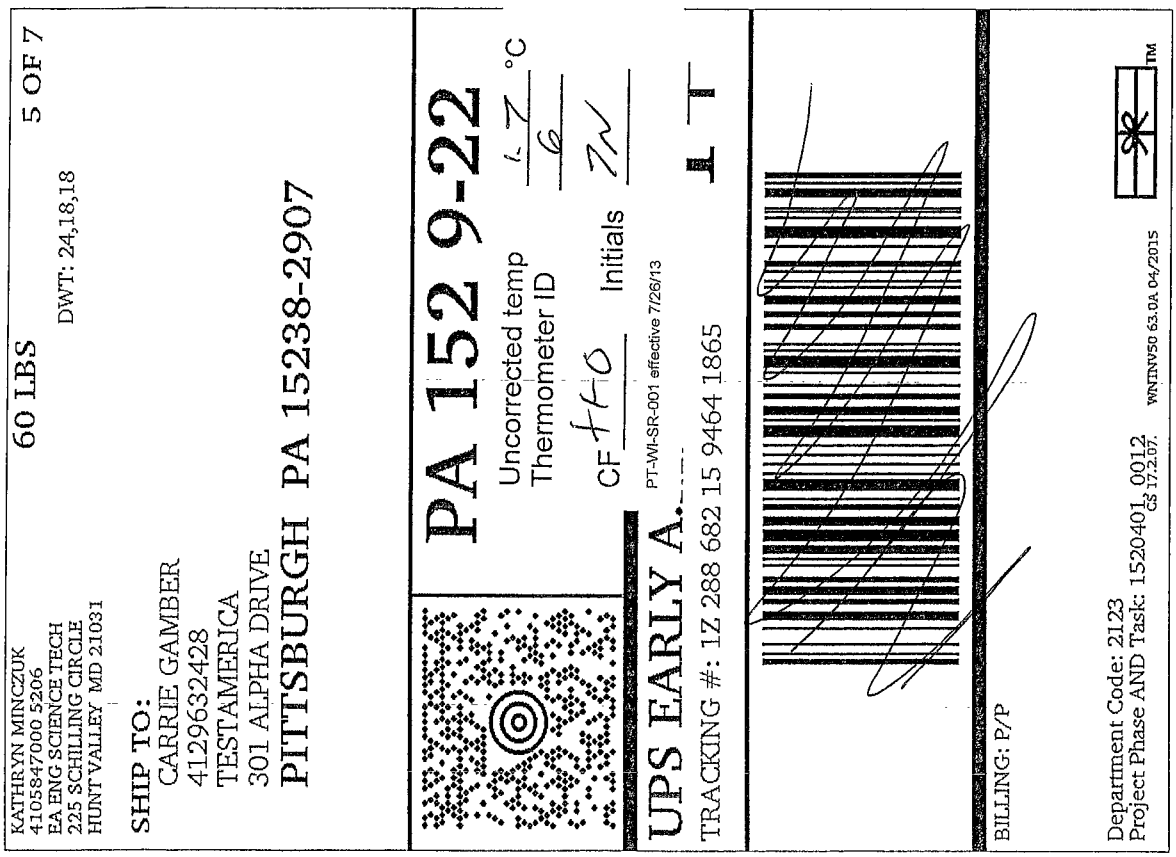

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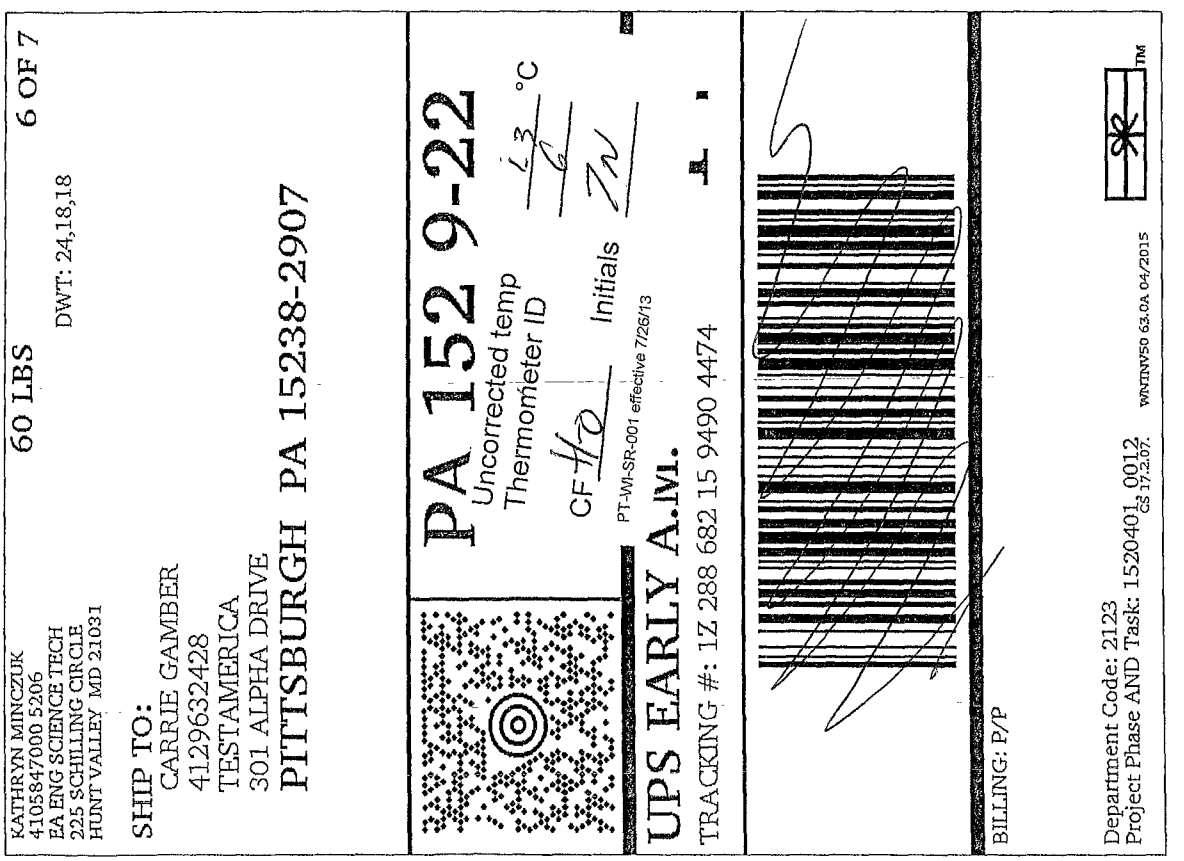

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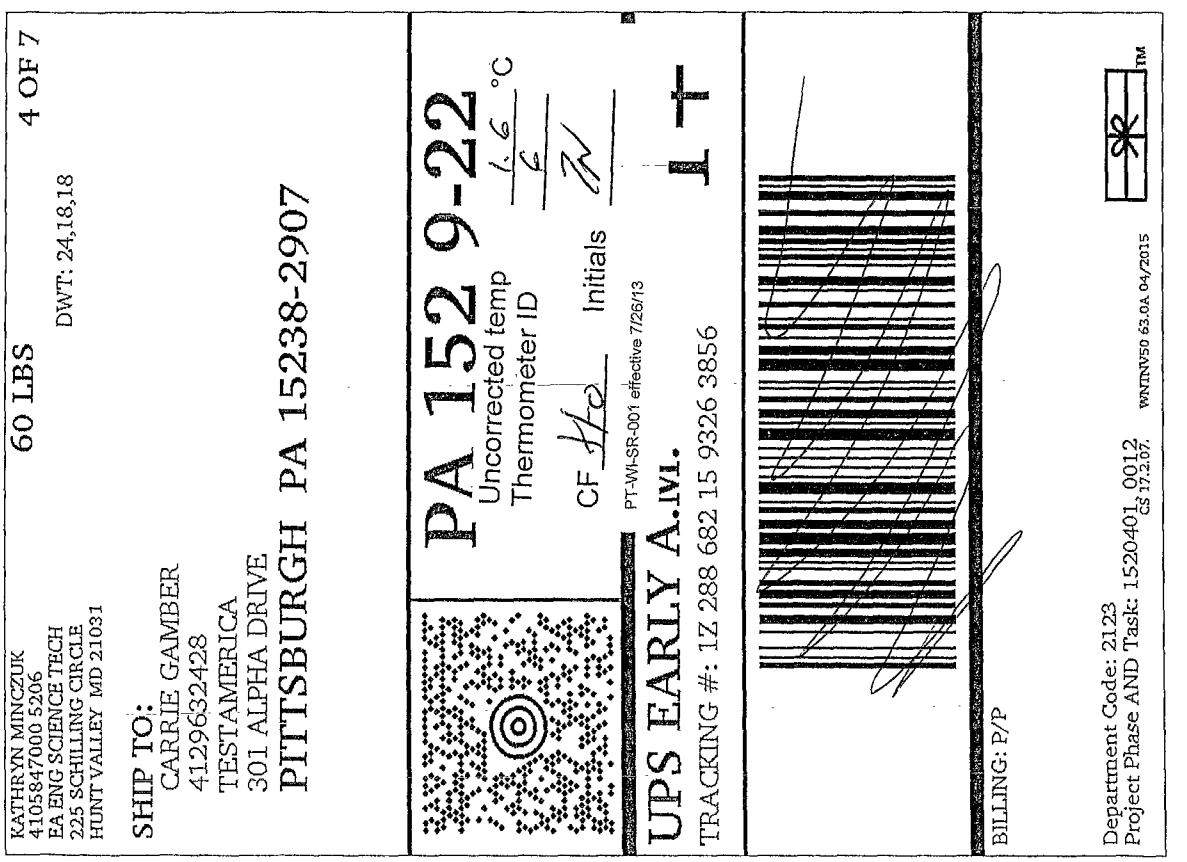

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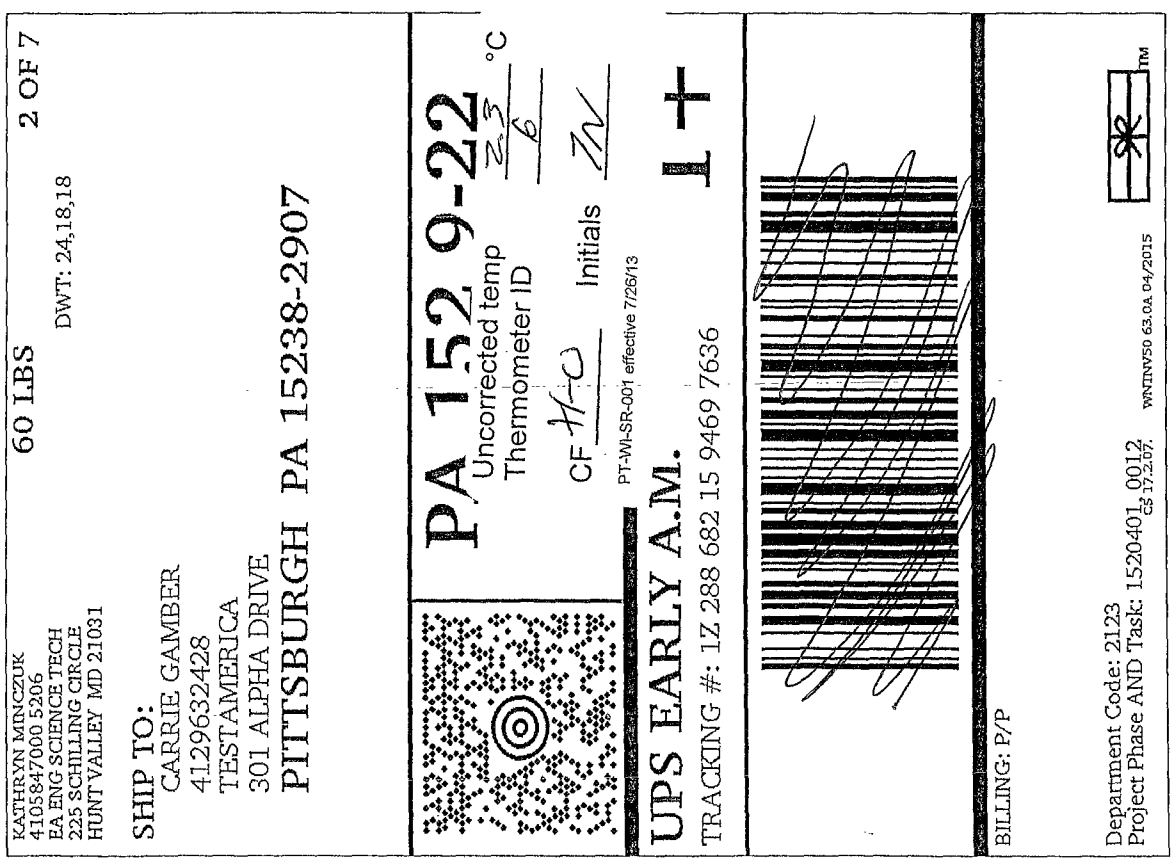

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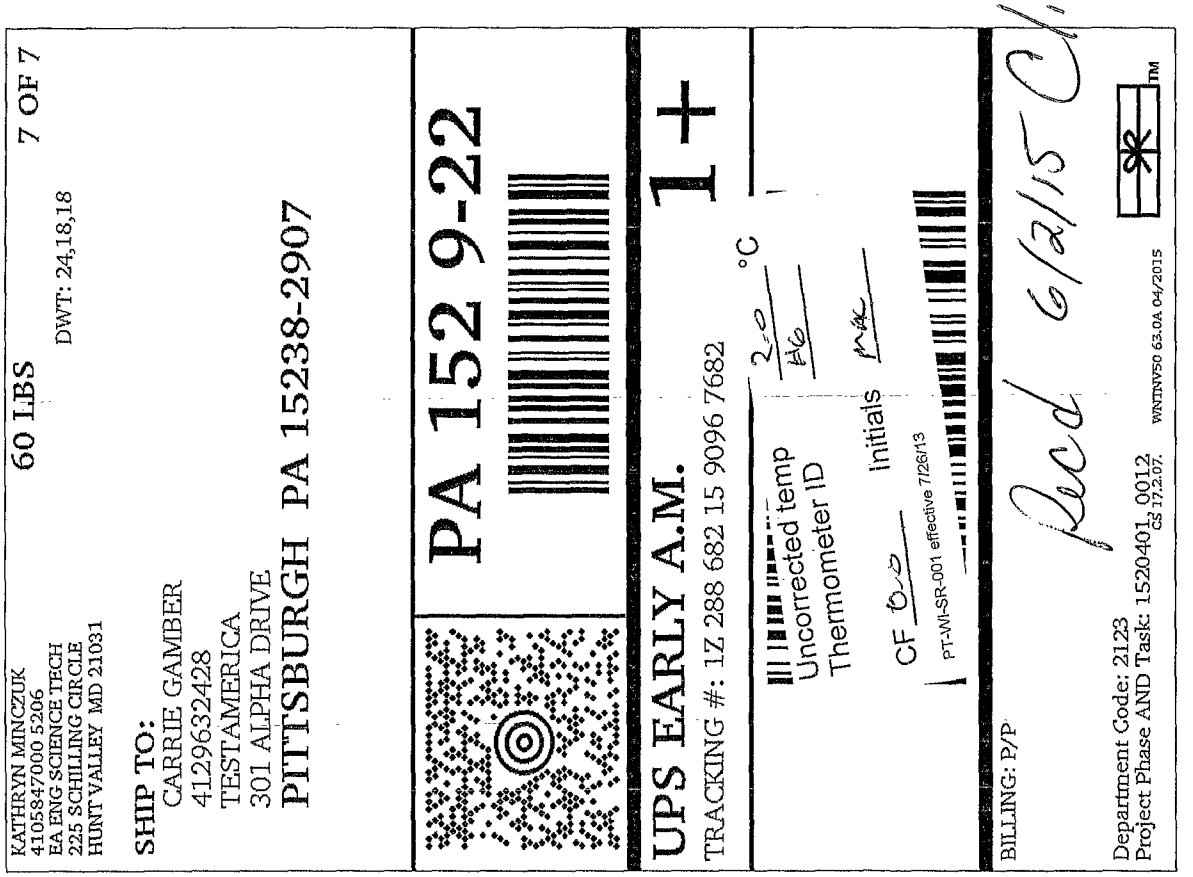

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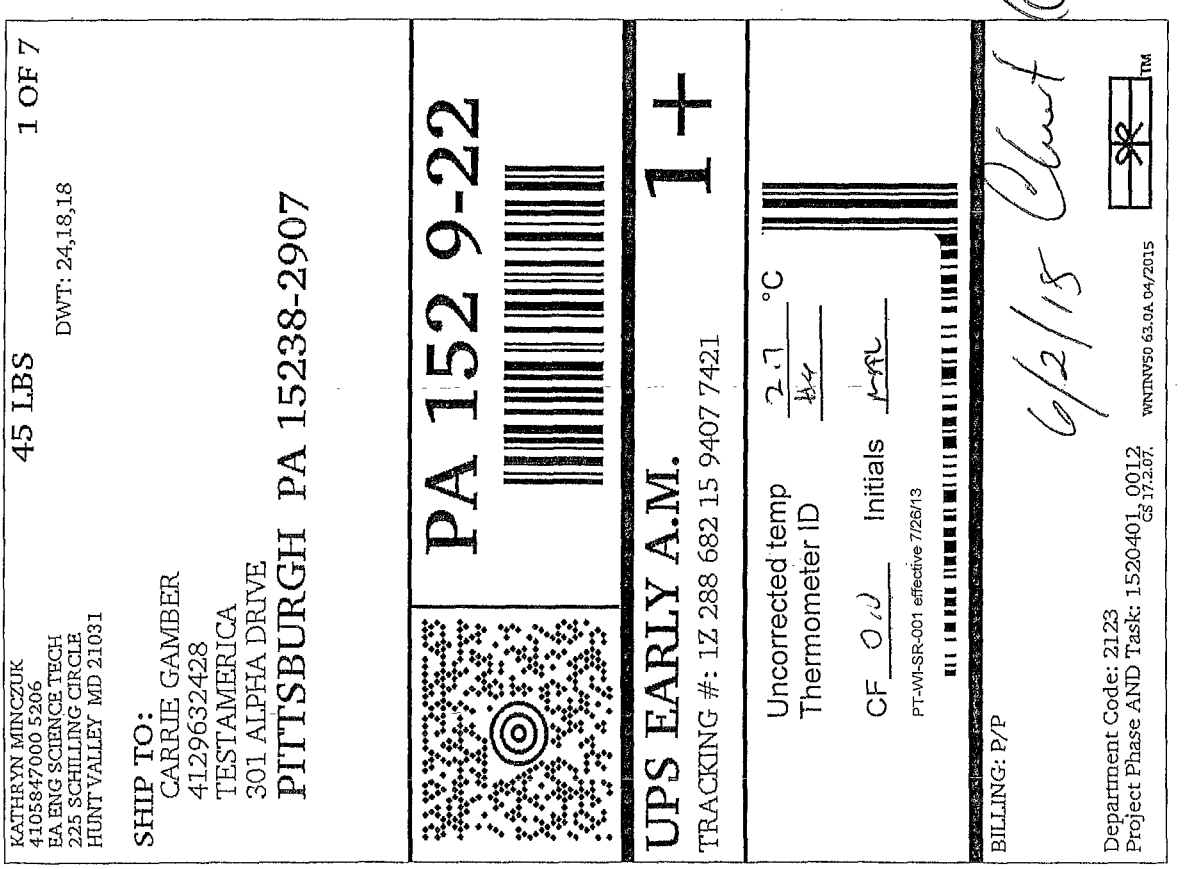

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-44597-1

Login Number: 44597
List Number: 1
Creator: Kovitch, Christina M

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-44601-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/15/2015 11:01 AM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/15/2015

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits
F1	MS and/or MSD Recovery is outside acceptance limits.

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
W	PS: Post-digestion spike was outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-44601-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 05/29/2015; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 7 coolers at receipt time were 1.3º C, 1.6º C, 1.7º C, 2.0º C, 2.1º C, 2.3º C and 2.7º C.

SEMIVOLATILES
Several samples was diluted due to the nature of the sample matrix. Elevated reporting limits (RLs) are provided.

Benzo[g,h,i]perylene, Bis(2-ethylhexyl) phthalate, Dibenz(a,h)anthracene and Indeno[1,2,3-cd]pyrene failed the recovery criteria high for the MS of sample AT5-082 B-C (180-44601-7) in batch 180-146587. Several analytes exceeded the RPD limit for the MSD of sample AT5-082 B-CMSD (180-44601-7) in batch 180-146587.

METALS
The holding time for mercury on tissues is 28 days from the date sampled. These samples were released from hold after the 28 day holding time for mercury. All results are flagged with the H qualifier and reported with this narration.

Several samples were diluted due to the nature of the sample matrix for mercury. Elevated reporting limits (RLs) are provided.

Several analytes were detected in method blank MB 180-145444/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Chromium was detected in method blank MB 180-145448/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Several analytes were detected in method blank MB 180-145452/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Several analytes were detected in method blank MB 180-145552/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Aluminum failed the recovery criteria high for the MS/MSD of sample AT5-083 D-C (180-44601-14) in batch 180-146830.

Beryllium failed the recovery criteria low for the MS of sample AT5-082 B-C (180-44601-7) in batch 180-146318. Iron and Aluminum failed the recovery criteria high. Iron and Aluminum failed the recovery criteria high for the MSD of sample AT5-082 B-C (180-44601-7) in batch 180-146318. Antimony exceeded the RPD limit.

MOISTURE
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT LIPIDS
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44601-1

Client Sample ID: AT5-081 A-C — Lab Sample ID: 180-44601-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	39		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.22	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.048	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	470		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.44	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.31		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	170	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.024	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1900	B	50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	760	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6400	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.43		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.16		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.23	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.26	B	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	15		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.3		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.59		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-081 B-C — Lab Sample ID: 180-44601-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	41		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.6		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.26	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.051	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	440		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.52	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.40		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.9		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	210	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.041	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2200	B	50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	710	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5400	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.60		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.20		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0083	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.32	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.33	B	0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	19		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.6		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.64		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-081 C-C — Lab Sample ID: 180-44601-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	73		3.0	0.29	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-081 C-C (Continued) — Lab Sample ID: 180-44601-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.5		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.29	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.039	J	0.10	0.0071	mg/Kg	1		6020A	Total/NA
Calcium	490		51	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.69	B	0.20	0.0062	mg/Kg	1		6020A	Total/NA
Cobalt	0.39		0.051	0.0015	mg/Kg	1		6020A	Total/NA
Copper	3.4		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	310	B	5.1	0.36	mg/Kg	1		6020A	Total/NA
Silver	0.021	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2200	B	51	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	750	B	51	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5700	B	51	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.65		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.22		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0041	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.37	J	0.51	0.051	mg/Kg	1		6020A	Total/NA
Vanadium	0.38	B	0.10	0.0080	mg/Kg	1		6020A	Total/NA
Zinc	17		0.51	0.065	mg/Kg	1		6020A	Total/NA
Manganese	3.9		0.51	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.57		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-081 D-C — Lab Sample ID: 180-44601-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	59		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	4.1		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.31	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.042	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	570		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.74	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.45		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	4.6		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	280	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.050	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300	B	49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	780	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5800	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.74		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.29		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0063	J	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.35	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.32	B	0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	19		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	3.5		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.48		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-081 E-C — Lab Sample ID: 180-44601-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	39		3.0	0.28	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44601-1

Client Sample ID: AT5-081 E-C (Continued)

Lab Sample ID: 180-44601-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.8		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.20	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.037	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	570		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.57	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.33		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.4		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	220	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.012	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1900	B	50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	780	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6500	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.55		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.24		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.26	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.29	B	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	15		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.8		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.71		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-082 A-C

Lab Sample ID: 180-44601-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	32		3.0	0.29	mg/Kg	1		6020A	Total/NA
Arsenic	2.5		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.17	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.028	J	0.10	0.0071	mg/Kg	1		6020A	Total/NA
Calcium	490		51	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.39	B	0.20	0.0062	mg/Kg	1		6020A	Total/NA
Cobalt	0.30		0.051	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.6		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	130		5.1	0.36	mg/Kg	1		6020A	Total/NA
Silver	0.017	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1800		51	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	820		51	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7000		51	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.41		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.13		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.51	0.051	mg/Kg	1		6020A	Total/NA
Vanadium	0.24		0.10	0.0080	mg/Kg	1		6020A	Total/NA
Zinc	14		0.51	0.065	mg/Kg	1		6020A	Total/NA
Manganese	1.5		0.51	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.44		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-082 B-C

Lab Sample ID: 180-44601-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	29	F1	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.5		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.13	J	0.99	0.011	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-082 B-C (Continued) — Lab Sample ID: 180-44601-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.026	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	840		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.32	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.28		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.7		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	110	F1	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.013	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1700		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	880		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7800		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.46		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.10		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.050	J F2	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.18	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0052	J	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.16		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	15		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.3		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.44		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-082 C-C — Lab Sample ID: 180-44601-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	490	J	1200	140	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	40		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.9		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.17	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.028	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	630		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.41	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.31		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	150		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.023	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2000		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	880		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7500		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.47		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.15		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.29	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.24		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	14		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	1.5		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.67		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-082 D-C — Lab Sample ID: 180-44601-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	42		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.3		0.098	0.018	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-082 D-C (Continued) — Lab Sample ID: 180-44601-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.15	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.035	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	490		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.48	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.28		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.2		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	140		4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.024	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	1700		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	1000		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	9100		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.47		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.12		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.10	J	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.20	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.010	J	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.21		0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	14		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.4		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.36		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-082 E-C — Lab Sample ID: 180-44601-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	33		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.7		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.16	J	0.95	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.032	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	630		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.40	B	0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.34		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.7		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	130		4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.016	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	1900		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	830		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	7200		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.48		0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.12		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Antimony	0.030	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.21	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0031	J	0.095	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.18		0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	15		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	1.3		0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.64		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-083 A-C — Lab Sample ID: 180-44601-11

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-083 A-C (Continued) — Lab Sample ID: 180-44601-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	290	J	1000	120	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	49		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	3.1		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.19	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.037	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	520		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.44	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.43		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.5		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	170		4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.030	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	820		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6700		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.50		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.15		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.021	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.34	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0034	J	0.096	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.28		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	18		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.2		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.65		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-083 B-C — Lab Sample ID: 180-44601-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	310	J	1000	120	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	54		3.0	0.29	mg/Kg	1		6020A	Total/NA
Arsenic	3.6		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.21	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.047	J	0.10	0.0071	mg/Kg	1		6020A	Total/NA
Calcium	450		51	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.45	B	0.20	0.0062	mg/Kg	1		6020A	Total/NA
Cobalt	0.49		0.051	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.6		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	170		5.1	0.36	mg/Kg	1		6020A	Total/NA
Silver	0.035	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2400		51	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	840		51	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6700		51	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.53		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.18		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.013	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.29	J	0.51	0.051	mg/Kg	1		6020A	Total/NA
Thallium	0.0026	J	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.39		0.10	0.0080	mg/Kg	1		6020A	Total/NA
Zinc	19		0.51	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.4		0.51	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.63		0.20	0.058	%	1		Lipids	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44601-1

Client Sample ID: AT5-083 C-C

Lab Sample ID: 180-44601-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	1900	J	12000	1000	ug/Kg	4	☼	8270D LL	Total/NA
Phenol	410	J	1300	150	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	65		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.9		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.20	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.032	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	520		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.50	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.39		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	190		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.017	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1800		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	960		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	8500		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.46		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0097	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.35		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	15		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.2		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.39		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-083 D-C

Lab Sample ID: 180-44601-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	940	J	1300	150	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	55	F1 B	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.8		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.23	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.036	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	540		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.46	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.38		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.7	B	0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	160	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.028	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1800		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	710	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6200	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.53	B	0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.17		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.057	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0037	J	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.28		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	14		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.1	B	0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.49		0.20	0.059	%	1		Lipids	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44601-1

Client Sample ID: AT5-083 E-C — Lab Sample ID: 180-44601-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	540	J	1300	150	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	35	B	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.4		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.17	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.023	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	360		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.32	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.39		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.1	B	0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	120	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.017	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	1900		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	710	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6200	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.40	B	0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.11		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.027	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.18	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.17		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	12		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	1.7	B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.35		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-084 A-C — Lab Sample ID: 180-44601-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	580	J	1300	150	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	47	B	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.3		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.20	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.020	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	520		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.37	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.27		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.9	B	0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	140	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.018	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1800		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	700	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6100	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.43	B	0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.018	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.22	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.22		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	12		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	1.3	B	0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.42		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-084 B-C — Lab Sample ID: 180-44601-17

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-084 B-C (Continued) — Lab Sample ID: 180-44601-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	490	J	1100	130	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	42	B	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.0		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.19	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.039	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	1300		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.37	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.32		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.6	B	0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	150	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.028	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	660	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5400	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.50	B	0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0086	J	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.34	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.23		0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	17		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.6	B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.54		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-084 C-C — Lab Sample ID: 180-44601-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	630	J	1200	140	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	72	B	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.3		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.24	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Beryllium	0.0086	J	0.10	0.0075	mg/Kg	1		6020A	Total/NA
Cadmium	0.049	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	410		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.51	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.49		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.7	B	0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	210	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.033	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2400		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	670	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5200	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.69	B	0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.18		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.080	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.33	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0036	J	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.43		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	19		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.0	B	0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.63		0.20	0.059	%	1		Lipids	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44601-1

Client Sample ID: AT5-084 D-C — Lab Sample ID: 180-44601-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	430	J	1200	140	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	34	B	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.17	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.028	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	550		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.36	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.29		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.8	B	0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	110	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.028	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2000		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	740	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6400	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.40	B	0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.11		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.023	J	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.22	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.062	J	0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	12		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.2	B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.54		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-084 E-C — Lab Sample ID: 180-44601-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	430	J	960	110	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	36	B	2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	3.3		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.18	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.045	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	540		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.34	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.38		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.1	B	0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	120	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.032	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	690	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5600	B	48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.54	B	0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.019	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.32	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.21		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	17		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	1.5	B	0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.49		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-085 A-C — Lab Sample ID: 180-44601-21

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-085 A-C (Continued) — Lab Sample ID: 180-44601-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	740	J	1300	150	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	65	B	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.7		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.21	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.035	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	330		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.35	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.34		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.9	B	0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	170	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.017	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1900		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	780	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6900	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.42	B	0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.15		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.018	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.24		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	12		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.0	B	0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.77		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-085 B-C — Lab Sample ID: 180-44601-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	560	J	1100	130	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	96	B	2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	3.2		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.24	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.048	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	390		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.43	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.47		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.3	B	0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	220	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.032	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	720	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5900	B	48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.53	B	0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.21		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.018	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.42		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	15		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.4	B	0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.68		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-085 C-C — Lab Sample ID: 180-44601-23

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-085 C-C (Continued) — Lab Sample ID: 180-44601-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	480	J	1300	150	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	86	B	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.3		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.24	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Beryllium	0.0079	J	0.099	0.0074	mg/Kg	1		6020A	Total/NA
Cadmium	0.022	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	710		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.38	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.33		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.9	B	0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	180	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.012	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1800		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	770	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7000	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.45	B	0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.046	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.20	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0038	J	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.29		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	12		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.8	B	0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.50		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-085 D-C — Lab Sample ID: 180-44601-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	510	J	1100	130	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	51	B	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.8		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.16	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.039	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	590		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.30	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.40		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0	B	0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	140	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.025	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2000		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	680	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5800	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.44	B	0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.021	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.30		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	14		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	1.8	B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.76		0.20	0.059	%	1		Lipids	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44601-1

Client Sample ID: AT5-085 E-C

Lab Sample ID: 180-44601-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	1400		1300	110	ug/Kg	4	☼	8270D LL	Total/NA
Phenol	840	J	1300	150	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	67	B	2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.4		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.23	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.030	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	720		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.43	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.39		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.3	B	0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	170	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.026	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	1900		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	800	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	7300	B	48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.47	B	0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.15		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.017	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.28	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.33		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	13		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.0	B	0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.40		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-086 A-C

Lab Sample ID: 180-44601-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	1400	J	12000	950	ug/Kg	4	☼	8270D LL	Total/NA
Phenol	400	J	1200	140	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	61	B	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.9		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.18	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.0079	J	0.097	0.0073	mg/Kg	1		6020A	Total/NA
Cadmium	0.033	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	940		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.43	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.33		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.3	B	0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	230	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.025	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2000		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	860	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	7700	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.49	B	0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.16		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.010	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.21	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.31		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	15		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	1.9	B	0.49	0.010	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-086 A-C (Continued) — Lab Sample ID: 180-44601-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Percent Lipids	0.38		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-086 B-C — Lab Sample ID: 180-44601-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	660	J	1300	150	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	25	B	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.4		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.12	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.037	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	370		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.28	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.28		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.6	B	0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	100	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.019	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1800		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	850	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7800	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.37	B	0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.10		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0059	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.23	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.19		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	13		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	1.3	B	0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.53		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-086 C-C — Lab Sample ID: 180-44601-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	430	J	1200	140	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	44	B	3.0	0.29	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.16	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.039	J	0.10	0.0071	mg/Kg	1		6020A	Total/NA
Calcium	690		51	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.39	B	0.20	0.0062	mg/Kg	1		6020A	Total/NA
Cobalt	0.31		0.051	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.4	B	0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	170	B	5.1	0.36	mg/Kg	1		6020A	Total/NA
Silver	0.031	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2000		51	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	840	B	51	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7600	B	51	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.57	B	0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.15		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0061	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.21	J	0.51	0.051	mg/Kg	1		6020A	Total/NA
Vanadium	0.18		0.10	0.0080	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-086 C-C (Continued) — Lab Sample ID: 180-44601-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Zinc	13		0.51	0.065	mg/Kg	1		6020A	Total/NA
Manganese	1.4	B	0.51	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.52		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-086 D-C — Lab Sample ID: 180-44601-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	510	J	1200	140	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	33	B	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.15	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.022	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	360		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.29	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.26		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.5	B	0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	120	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.020	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	1900		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	860	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	7800	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.38	B	0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.12		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0081	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.20	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.21		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	11		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	1.2	B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.29		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-086 E-C — Lab Sample ID: 180-44601-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	560	J	1200	140	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	96	B	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.9		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.24	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.048	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	530		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.48	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.36		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0	B	0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	270	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.023	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2100		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	830	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7100	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.52	B	0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.20		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0063	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-086 E-C (Continued) — Lab Sample ID: 180-44601-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.33	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.40		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	17		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.1	B	0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.47		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-087 A-C — Lab Sample ID: 180-44601-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	440	J	1200	140	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	47	B	2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.5		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.23	J	0.95	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.034	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	420		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.34	B	0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.31		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.8	B	0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	150	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.018	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	1800		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	750	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6600	B	48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.37	B	0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Antimony	0.0055	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.23		0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	13		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.0	B	0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.51		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-087 B-C — Lab Sample ID: 180-44601-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	480	J	1100	130	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	100	B	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.1		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.28	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.046	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	630		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.47	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.51		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.8	B	0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	280	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.025	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2400		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	790	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6400	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.57	B	0.099	0.011	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-087 B-C (Continued) — Lab Sample ID: 180-44601-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.21		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0077	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.35	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.40		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	16		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	3.2	B	0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.69		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-087 C-C — Lab Sample ID: 180-44601-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	51		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.24	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Beryllium	0.012	J	0.10	0.0075	mg/Kg	1		6020A	Total/NA
Cadmium	0.040	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	1200		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.40	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.37		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	170	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.031	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2100	B	50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	720		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5900	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.50		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.16		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.040	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.20	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.013	J B	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.30		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	13		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.3		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.53		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-087 D-C — Lab Sample ID: 180-44601-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	84		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	3.4		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.33	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.0093	J	0.096	0.0072	mg/Kg	1		6020A	Total/NA
Cadmium	0.044	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	970		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.52	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.45		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.8		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	300	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.029	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300	B	48	1.3	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-087 D-C (Continued) — Lab Sample ID: 180-44601-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	730		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5700	B	48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.60		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.22		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.030	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.33	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0061	J B	0.096	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.33		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	16		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	3.4		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.58		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-087 E-C — Lab Sample ID: 180-44601-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	61		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.6		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.21	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Beryllium	0.0082	J	0.10	0.0075	mg/Kg	1		6020A	Total/NA
Cadmium	0.047	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	930		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.45	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.42		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	3.0		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	220	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.043	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2400	B	50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	700		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5400	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.62		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.22		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.021	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.34	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0039	J B	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.32		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	16		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.5		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.63		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-088 A-C — Lab Sample ID: 180-44601-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	85		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	3.1		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.32	J	0.95	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.0085	J	0.095	0.0071	mg/Kg	1		6020A	Total/NA
Cadmium	0.043	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	530		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.55	B	0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.30		0.048	0.0014	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-088 A-C (Continued) — Lab Sample ID: 180-44601-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	3.3		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	260	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.026	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	2400	B	48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	730		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5600	B	48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.78		0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.22		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Antimony	0.019	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.33	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0030	J B	0.095	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.32		0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	17		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.8		0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.59		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: SRM 1 — Lab Sample ID: 180-44601-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	41	B	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	6.7		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	6.0		0.97	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.011	J	0.097	0.0073	mg/Kg	1		6020A	Total/NA
Cadmium	2.2		0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	680		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.29	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.35		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	67	B	0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	160	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.56		0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	5600		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	1200	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	3800	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.89	B	0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.28		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.066	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	2.0		0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0049	J	0.097	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.40		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	1400		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	17	B	0.49	0.010	mg/Kg	1		6020A	Total/NA

Client Sample ID: SRM 2 — Lab Sample ID: 180-44601-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	40		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	7.2		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	6.4		0.97	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.010	J	0.097	0.0073	mg/Kg	1		6020A	Total/NA
Cadmium	2.4		0.097	0.0068	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SRM 2 (Continued)
Lab Sample ID: 180-44601-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	760		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.36	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.36		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	70		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	180	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.62		0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	5800	B	49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	1300		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	3800	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.93		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.36		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0084	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	2.1		0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0035	J B	0.097	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.37		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	1500		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	19		0.49	0.010	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-082 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-6
Matrix: Tissue
Percent Solids: 12.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1300	120	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Acenaphthylene	ND		1300	140	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Anthracene	ND		1300	120	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Benzo[a]anthracene	ND		1300	160	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Benzo[b]fluoranthene	ND		1300	200	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Benzo[k]fluoranthene	ND		1300	250	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Benzo[g,h,i]perylene	ND		1300	120	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Benzo[a]pyrene	ND		1300	130	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Bis(2-ethylhexyl) phthalate	ND		13000	1000	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Chrysene	ND		1300	150	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Dibenz(a,h)anthracene	ND		1300	140	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Fluoranthene	ND		1300	130	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Fluorene	ND		1300	170	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Indeno[1,2,3-cd]pyrene	ND		1300	130	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Naphthalene	ND		1300	110	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Phenanthrene	ND		1300	200	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Phenol	ND		1300	150	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4
Pyrene	ND		1300	130	ug/Kg	☼	06/24/15 03:00	07/01/15 13:52	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*54*		*34 - 103*	*06/24/15 03:00*	*07/01/15 13:52*	*4*
2,4,6-Tribromophenol (Surr)	*86*		*20 - 113*	*06/24/15 03:00*	*07/01/15 13:52*	*4*
Phenol-d5 (Surr)	*59*		*35 - 103*	*06/24/15 03:00*	*07/01/15 13:52*	*4*
2-Fluorobiphenyl	*65*		*38 - 103*	*06/24/15 03:00*	*07/01/15 13:52*	*4*
Nitrobenzene-d5 (Surr)	*61*		*41 - 108*	*06/24/15 03:00*	*07/01/15 13:52*	*4*
Terphenyl-d14 (Surr)	*75*		*28 - 109*	*06/24/15 03:00*	*07/01/15 13:52*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-082 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-7
Matrix: Tissue
Percent Solids: 11.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1300	130	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Acenaphthylene	ND	F2	1300	150	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Anthracene	ND	F2	1300	130	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Benzo[a]anthracene	ND		1300	170	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Benzo[b]fluoranthene	ND	F2	1300	210	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Benzo[k]fluoranthene	ND		1300	270	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Benzo[g,h,i]perylene	ND	F2 F1	1300	130	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Benzo[a]pyrene	ND		1300	130	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Bis(2-ethylhexyl) phthalate	ND	F2 F1	13000	1100	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Chrysene	ND		1300	160	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Dibenz(a,h)anthracene	ND	F1	1300	150	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Fluoranthene	ND		1300	140	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Fluorene	ND	F2	1300	180	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Indeno[1,2,3-cd]pyrene	ND	F1	1300	140	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Naphthalene	ND	F2	1300	120	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Phenanthrene	ND		1300	210	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Phenol	ND	F2	1300	160	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4
Pyrene	ND	F2	1300	140	ug/Kg	☼	06/24/15 03:00	07/01/15 14:20	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*61*		*34 - 103*	*06/24/15 03:00*	*07/01/15 14:20*	*4*
2,4,6-Tribromophenol (Surr)	*97*		*20 - 113*	*06/24/15 03:00*	*07/01/15 14:20*	*4*
Phenol-d5 (Surr)	*65*		*35 - 103*	*06/24/15 03:00*	*07/01/15 14:20*	*4*
2-Fluorobiphenyl	*70*		*38 - 103*	*06/24/15 03:00*	*07/01/15 14:20*	*4*
Nitrobenzene-d5 (Surr)	*66*		*41 - 108*	*06/24/15 03:00*	*07/01/15 14:20*	*4*
Terphenyl-d14 (Surr)	*78*		*28 - 109*	*06/24/15 03:00*	*07/01/15 14:20*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-082 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-8
Matrix: Tissue
Percent Solids: 13.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Acenaphthylene	ND		1200	140	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Anthracene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Benzo[b]fluoranthene	ND		1200	190	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Benzo[k]fluoranthene	ND		1200	250	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Bis(2-ethylhexyl) phthalate	ND		12000	990	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Chrysene	ND		1200	150	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Dibenz(a,h)anthracene	ND		1200	140	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Fluoranthene	ND		1200	130	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Fluorene	ND		1200	160	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Indeno[1,2,3-cd]pyrene	ND		1200	130	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Naphthalene	ND		1200	110	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Phenol	**490**	**J**	1200	140	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4
Pyrene	ND		1200	120	ug/Kg	☼	06/24/15 03:00	07/01/15 14:48	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*58*		*34 - 103*	*06/24/15 03:00*	*07/01/15 14:48*	*4*
2,4,6-Tribromophenol (Surr)	*83*		*20 - 113*	*06/24/15 03:00*	*07/01/15 14:48*	*4*
Phenol-d5 (Surr)	*59*		*35 - 103*	*06/24/15 03:00*	*07/01/15 14:48*	*4*
2-Fluorobiphenyl	*63*		*38 - 103*	*06/24/15 03:00*	*07/01/15 14:48*	*4*
Nitrobenzene-d5 (Surr)	*62*		*41 - 108*	*06/24/15 03:00*	*07/01/15 14:48*	*4*
Terphenyl-d14 (Surr)	*72*		*28 - 109*	*06/24/15 03:00*	*07/01/15 14:48*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-082 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-9
Matrix: Tissue
Percent Solids: 11.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1400	130	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Acenaphthylene	ND		1400	160	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Anthracene	ND		1400	130	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Benzo[a]anthracene	ND		1400	170	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Benzo[b]fluoranthene	ND		1400	220	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Benzo[k]fluoranthene	ND		1400	280	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Benzo[g,h,i]perylene	ND		1400	140	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Benzo[a]pyrene	ND		1400	140	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Bis(2-ethylhexyl) phthalate	ND		14000	1100	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Chrysene	ND		1400	160	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Dibenz(a,h)anthracene	ND		1400	150	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Fluoranthene	ND		1400	150	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Fluorene	ND		1400	180	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Indeno[1,2,3-cd]pyrene	ND		1400	140	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Naphthalene	ND		1400	120	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Phenanthrene	ND		1400	220	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Phenol	ND		1400	160	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4
Pyrene	ND		1400	140	ug/Kg	☼	06/24/15 03:00	07/01/15 15:15	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*55*		*34 - 103*	*06/24/15 03:00*	*07/01/15 15:15*	*4*
2,4,6-Tribromophenol (Surr)	*82*		*20 - 113*	*06/24/15 03:00*	*07/01/15 15:15*	*4*
Phenol-d5 (Surr)	*59*		*35 - 103*	*06/24/15 03:00*	*07/01/15 15:15*	*4*
2-Fluorobiphenyl	*64*		*38 - 103*	*06/24/15 03:00*	*07/01/15 15:15*	*4*
Nitrobenzene-d5 (Surr)	*56*		*41 - 108*	*06/24/15 03:00*	*07/01/15 15:15*	*4*
Terphenyl-d14 (Surr)	*73*		*28 - 109*	*06/24/15 03:00*	*07/01/15 15:15*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-082 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-10
Matrix: Tissue
Percent Solids: 14.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Anthracene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Bis(2-ethylhexyl) phthalate	ND		11000	880	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Chrysene	ND		1100	130	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Fluorene	ND		1100	140	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Naphthalene	ND		1100	93	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Phenol	ND		1100	130	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4
Pyrene	ND		1100	110	ug/Kg	☼	06/24/15 03:00	07/01/15 15:43	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*59*		*34 - 103*	*06/24/15 03:00*	*07/01/15 15:43*	*4*
2,4,6-Tribromophenol (Surr)	*85*		*20 - 113*	*06/24/15 03:00*	*07/01/15 15:43*	*4*
Phenol-d5 (Surr)	*62*		*35 - 103*	*06/24/15 03:00*	*07/01/15 15:43*	*4*
2-Fluorobiphenyl	*66*		*38 - 103*	*06/24/15 03:00*	*07/01/15 15:43*	*4*
Nitrobenzene-d5 (Surr)	*60*		*41 - 108*	*06/24/15 03:00*	*07/01/15 15:43*	*4*
Terphenyl-d14 (Surr)	*71*		*28 - 109*	*06/24/15 03:00*	*07/01/15 15:43*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-083 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-11
Matrix: Tissue
Percent Solids: 16.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	96	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Acenaphthylene	ND		1000	110	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Anthracene	ND		1000	98	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Bis(2-ethylhexyl) phthalate	ND		10000	810	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Chrysene	ND		1000	120	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Fluorene	ND		1000	130	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Naphthalene	ND		1000	86	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Phenol	**290**	**J**	1000	120	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4
Pyrene	ND		1000	100	ug/Kg	☼	06/24/15 03:00	07/02/15 05:29	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*46*		*34 - 103*	*06/24/15 03:00*	*07/02/15 05:29*	*4*
2,4,6-Tribromophenol (Surr)	*69*		*20 - 113*	*06/24/15 03:00*	*07/02/15 05:29*	*4*
Phenol-d5 (Surr)	*47*		*35 - 103*	*06/24/15 03:00*	*07/02/15 05:29*	*4*
2-Fluorobiphenyl	*50*		*38 - 103*	*06/24/15 03:00*	*07/02/15 05:29*	*4*
Nitrobenzene-d5 (Surr)	*46*		*41 - 108*	*06/24/15 03:00*	*07/02/15 05:29*	*4*
Terphenyl-d14 (Surr)	*58*		*28 - 109*	*06/24/15 03:00*	*07/02/15 05:29*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-083 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-12
Matrix: Tissue
Percent Solids: 15.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	98	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Anthracene	ND		1000	100	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Benzo[k]fluoranthene	ND		1000	210	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Bis(2-ethylhexyl) phthalate	ND		10000	830	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Chrysene	ND		1000	120	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Fluorene	ND		1000	130	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Indeno[1,2,3-cd]pyrene	ND		1000	110	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Naphthalene	ND		1000	88	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Phenol	**310**	**J**	1000	120	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4
Pyrene	ND		1000	100	ug/Kg	☼	06/24/15 03:00	07/02/15 05:57	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*60*		*34 - 103*	*06/24/15 03:00*	*07/02/15 05:57*	*4*
2,4,6-Tribromophenol (Surr)	*92*		*20 - 113*	*06/24/15 03:00*	*07/02/15 05:57*	*4*
Phenol-d5 (Surr)	*63*		*35 - 103*	*06/24/15 03:00*	*07/02/15 05:57*	*4*
2-Fluorobiphenyl	*65*		*38 - 103*	*06/24/15 03:00*	*07/02/15 05:57*	*4*
Nitrobenzene-d5 (Surr)	*61*		*41 - 108*	*06/24/15 03:00*	*07/02/15 05:57*	*4*
Terphenyl-d14 (Surr)	*75*		*28 - 109*	*06/24/15 03:00*	*07/02/15 05:57*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-083 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-13
Matrix: Tissue
Percent Solids: 12.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1300	120	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Acenaphthylene	ND		1300	140	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Anthracene	ND		1300	120	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Benzo[a]anthracene	ND		1300	160	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Benzo[b]fluoranthene	ND		1300	200	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Benzo[k]fluoranthene	ND		1300	250	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Benzo[g,h,i]perylene	ND		1300	120	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Benzo[a]pyrene	ND		1300	120	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Bis(2-ethylhexyl) phthalate	**1900**	**J**	12000	1000	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Chrysene	ND		1300	150	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Dibenz(a,h)anthracene	ND		1300	140	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Fluoranthene	ND		1300	130	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Fluorene	ND		1300	160	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Indeno[1,2,3-cd]pyrene	ND		1300	130	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Naphthalene	ND		1300	110	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Phenanthrene	ND		1300	200	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Phenol	**410**	**J**	1300	150	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4
Pyrene	ND		1300	130	ug/Kg	☼	06/24/15 03:00	07/02/15 06:25	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*58*		*34 - 103*	*06/24/15 03:00*	*07/02/15 06:25*	*4*
2,4,6-Tribromophenol (Surr)	*72*		*20 - 113*	*06/24/15 03:00*	*07/02/15 06:25*	*4*
Phenol-d5 (Surr)	*56*		*35 - 103*	*06/24/15 03:00*	*07/02/15 06:25*	*4*
2-Fluorobiphenyl	*53*		*38 - 103*	*06/24/15 03:00*	*07/02/15 06:25*	*4*
Nitrobenzene-d5 (Surr)	*56*		*41 - 108*	*06/24/15 03:00*	*07/02/15 06:25*	*4*
Terphenyl-d14 (Surr)	*62*		*28 - 109*	*06/24/15 03:00*	*07/02/15 06:25*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-083 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-14
Matrix: Tissue
Percent Solids: 12.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1300	120	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Acenaphthylene	ND		1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Anthracene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Benzo[a]anthracene	ND		1300	160	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Benzo[b]fluoranthene	ND		1300	200	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Benzo[k]fluoranthene	ND		1300	260	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Benzo[g,h,i]perylene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Benzo[a]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Bis(2-ethylhexyl) phthalate	ND		13000	1000	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Chrysene	ND		1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Dibenz(a,h)anthracene	ND		1300	140	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Fluoranthene	ND		1300	140	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Fluorene	ND		1300	170	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Indeno[1,2,3-cd]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Naphthalene	ND		1300	110	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Phenanthrene	ND		1300	210	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Phenol	**940**	**J**	1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4
Pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 02:41	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*78*		*34 - 103*	*06/26/15 03:20*	*07/07/15 02:41*	*4*
2,4,6-Tribromophenol (Surr)	*108*		*20 - 113*	*06/26/15 03:20*	*07/07/15 02:41*	*4*
Phenol-d5 (Surr)	*75*		*35 - 103*	*06/26/15 03:20*	*07/07/15 02:41*	*4*
2-Fluorobiphenyl	*79*		*38 - 103*	*06/26/15 03:20*	*07/07/15 02:41*	*4*
Nitrobenzene-d5 (Surr)	*76*		*41 - 108*	*06/26/15 03:20*	*07/07/15 02:41*	*4*
Terphenyl-d14 (Surr)	*93*		*28 - 109*	*06/26/15 03:20*	*07/07/15 02:41*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-083 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-15
Matrix: Tissue
Percent Solids: 12.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1300	120	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Acenaphthylene	ND		1300	140	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Anthracene	ND		1300	120	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Benzo[a]anthracene	ND		1300	160	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Benzo[b]fluoranthene	ND		1300	200	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Benzo[k]fluoranthene	ND		1300	250	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Benzo[g,h,i]perylene	ND		1300	120	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Benzo[a]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Bis(2-ethylhexyl) phthalate	ND		12000	1000	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Chrysene	ND		1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Dibenz(a,h)anthracene	ND		1300	140	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Fluoranthene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Fluorene	ND		1300	160	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Indeno[1,2,3-cd]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Naphthalene	ND		1300	110	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Phenanthrene	ND		1300	200	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Phenol	**540**	**J**	1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4
Pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 03:09	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*68*		*34 - 103*	*06/26/15 03:20*	*07/07/15 03:09*	*4*
2,4,6-Tribromophenol (Surr)	*101*		*20 - 113*	*06/26/15 03:20*	*07/07/15 03:09*	*4*
Phenol-d5 (Surr)	*67*		*35 - 103*	*06/26/15 03:20*	*07/07/15 03:09*	*4*
2-Fluorobiphenyl	*70*		*38 - 103*	*06/26/15 03:20*	*07/07/15 03:09*	*4*
Nitrobenzene-d5 (Surr)	*69*		*41 - 108*	*06/26/15 03:20*	*07/07/15 03:09*	*4*
Terphenyl-d14 (Surr)	*81*		*28 - 109*	*06/26/15 03:20*	*07/07/15 03:09*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-084 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-16
Matrix: Tissue
Percent Solids: 12.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Acenaphthylene	ND		1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Anthracene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Benzo[a]anthracene	ND		1300	160	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Benzo[b]fluoranthene	ND		1300	210	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Benzo[k]fluoranthene	ND		1300	260	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Benzo[g,h,i]perylene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Benzo[a]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Bis(2-ethylhexyl) phthalate	ND		13000	1100	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Chrysene	ND		1300	160	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Dibenz(a,h)anthracene	ND		1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Fluoranthene	ND		1300	140	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Fluorene	ND		1300	170	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Indeno[1,2,3-cd]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Naphthalene	ND		1300	110	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Phenanthrene	ND		1300	210	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Phenol	**580**	**J**	1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4
Pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 03:36	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*63*		*34 - 103*	*06/26/15 03:20*	*07/07/15 03:36*	*4*
2,4,6-Tribromophenol (Surr)	*112*		*20 - 113*	*06/26/15 03:20*	*07/07/15 03:36*	*4*
Phenol-d5 (Surr)	*70*		*35 - 103*	*06/26/15 03:20*	*07/07/15 03:36*	*4*
2-Fluorobiphenyl	*72*		*38 - 103*	*06/26/15 03:20*	*07/07/15 03:36*	*4*
Nitrobenzene-d5 (Surr)	*72*		*41 - 108*	*06/26/15 03:20*	*07/07/15 03:36*	*4*
Terphenyl-d14 (Surr)	*87*		*28 - 109*	*06/26/15 03:20*	*07/07/15 03:36*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-084 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-17
Matrix: Tissue
Percent Solids: 13.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Acenaphthylene	ND		1100	130	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Anthracene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Benzo[b]fluoranthene	ND		1100	180	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Benzo[k]fluoranthene	ND		1100	230	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Bis(2-ethylhexyl) phthalate	ND		11000	910	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Chrysene	ND		1100	130	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Dibenz(a,h)anthracene	ND		1100	130	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Fluorene	ND		1100	150	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Indeno[1,2,3-cd]pyrene	ND		1100	120	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Naphthalene	ND		1100	97	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Phenanthrene	ND		1100	180	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Phenol	**490**	**J**	1100	130	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4
Pyrene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 04:04	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*52*		*34 - 103*	*06/26/15 03:20*	*07/07/15 04:04*	*4*
2,4,6-Tribromophenol (Surr)	*86*		*20 - 113*	*06/26/15 03:20*	*07/07/15 04:04*	*4*
Phenol-d5 (Surr)	*53*		*35 - 103*	*06/26/15 03:20*	*07/07/15 04:04*	*4*
2-Fluorobiphenyl	*59*		*38 - 103*	*06/26/15 03:20*	*07/07/15 04:04*	*4*
Nitrobenzene-d5 (Surr)	*56*		*41 - 108*	*06/26/15 03:20*	*07/07/15 04:04*	*4*
Terphenyl-d14 (Surr)	*75*		*28 - 109*	*06/26/15 03:20*	*07/07/15 04:04*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-084 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-18
Matrix: Tissue
Percent Solids: 13.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	110	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Acenaphthylene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Anthracene	ND		1200	110	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Benzo[a]anthracene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Benzo[b]fluoranthene	ND		1200	180	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Benzo[k]fluoranthene	ND		1200	230	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Benzo[g,h,i]perylene	ND		1200	110	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Benzo[a]pyrene	ND		1200	110	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Bis(2-ethylhexyl) phthalate	ND		11000	930	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Chrysene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Dibenz(a,h)anthracene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Fluoranthene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Fluorene	ND		1200	150	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Indeno[1,2,3-cd]pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Naphthalene	ND		1200	99	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Phenanthrene	ND		1200	180	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Phenol	**630**	**J**	1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4
Pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 04:32	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*64*		*34 - 103*	*06/26/15 03:20*	*07/07/15 04:32*	*4*
2,4,6-Tribromophenol (Surr)	*90*		*20 - 113*	*06/26/15 03:20*	*07/07/15 04:32*	*4*
Phenol-d5 (Surr)	*67*		*35 - 103*	*06/26/15 03:20*	*07/07/15 04:32*	*4*
2-Fluorobiphenyl	*70*		*38 - 103*	*06/26/15 03:20*	*07/07/15 04:32*	*4*
Nitrobenzene-d5 (Surr)	*74*		*41 - 108*	*06/26/15 03:20*	*07/07/15 04:32*	*4*
Terphenyl-d14 (Surr)	*87*		*28 - 109*	*06/26/15 03:20*	*07/07/15 04:32*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-084 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-19
Matrix: Tissue
Percent Solids: 13.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Acenaphthylene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Anthracene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Benzo[b]fluoranthene	ND		1200	190	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Benzo[k]fluoranthene	ND		1200	250	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Bis(2-ethylhexyl) phthalate	ND		12000	980	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Chrysene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Dibenz(a,h)anthracene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Fluoranthene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Fluorene	ND		1200	160	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Indeno[1,2,3-cd]pyrene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Naphthalene	ND		1200	100	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Phenol	**430**	**J**	1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4
Pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 05:00	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*55*		*34 - 103*	*06/26/15 03:20*	*07/07/15 05:00*	*4*
2,4,6-Tribromophenol (Surr)	*88*		*20 - 113*	*06/26/15 03:20*	*07/07/15 05:00*	*4*
Phenol-d5 (Surr)	*58*		*35 - 103*	*06/26/15 03:20*	*07/07/15 05:00*	*4*
2-Fluorobiphenyl	*65*		*38 - 103*	*06/26/15 03:20*	*07/07/15 05:00*	*4*
Nitrobenzene-d5 (Surr)	*57*		*41 - 108*	*06/26/15 03:20*	*07/07/15 05:00*	*4*
Terphenyl-d14 (Surr)	*73*		*28 - 109*	*06/26/15 03:20*	*07/07/15 05:00*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-084 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-20
Matrix: Tissue
Percent Solids: 16.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		960	92	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Acenaphthylene	ND		960	110	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Anthracene	ND		960	93	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Benzo[a]anthracene	ND		960	120	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Benzo[b]fluoranthene	ND		960	150	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Benzo[k]fluoranthene	ND		960	190	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Benzo[g,h,i]perylene	ND		960	95	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Benzo[a]pyrene	ND		960	95	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Bis(2-ethylhexyl) phthalate	ND		9500	770	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Chrysene	ND		960	110	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Dibenz(a,h)anthracene	ND		960	110	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Fluoranthene	ND		960	100	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Fluorene	ND		960	130	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Indeno[1,2,3-cd]pyrene	ND		960	98	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Naphthalene	ND		960	82	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Phenanthrene	ND		960	150	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Phenol	**430**	**J**	960	110	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4
Pyrene	ND		960	96	ug/Kg	☼	06/26/15 03:20	07/07/15 05:28	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*70*		*34 - 103*	*06/26/15 03:20*	*07/07/15 05:28*	*4*
2,4,6-Tribromophenol (Surr)	*85*		*20 - 113*	*06/26/15 03:20*	*07/07/15 05:28*	*4*
Phenol-d5 (Surr)	*66*		*35 - 103*	*06/26/15 03:20*	*07/07/15 05:28*	*4*
2-Fluorobiphenyl	*66*		*38 - 103*	*06/26/15 03:20*	*07/07/15 05:28*	*4*
Nitrobenzene-d5 (Surr)	*70*		*41 - 108*	*06/26/15 03:20*	*07/07/15 05:28*	*4*
Terphenyl-d14 (Surr)	*66*		*28 - 109*	*06/26/15 03:20*	*07/07/15 05:28*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-085 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-21
Matrix: Tissue
Percent Solids: 12.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1300	120	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Acenaphthylene	ND		1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Anthracene	ND		1300	120	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Benzo[a]anthracene	ND		1300	160	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Benzo[b]fluoranthene	ND		1300	200	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Benzo[k]fluoranthene	ND		1300	260	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Benzo[g,h,i]perylene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Benzo[a]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Bis(2-ethylhexyl) phthalate	ND		13000	1000	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Chrysene	ND		1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Dibenz(a,h)anthracene	ND		1300	140	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Fluoranthene	ND		1300	140	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Fluorene	ND		1300	170	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Indeno[1,2,3-cd]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Naphthalene	ND		1300	110	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Phenanthrene	ND		1300	200	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Phenol	**740**	**J**	1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4
Pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 05:55	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*78*		*34 - 103*	*06/26/15 03:20*	*07/07/15 05:55*	*4*
2,4,6-Tribromophenol (Surr)	*82*		*20 - 113*	*06/26/15 03:20*	*07/07/15 05:55*	*4*
Phenol-d5 (Surr)	*73*		*35 - 103*	*06/26/15 03:20*	*07/07/15 05:55*	*4*
2-Fluorobiphenyl	*67*		*38 - 103*	*06/26/15 03:20*	*07/07/15 05:55*	*4*
Nitrobenzene-d5 (Surr)	*72*		*41 - 108*	*06/26/15 03:20*	*07/07/15 05:55*	*4*
Terphenyl-d14 (Surr)	*69*		*28 - 109*	*06/26/15 03:20*	*07/07/15 05:55*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-085 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-22
Matrix: Tissue
Percent Solids: 15.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Anthracene	ND		1100	100	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Benzo[a]anthracene	ND		1100	130	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Bis(2-ethylhexyl) phthalate	ND		11000	860	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Chrysene	ND		1100	130	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Fluoranthene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Fluorene	ND		1100	140	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Naphthalene	ND		1100	92	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Phenol	**560**	**J**	1100	130	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4
Pyrene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 06:23	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*70*		*34 - 103*	*06/26/15 03:20*	*07/07/15 06:23*	*4*
2,4,6-Tribromophenol (Surr)	*87*		*20 - 113*	*06/26/15 03:20*	*07/07/15 06:23*	*4*
Phenol-d5 (Surr)	*65*		*35 - 103*	*06/26/15 03:20*	*07/07/15 06:23*	*4*
2-Fluorobiphenyl	*65*		*38 - 103*	*06/26/15 03:20*	*07/07/15 06:23*	*4*
Nitrobenzene-d5 (Surr)	*67*		*41 - 108*	*06/26/15 03:20*	*07/07/15 06:23*	*4*
Terphenyl-d14 (Surr)	*73*		*28 - 109*	*06/26/15 03:20*	*07/07/15 06:23*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-085 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-23
Matrix: Tissue
Percent Solids: 12.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1300	120	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Acenaphthylene	ND		1300	140	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Anthracene	ND		1300	120	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Benzo[a]anthracene	ND		1300	160	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Benzo[b]fluoranthene	ND		1300	200	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Benzo[k]fluoranthene	ND		1300	250	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Benzo[g,h,i]perylene	ND		1300	120	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Benzo[a]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Bis(2-ethylhexyl) phthalate	ND		13000	1000	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Chrysene	ND		1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Dibenz(a,h)anthracene	ND		1300	140	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Fluoranthene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Fluorene	ND		1300	170	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Indeno[1,2,3-cd]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Naphthalene	ND		1300	110	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Phenanthrene	ND		1300	200	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Phenol	**480**	**J**	1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4
Pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 06:51	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*40*		*34 - 103*	*06/26/15 03:20*	*07/07/15 06:51*	*4*
2,4,6-Tribromophenol (Surr)	*67*		*20 - 113*	*06/26/15 03:20*	*07/07/15 06:51*	*4*
Phenol-d5 (Surr)	*42*		*35 - 103*	*06/26/15 03:20*	*07/07/15 06:51*	*4*
2-Fluorobiphenyl	*47*		*38 - 103*	*06/26/15 03:20*	*07/07/15 06:51*	*4*
Nitrobenzene-d5 (Surr)	*42*		*41 - 108*	*06/26/15 03:20*	*07/07/15 06:51*	*4*
Terphenyl-d14 (Surr)	*60*		*28 - 109*	*06/26/15 03:20*	*07/07/15 06:51*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-085 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-24
Matrix: Tissue
Percent Solids: 14.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Acenaphthylene	ND		1100	130	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Anthracene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Bis(2-ethylhexyl) phthalate	ND		11000	880	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Chrysene	ND		1100	130	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Fluorene	ND		1100	140	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Naphthalene	ND		1100	94	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Phenol	**510**	**J**	1100	130	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4
Pyrene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 07:19	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*62*		*34 - 103*	*06/26/15 03:20*	*07/07/15 07:19*	*4*
2,4,6-Tribromophenol (Surr)	*73*		*20 - 113*	*06/26/15 03:20*	*07/07/15 07:19*	*4*
Phenol-d5 (Surr)	*58*		*35 - 103*	*06/26/15 03:20*	*07/07/15 07:19*	*4*
2-Fluorobiphenyl	*57*		*38 - 103*	*06/26/15 03:20*	*07/07/15 07:19*	*4*
Nitrobenzene-d5 (Surr)	*57*		*41 - 108*	*06/26/15 03:20*	*07/07/15 07:19*	*4*
Terphenyl-d14 (Surr)	*65*		*28 - 109*	*06/26/15 03:20*	*07/07/15 07:19*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-085 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-25
Matrix: Tissue
Percent Solids: 12.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1300	120	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Acenaphthylene	ND		1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Anthracene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Benzo[a]anthracene	ND		1300	160	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Benzo[b]fluoranthene	ND		1300	200	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Benzo[k]fluoranthene	ND		1300	260	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Benzo[g,h,i]perylene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Benzo[a]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Bis(2-ethylhexyl) phthalate	ND		13000	1000	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Chrysene	ND		1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Dibenz(a,h)anthracene	ND		1300	140	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Fluoranthene	ND		1300	140	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Fluorene	ND		1300	170	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Indeno[1,2,3-cd]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Naphthalene	**1400**		1300	110	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Phenanthrene	ND		1300	210	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Phenol	**840**	**J**	1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4
Pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 07:47	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*68*		*34 - 103*	*06/26/15 03:20*	*07/07/15 07:47*	*4*
2,4,6-Tribromophenol (Surr)	*86*		*20 - 113*	*06/26/15 03:20*	*07/07/15 07:47*	*4*
Phenol-d5 (Surr)	*68*		*35 - 103*	*06/26/15 03:20*	*07/07/15 07:47*	*4*
2-Fluorobiphenyl	*68*		*38 - 103*	*06/26/15 03:20*	*07/07/15 07:47*	*4*
Nitrobenzene-d5 (Surr)	*67*		*41 - 108*	*06/26/15 03:20*	*07/07/15 07:47*	*4*
Terphenyl-d14 (Surr)	*77*		*28 - 109*	*06/26/15 03:20*	*07/07/15 07:47*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-086 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-26
Matrix: Tissue
Percent Solids: 13.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	110	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Acenaphthylene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Anthracene	ND		1200	110	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Benzo[b]fluoranthene	ND		1200	180	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Benzo[k]fluoranthene	ND		1200	240	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Bis(2-ethylhexyl) phthalate	**1400**	**J**	12000	950	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Chrysene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Dibenz(a,h)anthracene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Fluoranthene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Fluorene	ND		1200	150	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Indeno[1,2,3-cd]pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Naphthalene	ND		1200	100	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Phenol	**400**	**J**	1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4
Pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 08:14	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*58*		*34 - 103*	*06/26/15 03:20*	*07/07/15 08:14*	*4*
2,4,6-Tribromophenol (Surr)	*78*		*20 - 113*	*06/26/15 03:20*	*07/07/15 08:14*	*4*
Phenol-d5 (Surr)	*62*		*35 - 103*	*06/26/15 03:20*	*07/07/15 08:14*	*4*
2-Fluorobiphenyl	*61*		*38 - 103*	*06/26/15 03:20*	*07/07/15 08:14*	*4*
Nitrobenzene-d5 (Surr)	*60*		*41 - 108*	*06/26/15 03:20*	*07/07/15 08:14*	*4*
Terphenyl-d14 (Surr)	*67*		*28 - 109*	*06/26/15 03:20*	*07/07/15 08:14*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-086 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-27
Matrix: Tissue
Percent Solids: 12.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1300	120	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Acenaphthylene	ND		1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Anthracene	ND		1300	120	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Benzo[a]anthracene	ND		1300	160	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Benzo[b]fluoranthene	ND		1300	200	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Benzo[k]fluoranthene	ND		1300	260	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Benzo[g,h,i]perylene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Benzo[a]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Bis(2-ethylhexyl) phthalate	ND		13000	1000	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Chrysene	ND		1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Dibenz(a,h)anthracene	ND		1300	140	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Fluoranthene	ND		1300	140	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Fluorene	ND		1300	170	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Indeno[1,2,3-cd]pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Naphthalene	ND		1300	110	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Phenanthrene	ND		1300	200	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Phenol	**660**	**J**	1300	150	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4
Pyrene	ND		1300	130	ug/Kg	☼	06/26/15 03:20	07/07/15 08:42	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*76*		*34 - 103*	*06/26/15 03:20*	*07/07/15 08:42*	*4*
2,4,6-Tribromophenol (Surr)	*103*		*20 - 113*	*06/26/15 03:20*	*07/07/15 08:42*	*4*
Phenol-d5 (Surr)	*80*		*35 - 103*	*06/26/15 03:20*	*07/07/15 08:42*	*4*
2-Fluorobiphenyl	*74*		*38 - 103*	*06/26/15 03:20*	*07/07/15 08:42*	*4*
Nitrobenzene-d5 (Surr)	*82*		*41 - 108*	*06/26/15 03:20*	*07/07/15 08:42*	*4*
Terphenyl-d14 (Surr)	*80*		*28 - 109*	*06/26/15 03:20*	*07/07/15 08:42*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-086 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-28
Matrix: Tissue
Percent Solids: 13.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	110	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Acenaphthylene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Anthracene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Benzo[b]fluoranthene	ND		1200	180	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Benzo[k]fluoranthene	ND		1200	240	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Bis(2-ethylhexyl) phthalate	ND		12000	950	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Chrysene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Dibenz(a,h)anthracene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Fluoranthene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Fluorene	ND		1200	160	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Indeno[1,2,3-cd]pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Naphthalene	ND		1200	100	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Phenol	**430**	**J**	1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4
Pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 09:10	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*50*		*34 - 103*	*06/26/15 03:20*	*07/07/15 09:10*	*4*
2,4,6-Tribromophenol (Surr)	*67*		*20 - 113*	*06/26/15 03:20*	*07/07/15 09:10*	*4*
Phenol-d5 (Surr)	*49*		*35 - 103*	*06/26/15 03:20*	*07/07/15 09:10*	*4*
2-Fluorobiphenyl	*54*		*38 - 103*	*06/26/15 03:20*	*07/07/15 09:10*	*4*
Nitrobenzene-d5 (Surr)	*51*		*41 - 108*	*06/26/15 03:20*	*07/07/15 09:10*	*4*
Terphenyl-d14 (Surr)	*58*		*28 - 109*	*06/26/15 03:20*	*07/07/15 09:10*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-086 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-29
Matrix: Tissue
Percent Solids: 13.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Acenaphthylene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Anthracene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Benzo[b]fluoranthene	ND		1200	190	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Benzo[k]fluoranthene	ND		1200	240	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Bis(2-ethylhexyl) phthalate	ND		12000	970	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Chrysene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Dibenz(a,h)anthracene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Fluoranthene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Fluorene	ND		1200	160	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Indeno[1,2,3-cd]pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Naphthalene	ND		1200	100	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Phenol	**510**	**J**	1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4
Pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 09:38	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*70*		*34 - 103*	*06/26/15 03:20*	*07/07/15 09:38*	*4*
2,4,6-Tribromophenol (Surr)	*79*		*20 - 113*	*06/26/15 03:20*	*07/07/15 09:38*	*4*
Phenol-d5 (Surr)	*68*		*35 - 103*	*06/26/15 03:20*	*07/07/15 09:38*	*4*
2-Fluorobiphenyl	*66*		*38 - 103*	*06/26/15 03:20*	*07/07/15 09:38*	*4*
Nitrobenzene-d5 (Surr)	*65*		*41 - 108*	*06/26/15 03:20*	*07/07/15 09:38*	*4*
Terphenyl-d14 (Surr)	*66*		*28 - 109*	*06/26/15 03:20*	*07/07/15 09:38*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-086 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-30
Matrix: Tissue
Percent Solids: 13.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Acenaphthylene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Anthracene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Benzo[b]fluoranthene	ND		1200	190	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Benzo[k]fluoranthene	ND		1200	250	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Bis(2-ethylhexyl) phthalate	ND		12000	980	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Chrysene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Dibenz(a,h)anthracene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Fluoranthene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Fluorene	ND		1200	160	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Indeno[1,2,3-cd]pyrene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Naphthalene	ND		1200	100	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Phenol	**560**	**J**	1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4
Pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 10:06	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*85*		*34 - 103*	*06/26/15 03:20*	*07/07/15 10:06*	*4*
2,4,6-Tribromophenol (Surr)	*87*		*20 - 113*	*06/26/15 03:20*	*07/07/15 10:06*	*4*
Phenol-d5 (Surr)	*81*		*35 - 103*	*06/26/15 03:20*	*07/07/15 10:06*	*4*
2-Fluorobiphenyl	*75*		*38 - 103*	*06/26/15 03:20*	*07/07/15 10:06*	*4*
Nitrobenzene-d5 (Surr)	*79*		*41 - 108*	*06/26/15 03:20*	*07/07/15 10:06*	*4*
Terphenyl-d14 (Surr)	*72*		*28 - 109*	*06/26/15 03:20*	*07/07/15 10:06*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-087 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-31
Matrix: Tissue
Percent Solids: 13.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	110	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Acenaphthylene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Anthracene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Benzo[b]fluoranthene	ND		1200	190	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Benzo[k]fluoranthene	ND		1200	240	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Bis(2-ethylhexyl) phthalate	ND		12000	950	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Chrysene	ND		1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Dibenz(a,h)anthracene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Fluoranthene	ND		1200	130	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Fluorene	ND		1200	160	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Indeno[1,2,3-cd]pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Naphthalene	ND		1200	100	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Phenol	**440**	**J**	1200	140	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4
Pyrene	ND		1200	120	ug/Kg	☼	06/26/15 03:20	07/07/15 10:34	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*85*		*34 - 103*	*06/26/15 03:20*	*07/07/15 10:34*	*4*
2,4,6-Tribromophenol (Surr)	*93*		*20 - 113*	*06/26/15 03:20*	*07/07/15 10:34*	*4*
Phenol-d5 (Surr)	*79*		*35 - 103*	*06/26/15 03:20*	*07/07/15 10:34*	*4*
2-Fluorobiphenyl	*83*		*38 - 103*	*06/26/15 03:20*	*07/07/15 10:34*	*4*
Nitrobenzene-d5 (Surr)	*79*		*41 - 108*	*06/26/15 03:20*	*07/07/15 10:34*	*4*
Terphenyl-d14 (Surr)	*85*		*28 - 109*	*06/26/15 03:20*	*07/07/15 10:34*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-087 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-32
Matrix: Tissue
Percent Solids: 14.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Acenaphthylene	ND		1100	130	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Anthracene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Benzo[b]fluoranthene	ND		1100	180	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Benzo[k]fluoranthene	ND		1100	230	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Bis(2-ethylhexyl) phthalate	ND		11000	900	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Chrysene	ND		1100	130	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Fluorene	ND		1100	150	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Naphthalene	ND		1100	96	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Phenanthrene	ND		1100	180	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Phenol	**480**	**J**	1100	130	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4
Pyrene	ND		1100	110	ug/Kg	☼	06/26/15 03:20	07/07/15 11:02	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*60*		*34 - 103*	*06/26/15 03:20*	*07/07/15 11:02*	*4*
2,4,6-Tribromophenol (Surr)	*82*		*20 - 113*	*06/26/15 03:20*	*07/07/15 11:02*	*4*
Phenol-d5 (Surr)	*57*		*35 - 103*	*06/26/15 03:20*	*07/07/15 11:02*	*4*
2-Fluorobiphenyl	*58*		*38 - 103*	*06/26/15 03:20*	*07/07/15 11:02*	*4*
Nitrobenzene-d5 (Surr)	*58*		*41 - 108*	*06/26/15 03:20*	*07/07/15 11:02*	*4*
Terphenyl-d14 (Surr)	*67*		*28 - 109*	*06/26/15 03:20*	*07/07/15 11:02*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-087 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-33
Matrix: Tissue
Percent Solids: 14.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Anthracene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Bis(2-ethylhexyl) phthalate	ND		11000	870	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Chrysene	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Fluorene	ND		1100	140	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Naphthalene	ND		1100	93	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Phenol	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4
Pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 21:22	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*49*		*34 - 103*	*06/25/15 03:30*	*06/29/15 21:22*	*4*
2,4,6-Tribromophenol (Surr)	*55*		*20 - 113*	*06/25/15 03:30*	*06/29/15 21:22*	*4*
Phenol-d5 (Surr)	*48*		*35 - 103*	*06/25/15 03:30*	*06/29/15 21:22*	*4*
2-Fluorobiphenyl	*53*		*38 - 103*	*06/25/15 03:30*	*06/29/15 21:22*	*4*
Nitrobenzene-d5 (Surr)	*49*		*41 - 108*	*06/25/15 03:30*	*06/29/15 21:22*	*4*
Terphenyl-d14 (Surr)	*51*		*28 - 109*	*06/25/15 03:30*	*06/29/15 21:22*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-087 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-34
Matrix: Tissue
Percent Solids: 15.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Anthracene	ND		1100	100	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Benzo[a]anthracene	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Benzo[k]fluoranthene	ND		1100	210	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Benzo[g,h,i]perylene	ND		1100	100	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Bis(2-ethylhexyl) phthalate	ND		11000	850	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Chrysene	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Fluoranthene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Fluorene	ND		1100	140	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Naphthalene	ND		1100	91	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Phenol	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4
Pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 21:49	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*65*		*34 - 103*	*06/25/15 03:30*	*06/29/15 21:49*	*4*
2,4,6-Tribromophenol (Surr)	*78*		*20 - 113*	*06/25/15 03:30*	*06/29/15 21:49*	*4*
Phenol-d5 (Surr)	*63*		*35 - 103*	*06/25/15 03:30*	*06/29/15 21:49*	*4*
2-Fluorobiphenyl	*72*		*38 - 103*	*06/25/15 03:30*	*06/29/15 21:49*	*4*
Nitrobenzene-d5 (Surr)	*68*		*41 - 108*	*06/25/15 03:30*	*06/29/15 21:49*	*4*
Terphenyl-d14 (Surr)	*66*		*28 - 109*	*06/25/15 03:30*	*06/29/15 21:49*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-087 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-35
Matrix: Tissue
Percent Solids: 16.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		960	92	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Acenaphthylene	ND		960	110	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Anthracene	ND		960	94	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Benzo[a]anthracene	ND		960	120	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Benzo[b]fluoranthene	ND		960	150	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Benzo[k]fluoranthene	ND		960	190	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Benzo[g,h,i]perylene	ND		960	95	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Benzo[a]pyrene	ND		960	96	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Bis(2-ethylhexyl) phthalate	ND		9600	770	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Chrysene	ND		960	110	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Dibenz(a,h)anthracene	ND		960	110	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Fluoranthene	ND		960	100	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Fluorene	ND		960	130	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Indeno[1,2,3-cd]pyrene	ND		960	99	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Naphthalene	ND		960	82	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Phenanthrene	ND		960	150	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Phenol	ND		960	110	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4
Pyrene	ND		960	97	ug/Kg	☼	06/25/15 03:30	06/29/15 22:17	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*53*		*34 - 103*	*06/25/15 03:30*	*06/29/15 22:17*	*4*
2,4,6-Tribromophenol (Surr)	*56*		*20 - 113*	*06/25/15 03:30*	*06/29/15 22:17*	*4*
Phenol-d5 (Surr)	*51*		*35 - 103*	*06/25/15 03:30*	*06/29/15 22:17*	*4*
2-Fluorobiphenyl	*58*		*38 - 103*	*06/25/15 03:30*	*06/29/15 22:17*	*4*
Nitrobenzene-d5 (Surr)	*56*		*41 - 108*	*06/25/15 03:30*	*06/29/15 22:17*	*4*
Terphenyl-d14 (Surr)	*53*		*28 - 109*	*06/25/15 03:30*	*06/29/15 22:17*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-088 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-36
Matrix: Tissue
Percent Solids: 15.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	97	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Anthracene	ND		1000	99	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Bis(2-ethylhexyl) phthalate	ND		10000	820	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Chrysene	ND		1000	120	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Fluorene	ND		1000	130	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Naphthalene	ND		1000	87	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Phenol	ND		1000	120	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4
Pyrene	ND		1000	100	ug/Kg	☼	06/25/15 03:30	06/29/15 22:44	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*56*		*34 - 103*	*06/25/15 03:30*	*06/29/15 22:44*	*4*
2,4,6-Tribromophenol (Surr)	*70*		*20 - 113*	*06/25/15 03:30*	*06/29/15 22:44*	*4*
Phenol-d5 (Surr)	*57*		*35 - 103*	*06/25/15 03:30*	*06/29/15 22:44*	*4*
2-Fluorobiphenyl	*61*		*38 - 103*	*06/25/15 03:30*	*06/29/15 22:44*	*4*
Nitrobenzene-d5 (Surr)	*60*		*41 - 108*	*06/25/15 03:30*	*06/29/15 22:44*	*4*
Terphenyl-d14 (Surr)	*60*		*28 - 109*	*06/25/15 03:30*	*06/29/15 22:44*	*4*

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-081 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**39**		3.0	0.28	mg/Kg		06/19/15 09:16	06/25/15 18:01	1
Arsenic	**2.6**		0.099	0.018	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Barium	**0.22**	**J**	0.99	0.011	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Cadmium	**0.048**	**J**	0.099	0.0069	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Calcium	**470**		50	1.3	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Chromium	**0.44**	**B**	0.20	0.0060	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Cobalt	**0.31**		0.050	0.0015	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Copper	**2.0**		0.20	0.033	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Iron	**170**	**B**	5.0	0.35	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Silver	**0.024**	**J**	0.099	0.0039	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Potassium	**1900**	**B**	50	1.3	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Magnesium	**760**	**B**	50	0.19	mg/Kg		06/19/15 09:16	06/25/15 18:01	1
Sodium	**6400**	**B**	50	1.4	mg/Kg		06/19/15 09:16	06/25/15 18:01	1
Nickel	**0.43**		0.099	0.011	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Lead	**0.16**		0.099	0.0038	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Antimony	ND		0.20	0.0026	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Selenium	**0.23**	**J**	0.50	0.050	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Thallium	ND		0.099	0.0020	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Vanadium	**0.26**	**B**	0.099	0.0078	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Zinc	**15**		0.50	0.064	mg/Kg		06/19/15 09:16	06/24/15 18:15	1
Manganese	**2.3**		0.50	0.010	mg/Kg		06/19/15 09:16	06/24/15 18:15	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-081 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**41**		3.0	0.28	mg/Kg		06/19/15 09:16	06/25/15 18:07	1
Arsenic	**3.6**		0.10	0.018	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Barium	**0.26**	**J**	1.0	0.011	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Cadmium	**0.051**	**J**	0.10	0.0070	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Calcium	**440**		50	1.3	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Chromium	**0.52**	**B**	0.20	0.0061	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Cobalt	**0.40**		0.050	0.0015	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Copper	**2.9**		0.20	0.033	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Iron	**210**	**B**	5.0	0.35	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Silver	**0.041**	**J**	0.10	0.0039	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Potassium	**2200**	**B**	50	1.4	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Magnesium	**710**	**B**	50	0.19	mg/Kg		06/19/15 09:16	06/25/15 18:07	1
Sodium	**5400**	**B**	50	1.4	mg/Kg		06/19/15 09:16	06/25/15 18:07	1
Nickel	**0.60**		0.10	0.011	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Lead	**0.20**		0.10	0.0038	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Antimony	**0.0083**	**J**	0.20	0.0026	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Selenium	**0.32**	**J**	0.50	0.050	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Thallium	ND		0.10	0.0020	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Vanadium	**0.33**	**B**	0.10	0.0079	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Zinc	**19**		0.50	0.065	mg/Kg		06/19/15 09:16	06/24/15 18:20	1
Manganese	**2.6**		0.50	0.010	mg/Kg		06/19/15 09:16	06/24/15 18:20	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-081 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	73		3.0	0.29	mg/Kg		06/19/15 09:16	06/25/15 18:12	1
Arsenic	3.5		0.10	0.018	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Barium	0.29	J	1.0	0.011	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Beryllium	ND		0.10	0.0076	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Cadmium	0.039	J	0.10	0.0071	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Calcium	490		51	1.3	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Chromium	0.69	B	0.20	0.0062	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Cobalt	0.39		0.051	0.0015	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Copper	3.4		0.20	0.033	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Iron	310	B	5.1	0.36	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Silver	0.021	J	0.10	0.0039	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Potassium	2200	B	51	1.4	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Magnesium	750	B	51	0.19	mg/Kg		06/19/15 09:16	06/25/15 18:12	1
Sodium	5700	B	51	1.4	mg/Kg		06/19/15 09:16	06/25/15 18:12	1
Nickel	0.65		0.10	0.011	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Lead	0.22		0.10	0.0038	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Antimony	0.0041	J	0.20	0.0026	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Selenium	0.37	J	0.51	0.051	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Thallium	ND		0.10	0.0020	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Vanadium	0.38	B	0.10	0.0080	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Zinc	17		0.51	0.065	mg/Kg		06/19/15 09:16	06/24/15 18:25	1
Manganese	3.9		0.51	0.010	mg/Kg		06/19/15 09:16	06/24/15 18:25	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-081 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**59**		2.9	0.28	mg/Kg		06/19/15 09:16	06/25/15 18:17	1
Arsenic	**4.1**		0.098	0.018	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Barium	**0.31**	**J**	0.98	0.010	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Cadmium	**0.042**	**J**	0.098	0.0069	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Calcium	**570**		49	1.3	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Chromium	**0.74**	**B**	0.20	0.0060	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Cobalt	**0.45**		0.049	0.0015	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Copper	**4.6**		0.20	0.032	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Iron	**280**	**B**	4.9	0.35	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Silver	**0.050**	**J**	0.098	0.0038	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Potassium	**2300**	**B**	49	1.3	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Magnesium	**780**	**B**	49	0.18	mg/Kg		06/19/15 09:16	06/25/15 18:17	1
Sodium	**5800**	**B**	49	1.3	mg/Kg		06/19/15 09:16	06/25/15 18:17	1
Nickel	**0.74**		0.098	0.011	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Lead	**0.29**		0.098	0.0037	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Antimony	**0.0063**	**J**	0.20	0.0025	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Selenium	**0.35**	**J**	0.49	0.049	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Thallium	ND		0.098	0.0020	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Vanadium	**0.32**	**B**	0.098	0.0077	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Zinc	**19**		0.49	0.064	mg/Kg		06/19/15 09:16	06/24/15 18:30	1
Manganese	**3.5**		0.49	0.010	mg/Kg		06/19/15 09:16	06/24/15 18:30	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-081 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**39**		3.0	0.28	mg/Kg		06/19/15 09:16	06/25/15 18:22	1
Arsenic	**2.8**		0.099	0.018	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Barium	**0.20**	**J**	0.99	0.011	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Cadmium	**0.037**	**J**	0.099	0.0069	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Calcium	**570**		50	1.3	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Chromium	**0.57**	**B**	0.20	0.0060	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Cobalt	**0.33**		0.050	0.0015	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Copper	**2.4**		0.20	0.033	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Iron	**220**	**B**	5.0	0.35	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Silver	**0.012**	**J**	0.099	0.0039	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Potassium	**1900**	**B**	50	1.3	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Magnesium	**780**	**B**	50	0.19	mg/Kg		06/19/15 09:16	06/25/15 18:22	1
Sodium	**6500**	**B**	50	1.4	mg/Kg		06/19/15 09:16	06/25/15 18:22	1
Nickel	**0.55**		0.099	0.011	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Lead	**0.24**		0.099	0.0038	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Antimony	ND		0.20	0.0026	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Selenium	**0.26**	**J**	0.50	0.050	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Thallium	ND		0.099	0.0020	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Vanadium	**0.29**	**B**	0.099	0.0078	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Zinc	**15**		0.50	0.064	mg/Kg		06/19/15 09:16	06/24/15 18:35	1
Manganese	**2.8**		0.50	0.010	mg/Kg		06/19/15 09:16	06/24/15 18:35	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-082 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**32**		3.0	0.29	mg/Kg		06/18/15 11:35	06/25/15 20:59	1
Arsenic	**2.5**		0.10	0.018	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Barium	**0.17**	**J**	1.0	0.011	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Beryllium	ND		0.10	0.0076	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Cadmium	**0.028**	**J**	0.10	0.0071	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Calcium	**490**		51	1.3	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Chromium	**0.39**	**B**	0.20	0.0062	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Cobalt	**0.30**		0.051	0.0015	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Copper	**1.6**		0.20	0.033	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Iron	**130**		5.1	0.36	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Silver	**0.017**	**J**	0.10	0.0039	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Potassium	**1800**		51	1.4	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Magnesium	**820**		51	0.19	mg/Kg		06/18/15 11:35	06/25/15 20:59	1
Sodium	**7000**		51	1.4	mg/Kg		06/18/15 11:35	06/25/15 20:59	1
Nickel	**0.41**		0.10	0.011	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Lead	**0.13**		0.10	0.0038	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Antimony	ND		0.20	0.0026	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Selenium	**0.24**	**J**	0.51	0.051	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Thallium	ND		0.10	0.0020	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Vanadium	**0.24**		0.10	0.0080	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Zinc	**14**		0.51	0.065	mg/Kg		06/18/15 11:35	06/24/15 21:22	1
Manganese	**1.5**		0.51	0.010	mg/Kg		06/18/15 11:35	06/24/15 21:22	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-082 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**29**	**F1**	3.0	0.28	mg/Kg		06/18/15 11:35	06/25/15 21:28	1
Arsenic	**2.5**		0.099	0.018	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Barium	**0.13**	**J**	0.99	0.011	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Beryllium	ND	F1	0.099	0.0074	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Cadmium	**0.026**	**J**	0.099	0.0069	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Calcium	**840**		50	1.3	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Chromium	**0.32**	**B**	0.20	0.0060	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Cobalt	**0.28**		0.050	0.0015	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Copper	**1.7**		0.20	0.033	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Iron	**110**	**F1**	5.0	0.35	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Silver	**0.013**	**J**	0.099	0.0039	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Potassium	**1700**		50	1.3	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Magnesium	**880**		50	0.19	mg/Kg		06/18/15 11:35	06/25/15 21:28	1
Sodium	**7800**		50	1.4	mg/Kg		06/18/15 11:35	06/25/15 21:28	1
Nickel	**0.46**		0.099	0.011	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Lead	**0.10**		0.099	0.0038	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Antimony	**0.050**	**J F2**	0.20	0.0026	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Selenium	**0.18**	**J**	0.50	0.050	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Thallium	**0.0052**	**J**	0.099	0.0020	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Vanadium	**0.16**		0.099	0.0078	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Zinc	**15**		0.50	0.064	mg/Kg		06/18/15 11:35	06/24/15 21:56	1
Manganese	**1.3**		0.50	0.010	mg/Kg		06/18/15 11:35	06/24/15 21:56	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-082 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**40**		3.0	0.28	mg/Kg		06/18/15 11:35	06/25/15 21:04	1
Arsenic	**2.9**		0.10	0.018	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Barium	**0.17**	**J**	1.0	0.011	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Cadmium	**0.028**	**J**	0.10	0.0070	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Calcium	**630**		50	1.3	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Chromium	**0.41**	**B**	0.20	0.0061	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Cobalt	**0.31**		0.050	0.0015	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Copper	**2.0**		0.20	0.033	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Iron	**150**		5.0	0.35	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Silver	**0.023**	**J**	0.10	0.0039	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Potassium	**2000**		50	1.4	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Magnesium	**880**		50	0.19	mg/Kg		06/18/15 11:35	06/25/15 21:04	1
Sodium	**7500**		50	1.4	mg/Kg		06/18/15 11:35	06/25/15 21:04	1
Nickel	**0.47**		0.10	0.011	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Lead	**0.15**		0.10	0.0038	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Antimony	ND		0.20	0.0026	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Selenium	**0.29**	**J**	0.50	0.050	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Thallium	ND		0.10	0.0020	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Vanadium	**0.24**		0.10	0.0079	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Zinc	**14**		0.50	0.065	mg/Kg		06/18/15 11:35	06/24/15 21:28	1
Manganese	**1.5**		0.50	0.010	mg/Kg		06/18/15 11:35	06/24/15 21:28	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-082 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	42		2.9	0.28	mg/Kg		06/18/15 11:35	06/25/15 21:53	1
Arsenic	2.3		0.098	0.018	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Barium	0.15	J	0.98	0.010	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Cadmium	0.035	J	0.098	0.0069	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Calcium	490		49	1.3	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Chromium	0.48	B	0.20	0.0060	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Cobalt	0.28		0.049	0.0015	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Copper	2.2		0.20	0.032	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Iron	140		4.9	0.35	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Silver	0.024	J	0.098	0.0038	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Potassium	1700		49	1.3	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Magnesium	1000		49	0.18	mg/Kg		06/18/15 11:35	06/25/15 21:53	1
Sodium	9100		49	1.3	mg/Kg		06/18/15 11:35	06/25/15 21:53	1
Nickel	0.47		0.098	0.011	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Lead	0.12		0.098	0.0037	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Antimony	0.10	J	0.20	0.0025	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Selenium	0.20	J	0.49	0.049	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Thallium	0.010	J	0.098	0.0020	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Vanadium	0.21		0.098	0.0077	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Zinc	14		0.49	0.064	mg/Kg		06/18/15 11:35	06/24/15 22:53	1
Manganese	1.4		0.49	0.010	mg/Kg		06/18/15 11:35	06/24/15 22:53	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-082 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	33		2.9	0.27	mg/Kg		06/18/15 11:35	06/25/15 21:58	1
Arsenic	2.7		0.095	0.017	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Barium	0.16	J	0.95	0.010	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Cadmium	0.032	J	0.095	0.0067	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Calcium	630		48	1.3	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Chromium	0.40	B	0.19	0.0058	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Cobalt	0.34		0.048	0.0014	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Copper	1.7		0.19	0.031	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Iron	130		4.8	0.34	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Silver	0.016	J	0.095	0.0037	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Potassium	1900		48	1.3	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Magnesium	830		48	0.18	mg/Kg		06/18/15 11:35	06/25/15 21:58	1
Sodium	7200		48	1.3	mg/Kg		06/18/15 11:35	06/25/15 21:58	1
Nickel	0.48		0.095	0.011	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Lead	0.12		0.095	0.0036	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Antimony	0.030	J	0.19	0.0025	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Selenium	0.21	J	0.48	0.048	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Thallium	0.0031	J	0.095	0.0019	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Vanadium	0.18		0.095	0.0075	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Zinc	15		0.48	0.062	mg/Kg		06/18/15 11:35	06/24/15 22:58	1
Manganese	1.3		0.48	0.0098	mg/Kg		06/18/15 11:35	06/24/15 22:58	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-083 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**49**		2.9	0.27	mg/Kg		06/18/15 11:35	06/25/15 22:03	1
Arsenic	**3.1**		0.096	0.017	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Barium	**0.19**	**J**	0.96	0.010	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Cadmium	**0.037**	**J**	0.096	0.0067	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Calcium	**520**		48	1.3	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Chromium	**0.44**	**B**	0.19	0.0059	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Cobalt	**0.43**		0.048	0.0014	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Copper	**2.5**		0.19	0.032	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Iron	**170**		4.8	0.34	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Silver	**0.030**	**J**	0.096	0.0038	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Potassium	**2300**		48	1.3	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Magnesium	**820**		48	0.18	mg/Kg		06/18/15 11:35	06/25/15 22:03	1
Sodium	**6700**		48	1.3	mg/Kg		06/18/15 11:35	06/25/15 22:03	1
Nickel	**0.50**		0.096	0.011	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Lead	**0.15**		0.096	0.0037	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Antimony	**0.021**	**J**	0.19	0.0025	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Selenium	**0.34**	**J**	0.48	0.048	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Thallium	**0.0034**	**J**	0.096	0.0019	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Vanadium	**0.28**		0.096	0.0076	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Zinc	**18**		0.48	0.062	mg/Kg		06/18/15 11:35	06/24/15 23:03	1
Manganese	**2.2**		0.48	0.0099	mg/Kg		06/18/15 11:35	06/24/15 23:03	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-083 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	54		3.0	0.29	mg/Kg		06/18/15 11:35	06/25/15 22:09	1
Arsenic	3.6		0.10	0.018	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Barium	0.21	J	1.0	0.011	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Beryllium	ND		0.10	0.0076	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Cadmium	0.047	J	0.10	0.0071	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Calcium	450		51	1.3	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Chromium	0.45	B	0.20	0.0062	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Cobalt	0.49		0.051	0.0015	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Copper	2.6		0.20	0.033	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Iron	170		5.1	0.36	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Silver	0.035	J	0.10	0.0039	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Potassium	2400		51	1.4	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Magnesium	840		51	0.19	mg/Kg		06/18/15 11:35	06/25/15 22:09	1
Sodium	6700		51	1.4	mg/Kg		06/18/15 11:35	06/25/15 22:09	1
Nickel	0.53		0.10	0.011	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Lead	0.18		0.10	0.0038	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Antimony	0.013	J	0.20	0.0026	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Selenium	0.29	J	0.51	0.051	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Thallium	0.0026	J	0.10	0.0020	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Vanadium	0.39		0.10	0.0080	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Zinc	19		0.51	0.065	mg/Kg		06/18/15 11:35	06/24/15 23:08	1
Manganese	2.4		0.51	0.010	mg/Kg		06/18/15 11:35	06/24/15 23:08	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-083 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**65**		3.0	0.28	mg/Kg		06/18/15 11:35	06/25/15 22:14	1
Arsenic	**2.9**		0.10	0.018	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Barium	**0.20**	**J**	1.0	0.011	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Cadmium	**0.032**	**J**	0.10	0.0070	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Calcium	**520**		50	1.3	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Chromium	**0.50**	**B**	0.20	0.0061	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Cobalt	**0.39**		0.050	0.0015	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Copper	**1.8**		0.20	0.033	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Iron	**190**		5.0	0.35	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Silver	**0.017**	**J**	0.10	0.0039	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Potassium	**1800**		50	1.4	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Magnesium	**960**		50	0.19	mg/Kg		06/18/15 11:35	06/25/15 22:14	1
Sodium	**8500**		50	1.4	mg/Kg		06/18/15 11:35	06/25/15 22:14	1
Nickel	**0.46**		0.10	0.011	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Lead	**0.14**		0.10	0.0038	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Antimony	**0.0097**	**J**	0.20	0.0026	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Selenium	**0.25**	**J**	0.50	0.050	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Thallium	ND		0.10	0.0020	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Vanadium	**0.35**		0.10	0.0079	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Zinc	**15**		0.50	0.065	mg/Kg		06/18/15 11:35	06/24/15 23:13	1
Manganese	**2.2**		0.50	0.010	mg/Kg		06/18/15 11:35	06/24/15 23:13	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-083 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	55	F1 B	3.0	0.28	mg/Kg		06/18/15 11:21	07/03/15 00:02	1
Arsenic	2.8		0.10	0.018	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Barium	0.23	J	1.0	0.011	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Cadmium	0.036	J	0.10	0.0070	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Calcium	540		50	1.3	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Chromium	0.46	B	0.20	0.0061	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Cobalt	0.38		0.050	0.0015	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Copper	2.7	B	0.20	0.033	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Iron	160	B	5.0	0.35	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Silver	0.028	J	0.10	0.0039	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Potassium	1800		50	1.4	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Magnesium	710	B	50	0.19	mg/Kg		06/18/15 11:21	07/03/15 00:02	1
Sodium	6200	B	50	1.4	mg/Kg		06/18/15 11:21	07/03/15 00:02	1
Nickel	0.53	B	0.10	0.011	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Lead	0.17		0.10	0.0038	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Antimony	0.057	J	0.20	0.0026	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Selenium	0.25	J	0.50	0.050	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Thallium	0.0037	J	0.10	0.0020	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Vanadium	0.28		0.10	0.0079	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Zinc	14		0.50	0.065	mg/Kg		06/18/15 11:21	07/01/15 19:42	1
Manganese	2.1	B	0.50	0.010	mg/Kg		06/18/15 11:21	07/01/15 19:42	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-083 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	35	B	2.9	0.28	mg/Kg		06/18/15 11:21	07/02/15 23:29	1
Arsenic	2.4		0.097	0.018	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Barium	0.17	J	0.97	0.010	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Cadmium	0.023	J	0.097	0.0068	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Calcium	360		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Chromium	0.32	B	0.19	0.0059	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Cobalt	0.39		0.049	0.0015	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Copper	2.1	B	0.19	0.032	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Iron	120	B	4.9	0.34	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Silver	0.017	J	0.097	0.0038	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Potassium	1900		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Magnesium	710	B	49	0.18	mg/Kg		06/18/15 11:21	07/02/15 23:29	1
Sodium	6200	B	49	1.3	mg/Kg		06/18/15 11:21	07/02/15 23:29	1
Nickel	0.40	B	0.097	0.011	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Lead	0.11		0.097	0.0037	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Antimony	0.027	J	0.19	0.0025	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Selenium	0.18	J	0.49	0.049	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Thallium	ND		0.097	0.0019	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Vanadium	0.17		0.097	0.0077	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Zinc	12		0.49	0.063	mg/Kg		06/18/15 11:21	07/01/15 19:08	1
Manganese	1.7	B	0.49	0.010	mg/Kg		06/18/15 11:21	07/01/15 19:08	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-084 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**47**	**B**	3.0	0.28	mg/Kg		06/18/15 11:21	07/02/15 23:34	1
Arsenic	**2.3**		0.10	0.018	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Barium	**0.20**	**J**	1.0	0.011	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Cadmium	**0.020**	**J**	0.10	0.0070	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Calcium	**520**		50	1.3	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Chromium	**0.37**	**B**	0.20	0.0061	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Cobalt	**0.27**		0.050	0.0015	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Copper	**1.9**	**B**	0.20	0.033	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Iron	**140**	**B**	5.0	0.35	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Silver	**0.018**	**J**	0.10	0.0039	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Potassium	**1800**		50	1.4	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Magnesium	**700**	**B**	50	0.19	mg/Kg		06/18/15 11:21	07/02/15 23:34	1
Sodium	**6100**	**B**	50	1.4	mg/Kg		06/18/15 11:21	07/02/15 23:34	1
Nickel	**0.43**	**B**	0.10	0.011	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Lead	**0.14**		0.10	0.0038	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Antimony	**0.018**	**J**	0.20	0.0026	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Selenium	**0.22**	**J**	0.50	0.050	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Thallium	ND		0.10	0.0020	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Vanadium	**0.22**		0.10	0.0079	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Zinc	**12**		0.50	0.065	mg/Kg		06/18/15 11:21	07/01/15 19:13	1
Manganese	**1.3**	**B**	0.50	0.010	mg/Kg		06/18/15 11:21	07/01/15 19:13	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-084 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**42**	**B**	2.9	0.28	mg/Kg		06/18/15 11:21	07/02/15 23:39	1
Arsenic	**3.0**		0.098	0.018	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Barium	**0.19**	**J**	0.98	0.010	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Cadmium	**0.039**	**J**	0.098	0.0069	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Calcium	**1300**		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Chromium	**0.37**	**B**	0.20	0.0060	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Cobalt	**0.32**		0.049	0.0015	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Copper	**2.6**	**B**	0.20	0.032	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Iron	**150**	**B**	4.9	0.35	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Silver	**0.028**	**J**	0.098	0.0038	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Potassium	**2300**		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Magnesium	**660**	**B**	49	0.18	mg/Kg		06/18/15 11:21	07/02/15 23:39	1
Sodium	**5400**	**B**	49	1.3	mg/Kg		06/18/15 11:21	07/02/15 23:39	1
Nickel	**0.50**	**B**	0.098	0.011	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Lead	**0.14**		0.098	0.0037	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Antimony	**0.0086**	**J**	0.20	0.0025	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Selenium	**0.34**	**J**	0.49	0.049	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Thallium	ND		0.098	0.0020	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Vanadium	**0.23**		0.098	0.0077	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Zinc	**17**		0.49	0.064	mg/Kg		06/18/15 11:21	07/01/15 19:18	1
Manganese	**1.6**	**B**	0.49	0.010	mg/Kg		06/18/15 11:21	07/01/15 19:18	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-084 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	72	B	3.0	0.28	mg/Kg		06/18/15 11:21	07/03/15 00:32	1
Arsenic	3.3		0.10	0.018	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Barium	0.24	J	1.0	0.011	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Beryllium	0.0086	J	0.10	0.0075	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Cadmium	0.049	J	0.10	0.0070	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Calcium	410		50	1.3	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Chromium	0.51	B	0.20	0.0061	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Cobalt	0.49		0.050	0.0015	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Copper	2.7	B	0.20	0.033	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Iron	210	B	5.0	0.35	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Silver	0.033	J	0.10	0.0039	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Potassium	2400		50	1.4	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Magnesium	670	B	50	0.19	mg/Kg		06/18/15 11:21	07/03/15 00:32	1
Sodium	5200	B	50	1.4	mg/Kg		06/18/15 11:21	07/03/15 00:32	1
Nickel	0.69	B	0.10	0.011	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Lead	0.18		0.10	0.0038	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Antimony	0.080	J	0.20	0.0026	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Selenium	0.33	J	0.50	0.050	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Thallium	0.0036	J	0.10	0.0020	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Vanadium	0.43		0.10	0.0079	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Zinc	19		0.50	0.065	mg/Kg		06/18/15 11:21	07/01/15 20:11	1
Manganese	2.0	B	0.50	0.010	mg/Kg		06/18/15 11:21	07/01/15 20:11	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-084 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**34**	**B**	2.9	0.28	mg/Kg		06/18/15 11:21	07/03/15 00:37	1
Arsenic	**2.6**		0.098	0.018	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Barium	**0.17**	**J**	0.98	0.010	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Cadmium	**0.028**	**J**	0.098	0.0069	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Calcium	**550**		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Chromium	**0.36**	**B**	0.20	0.0060	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Cobalt	**0.29**		0.049	0.0015	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Copper	**1.8**	**B**	0.20	0.032	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Iron	**110**	**B**	4.9	0.35	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Silver	**0.028**	**J**	0.098	0.0038	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Potassium	**2000**		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Magnesium	**740**	**B**	49	0.18	mg/Kg		06/18/15 11:21	07/03/15 00:37	1
Sodium	**6400**	**B**	49	1.3	mg/Kg		06/18/15 11:21	07/03/15 00:37	1
Nickel	**0.40**	**B**	0.098	0.011	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Lead	**0.11**		0.098	0.0037	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Antimony	**0.023**	**J**	0.20	0.0025	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Selenium	**0.22**	**J**	0.49	0.049	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Thallium	ND		0.098	0.0020	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Vanadium	**0.062**	**J**	0.098	0.0077	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Zinc	**12**		0.49	0.064	mg/Kg		06/18/15 11:21	07/01/15 20:16	1
Manganese	**1.2**	**B**	0.49	0.010	mg/Kg		06/18/15 11:21	07/01/15 20:16	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-084 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**36**	**B**	2.9	0.27	mg/Kg		06/18/15 11:21	07/03/15 00:42	1
Arsenic	**3.3**		0.096	0.017	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Barium	**0.18**	**J**	0.96	0.010	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Cadmium	**0.045**	**J**	0.096	0.0067	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Calcium	**540**		48	1.3	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Chromium	**0.34**	**B**	0.19	0.0059	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Cobalt	**0.38**		0.048	0.0014	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Copper	**2.1**	**B**	0.19	0.032	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Iron	**120**	**B**	4.8	0.34	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Silver	**0.032**	**J**	0.096	0.0038	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Potassium	**2300**		48	1.3	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Magnesium	**690**	**B**	48	0.18	mg/Kg		06/18/15 11:21	07/03/15 00:42	1
Sodium	**5600**	**B**	48	1.3	mg/Kg		06/18/15 11:21	07/03/15 00:42	1
Nickel	**0.54**	**B**	0.096	0.011	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Lead	**0.14**		0.096	0.0037	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Antimony	**0.019**	**J**	0.19	0.0025	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Selenium	**0.32**	**J**	0.48	0.048	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Thallium	ND		0.096	0.0019	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Vanadium	**0.21**		0.096	0.0076	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Zinc	**17**		0.48	0.062	mg/Kg		06/18/15 11:21	07/01/15 20:21	1
Manganese	**1.5**	**B**	0.48	0.0099	mg/Kg		06/18/15 11:21	07/01/15 20:21	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-085 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**65**	**B**	3.0	0.28	mg/Kg		06/18/15 11:21	07/03/15 00:47	1
Arsenic	**2.7**		0.10	0.018	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Barium	**0.21**	**J**	1.0	0.011	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Cadmium	**0.035**	**J**	0.10	0.0070	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Calcium	**330**		50	1.3	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Chromium	**0.35**	**B**	0.20	0.0061	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Cobalt	**0.34**		0.050	0.0015	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Copper	**1.9**	**B**	0.20	0.033	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Iron	**170**	**B**	5.0	0.35	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Silver	**0.017**	**J**	0.10	0.0039	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Potassium	**1900**		50	1.4	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Magnesium	**780**	**B**	50	0.19	mg/Kg		06/18/15 11:21	07/03/15 00:47	1
Sodium	**6900**	**B**	50	1.4	mg/Kg		06/18/15 11:21	07/03/15 00:47	1
Nickel	**0.42**	**B**	0.10	0.011	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Lead	**0.15**		0.10	0.0038	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Antimony	**0.018**	**J**	0.20	0.0026	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Selenium	**0.24**	**J**	0.50	0.050	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Thallium	ND		0.10	0.0020	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Vanadium	**0.24**		0.10	0.0079	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Zinc	**12**		0.50	0.065	mg/Kg		06/18/15 11:21	07/01/15 20:26	1
Manganese	**2.0**	**B**	0.50	0.010	mg/Kg		06/18/15 11:21	07/01/15 20:26	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-085 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**96**	**B**	2.9	0.27	mg/Kg		06/18/15 11:21	07/03/15 00:52	1
Arsenic	**3.2**		0.096	0.017	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Barium	**0.24**	**J**	0.96	0.010	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Cadmium	**0.048**	**J**	0.096	0.0067	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Calcium	**390**		48	1.3	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Chromium	**0.43**	**B**	0.19	0.0059	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Cobalt	**0.47**		0.048	0.0014	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Copper	**2.3**	**B**	0.19	0.032	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Iron	**220**	**B**	4.8	0.34	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Silver	**0.032**	**J**	0.096	0.0038	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Potassium	**2300**		48	1.3	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Magnesium	**720**	**B**	48	0.18	mg/Kg		06/18/15 11:21	07/03/15 00:52	1
Sodium	**5900**	**B**	48	1.3	mg/Kg		06/18/15 11:21	07/03/15 00:52	1
Nickel	**0.53**	**B**	0.096	0.011	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Lead	**0.21**		0.096	0.0037	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Antimony	**0.018**	**J**	0.19	0.0025	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Selenium	**0.25**	**J**	0.48	0.048	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Thallium	ND		0.096	0.0019	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Vanadium	**0.42**		0.096	0.0076	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Zinc	**15**		0.48	0.062	mg/Kg		06/18/15 11:21	07/01/15 20:33	1
Manganese	**2.4**	**B**	0.48	0.0099	mg/Kg		06/18/15 11:21	07/01/15 20:33	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-085 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	86	B	3.0	0.28	mg/Kg		06/18/15 11:21	07/03/15 01:15	1
Arsenic	2.3		0.099	0.018	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Barium	0.24	J	0.99	0.011	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Beryllium	0.0079	J	0.099	0.0074	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Cadmium	0.022	J	0.099	0.0069	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Calcium	710		50	1.3	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Chromium	0.38	B	0.20	0.0060	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Cobalt	0.33		0.050	0.0015	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Copper	1.9	B	0.20	0.033	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Iron	180	B	5.0	0.35	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Silver	0.012	J	0.099	0.0039	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Potassium	1800		50	1.3	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Magnesium	770	B	50	0.19	mg/Kg		06/18/15 11:21	07/03/15 01:15	1
Sodium	7000	B	50	1.4	mg/Kg		06/18/15 11:21	07/03/15 01:15	1
Nickel	0.45	B	0.099	0.011	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Lead	0.14		0.099	0.0038	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Antimony	0.046	J	0.20	0.0026	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Selenium	0.20	J	0.50	0.050	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Thallium	0.0038	J	0.099	0.0020	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Vanadium	0.29		0.099	0.0078	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Zinc	12		0.50	0.064	mg/Kg		06/18/15 11:21	07/01/15 20:57	1
Manganese	1.8	B	0.50	0.010	mg/Kg		06/18/15 11:21	07/01/15 20:57	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-085 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	51	B	2.9	0.28	mg/Kg		06/18/15 11:21	07/03/15 01:20	1
Arsenic	2.8		0.097	0.018	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Barium	0.16	J	0.97	0.010	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Cadmium	0.039	J	0.097	0.0068	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Calcium	590		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Chromium	0.30	B	0.19	0.0059	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Cobalt	0.40		0.049	0.0015	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Copper	2.0	B	0.19	0.032	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Iron	140	B	4.9	0.34	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Silver	0.025	J	0.097	0.0038	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Potassium	2000		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Magnesium	680	B	49	0.18	mg/Kg		06/18/15 11:21	07/03/15 01:20	1
Sodium	5800	B	49	1.3	mg/Kg		06/18/15 11:21	07/03/15 01:20	1
Nickel	0.44	B	0.097	0.011	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Lead	0.14		0.097	0.0037	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Antimony	0.021	J	0.19	0.0025	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Selenium	0.25	J	0.49	0.049	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Thallium	ND		0.097	0.0019	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Vanadium	0.30		0.097	0.0077	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Zinc	14		0.49	0.063	mg/Kg		06/18/15 11:21	07/01/15 21:02	1
Manganese	1.8	B	0.49	0.010	mg/Kg		06/18/15 11:21	07/01/15 21:02	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-085 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**67**	**B**	2.9	0.27	mg/Kg		06/18/15 11:21	07/03/15 01:26	1
Arsenic	**2.4**		0.096	0.017	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Barium	**0.23**	**J**	0.96	0.010	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Cadmium	**0.030**	**J**	0.096	0.0067	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Calcium	**720**		48	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Chromium	**0.43**	**B**	0.19	0.0059	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Cobalt	**0.39**		0.048	0.0014	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Copper	**2.3**	**B**	0.19	0.032	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Iron	**170**	**B**	4.8	0.34	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Silver	**0.026**	**J**	0.096	0.0038	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Potassium	**1900**		48	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Magnesium	**800**	**B**	48	0.18	mg/Kg		06/18/15 11:21	07/03/15 01:26	1
Sodium	**7300**	**B**	48	1.3	mg/Kg		06/18/15 11:21	07/03/15 01:26	1
Nickel	**0.47**	**B**	0.096	0.011	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Lead	**0.15**		0.096	0.0037	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Antimony	**0.017**	**J**	0.19	0.0025	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Selenium	**0.28**	**J**	0.48	0.048	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Thallium	ND		0.096	0.0019	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Vanadium	**0.33**		0.096	0.0076	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Zinc	**13**		0.48	0.062	mg/Kg		06/18/15 11:21	07/01/15 21:07	1
Manganese	**2.0**	**B**	0.48	0.0099	mg/Kg		06/18/15 11:21	07/01/15 21:07	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-086 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	61	B	2.9	0.28	mg/Kg		06/18/15 11:21	07/03/15 01:31	1
Arsenic	2.9		0.097	0.018	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Barium	0.18	J	0.97	0.010	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Beryllium	0.0079	J	0.097	0.0073	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Cadmium	0.033	J	0.097	0.0068	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Calcium	940		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Chromium	0.43	B	0.19	0.0059	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Cobalt	0.33		0.049	0.0015	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Copper	2.3	B	0.19	0.032	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Iron	230	B	4.9	0.34	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Silver	0.025	J	0.097	0.0038	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Potassium	2000		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Magnesium	860	B	49	0.18	mg/Kg		06/18/15 11:21	07/03/15 01:31	1
Sodium	7700	B	49	1.3	mg/Kg		06/18/15 11:21	07/03/15 01:31	1
Nickel	0.49	B	0.097	0.011	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Lead	0.16		0.097	0.0037	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Antimony	0.010	J	0.19	0.0025	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Selenium	0.21	J	0.49	0.049	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Thallium	ND		0.097	0.0019	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Vanadium	0.31		0.097	0.0077	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Zinc	15		0.49	0.063	mg/Kg		06/18/15 11:21	07/01/15 21:12	1
Manganese	1.9	B	0.49	0.010	mg/Kg		06/18/15 11:21	07/01/15 21:12	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-086 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-27
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	25	B	3.0	0.28	mg/Kg		06/18/15 11:21	07/03/15 01:36	1
Arsenic	2.4		0.10	0.018	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Barium	0.12	J	1.0	0.011	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Cadmium	0.037	J	0.10	0.0070	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Calcium	370		50	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Chromium	0.28	B	0.20	0.0061	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Cobalt	0.28		0.050	0.0015	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Copper	1.6	B	0.20	0.033	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Iron	100	B	5.0	0.35	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Silver	0.019	J	0.10	0.0039	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Potassium	1800		50	1.4	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Magnesium	850	B	50	0.19	mg/Kg		06/18/15 11:21	07/03/15 01:36	1
Sodium	7800	B	50	1.4	mg/Kg		06/18/15 11:21	07/03/15 01:36	1
Nickel	0.37	B	0.10	0.011	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Lead	0.10		0.10	0.0038	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Antimony	0.0059	J	0.20	0.0026	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Selenium	0.23	J	0.50	0.050	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Thallium	ND		0.10	0.0020	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Vanadium	0.19		0.10	0.0079	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Zinc	13		0.50	0.065	mg/Kg		06/18/15 11:21	07/01/15 21:17	1
Manganese	1.3	B	0.50	0.010	mg/Kg		06/18/15 11:21	07/01/15 21:17	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-086 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-28
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	44	B	3.0	0.29	mg/Kg		06/18/15 11:21	07/03/15 01:41	1
Arsenic	2.6		0.10	0.018	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Barium	0.16	J	1.0	0.011	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Beryllium	ND		0.10	0.0076	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Cadmium	0.039	J	0.10	0.0071	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Calcium	690		51	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Chromium	0.39	B	0.20	0.0062	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Cobalt	0.31		0.051	0.0015	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Copper	2.4	B	0.20	0.033	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Iron	170	B	5.1	0.36	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Silver	0.031	J	0.10	0.0039	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Potassium	2000		51	1.4	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Magnesium	840	B	51	0.19	mg/Kg		06/18/15 11:21	07/03/15 01:41	1
Sodium	7600	B	51	1.4	mg/Kg		06/18/15 11:21	07/03/15 01:41	1
Nickel	0.57	B	0.10	0.011	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Lead	0.15		0.10	0.0038	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Antimony	0.0061	J	0.20	0.0026	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Selenium	0.21	J	0.51	0.051	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Thallium	ND		0.10	0.0020	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Vanadium	0.18		0.10	0.0080	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Zinc	13		0.51	0.065	mg/Kg		06/18/15 11:21	07/01/15 21:22	1
Manganese	1.4	B	0.51	0.010	mg/Kg		06/18/15 11:21	07/01/15 21:22	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-086 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-29
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	33	B	2.9	0.28	mg/Kg		06/18/15 11:21	07/03/15 01:46	1
Arsenic	2.6		0.097	0.018	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Barium	0.15	J	0.97	0.010	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Cadmium	0.022	J	0.097	0.0068	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Calcium	360		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Chromium	0.29	B	0.19	0.0059	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Cobalt	0.26		0.049	0.0015	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Copper	1.5	B	0.19	0.032	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Iron	120	B	4.9	0.34	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Silver	0.020	J	0.097	0.0038	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Potassium	1900		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Magnesium	860	B	49	0.18	mg/Kg		06/18/15 11:21	07/03/15 01:46	1
Sodium	7800	B	49	1.3	mg/Kg		06/18/15 11:21	07/03/15 01:46	1
Nickel	0.38	B	0.097	0.011	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Lead	0.12		0.097	0.0037	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Antimony	0.0081	J	0.19	0.0025	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Selenium	0.20	J	0.49	0.049	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Thallium	ND		0.097	0.0019	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Vanadium	0.21		0.097	0.0077	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Zinc	11		0.49	0.063	mg/Kg		06/18/15 11:21	07/01/15 21:28	1
Manganese	1.2	B	0.49	0.010	mg/Kg		06/18/15 11:21	07/01/15 21:28	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-086 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-30
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**96**	**B**	3.0	0.28	mg/Kg		06/18/15 11:21	07/03/15 01:51	1
Arsenic	**2.9**		0.10	0.018	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Barium	**0.24**	**J**	1.0	0.011	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Cadmium	**0.048**	**J**	0.10	0.0070	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Calcium	**530**		50	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Chromium	**0.48**	**B**	0.20	0.0061	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Cobalt	**0.36**		0.050	0.0015	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Copper	**2.0**	**B**	0.20	0.033	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Iron	**270**	**B**	5.0	0.35	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Silver	**0.023**	**J**	0.10	0.0039	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Potassium	**2100**		50	1.4	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Magnesium	**830**	**B**	50	0.19	mg/Kg		06/18/15 11:21	07/03/15 01:51	1
Sodium	**7100**	**B**	50	1.4	mg/Kg		06/18/15 11:21	07/03/15 01:51	1
Nickel	**0.52**	**B**	0.10	0.011	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Lead	**0.20**		0.10	0.0038	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Antimony	**0.0063**	**J**	0.20	0.0026	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Selenium	**0.33**	**J**	0.50	0.050	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Thallium	ND		0.10	0.0020	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Vanadium	**0.40**		0.10	0.0079	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Zinc	**17**		0.50	0.065	mg/Kg		06/18/15 11:21	07/01/15 21:33	1
Manganese	**2.1**	**B**	0.50	0.010	mg/Kg		06/18/15 11:21	07/01/15 21:33	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-087 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-31
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**47**	**B**	2.9	0.27	mg/Kg		06/18/15 11:21	07/03/15 01:56	1
Arsenic	**2.5**		0.095	0.017	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Barium	**0.23**	**J**	0.95	0.010	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Cadmium	**0.034**	**J**	0.095	0.0067	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Calcium	**420**		48	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Chromium	**0.34**	**B**	0.19	0.0058	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Cobalt	**0.31**		0.048	0.0014	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Copper	**1.8**	**B**	0.19	0.031	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Iron	**150**	**B**	4.8	0.34	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Silver	**0.018**	**J**	0.095	0.0037	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Potassium	**1800**		48	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Magnesium	**750**	**B**	48	0.18	mg/Kg		06/18/15 11:21	07/03/15 01:56	1
Sodium	**6600**	**B**	48	1.3	mg/Kg		06/18/15 11:21	07/03/15 01:56	1
Nickel	**0.37**	**B**	0.095	0.011	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Lead	**0.14**		0.095	0.0036	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Antimony	**0.0055**	**J**	0.19	0.0025	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Selenium	**0.25**	**J**	0.48	0.048	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Thallium	ND		0.095	0.0019	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Vanadium	**0.23**		0.095	0.0075	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Zinc	**13**		0.48	0.062	mg/Kg		06/18/15 11:21	07/01/15 21:38	1
Manganese	**2.0**	**B**	0.48	0.0098	mg/Kg		06/18/15 11:21	07/01/15 21:38	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-087 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-32
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	100	B	3.0	0.28	mg/Kg		06/18/15 11:21	07/03/15 02:01	1
Arsenic	3.1		0.099	0.018	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Barium	0.28	J	0.99	0.011	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Cadmium	0.046	J	0.099	0.0069	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Calcium	630		50	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Chromium	0.47	B	0.20	0.0060	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Cobalt	0.51		0.050	0.0015	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Copper	2.8	B	0.20	0.033	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Iron	280	B	5.0	0.35	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Silver	0.025	J	0.099	0.0039	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Potassium	2400		50	1.3	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Magnesium	790	B	50	0.19	mg/Kg		06/18/15 11:21	07/03/15 02:01	1
Sodium	6400	B	50	1.4	mg/Kg		06/18/15 11:21	07/03/15 02:01	1
Nickel	0.57	B	0.099	0.011	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Lead	0.21		0.099	0.0038	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Antimony	0.0077	J	0.20	0.0026	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Selenium	0.35	J	0.50	0.050	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Thallium	ND		0.099	0.0020	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Vanadium	0.40		0.099	0.0078	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Zinc	16		0.50	0.064	mg/Kg		06/18/15 11:21	07/01/15 21:43	1
Manganese	3.2	B	0.50	0.010	mg/Kg		06/18/15 11:21	07/01/15 21:43	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-087 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-33
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	51		3.0	0.28	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Arsenic	2.6		0.10	0.018	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Barium	0.24	J	1.0	0.011	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Beryllium	0.012	J	0.10	0.0075	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Cadmium	0.040	J	0.10	0.0070	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Calcium	1200		50	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Chromium	0.40	B	0.20	0.0061	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Cobalt	0.37		0.050	0.0015	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Copper	1.8		0.20	0.033	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Iron	170	B	5.0	0.35	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Silver	0.031	J	0.10	0.0039	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Potassium	2100	B	50	1.4	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Magnesium	720		50	0.19	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Sodium	5900	B	50	1.4	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Nickel	0.50		0.10	0.011	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Lead	0.16		0.10	0.0038	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Antimony	0.040	J B	0.20	0.0026	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Selenium	0.20	J	0.50	0.050	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Thallium	0.013	J B	0.10	0.0020	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Vanadium	0.30		0.10	0.0079	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Zinc	13		0.50	0.065	mg/Kg		06/18/15 11:45	06/26/15 18:21	1
Manganese	2.3		0.50	0.010	mg/Kg		06/18/15 11:45	06/26/15 18:21	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-087 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-34
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	84		2.9	0.27	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Arsenic	3.4		0.096	0.017	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Barium	0.33	J	0.96	0.010	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Beryllium	0.0093	J	0.096	0.0072	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Cadmium	0.044	J	0.096	0.0067	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Calcium	970		48	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Chromium	0.52	B	0.19	0.0059	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Cobalt	0.45		0.048	0.0014	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Copper	2.8		0.19	0.032	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Iron	300	B	4.8	0.34	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Silver	0.029	J	0.096	0.0038	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Potassium	2300	B	48	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Magnesium	730		48	0.18	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Sodium	5700	B	48	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Nickel	0.60		0.096	0.011	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Lead	0.22		0.096	0.0037	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Antimony	0.030	J B	0.19	0.0025	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Selenium	0.33	J	0.48	0.048	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Thallium	0.0061	J B	0.096	0.0019	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Vanadium	0.33		0.096	0.0076	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Zinc	16		0.48	0.062	mg/Kg		06/18/15 11:45	06/26/15 18:26	1
Manganese	3.4		0.48	0.0099	mg/Kg		06/18/15 11:45	06/26/15 18:26	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-087 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-35
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	61		3.0	0.28	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Arsenic	3.6		0.10	0.018	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Barium	0.21	J	1.0	0.011	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Beryllium	0.0082	J	0.10	0.0075	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Cadmium	0.047	J	0.10	0.0070	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Calcium	930		50	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Chromium	0.45	B	0.20	0.0061	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Cobalt	0.42		0.050	0.0015	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Copper	3.0		0.20	0.033	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Iron	220	B	5.0	0.35	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Silver	0.043	J	0.10	0.0039	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Potassium	2400	B	50	1.4	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Magnesium	700		50	0.19	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Sodium	5400	B	50	1.4	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Nickel	0.62		0.10	0.011	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Lead	0.22		0.10	0.0038	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Antimony	0.021	J B	0.20	0.0026	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Selenium	0.34	J	0.50	0.050	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Thallium	0.0039	J B	0.10	0.0020	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Vanadium	0.32		0.10	0.0079	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Zinc	16		0.50	0.065	mg/Kg		06/18/15 11:45	06/26/15 18:31	1
Manganese	2.5		0.50	0.010	mg/Kg		06/18/15 11:45	06/26/15 18:31	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-088 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-36
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	85		2.9	0.27	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Arsenic	3.1		0.095	0.017	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Barium	0.32	J	0.95	0.010	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Beryllium	0.0085	J	0.095	0.0071	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Cadmium	0.043	J	0.095	0.0067	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Calcium	530		48	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Chromium	0.55	B	0.19	0.0058	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Cobalt	0.30		0.048	0.0014	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Copper	3.3		0.19	0.031	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Iron	260	B	4.8	0.34	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Silver	0.026	J	0.095	0.0037	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Potassium	2400	B	48	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Magnesium	730		48	0.18	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Sodium	5600	B	48	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Nickel	0.78		0.095	0.011	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Lead	0.22		0.095	0.0036	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Antimony	0.019	J B	0.19	0.0025	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Selenium	0.33	J	0.48	0.048	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Thallium	0.0030	J B	0.095	0.0019	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Vanadium	0.32		0.095	0.0075	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Zinc	17		0.48	0.062	mg/Kg		06/18/15 11:45	06/26/15 18:36	1
Manganese	2.8		0.48	0.0098	mg/Kg		06/18/15 11:45	06/26/15 18:36	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: SRM 1
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-37
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	41	B	2.9	0.28	mg/Kg		06/18/15 11:21	07/03/15 02:25	1
Arsenic	6.7		0.097	0.018	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Barium	6.0		0.97	0.010	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Beryllium	0.011	J	0.097	0.0073	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Cadmium	2.2		0.097	0.0068	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Calcium	680		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Chromium	0.29	B	0.19	0.0059	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Cobalt	0.35		0.049	0.0015	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Copper	67	B	0.19	0.032	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Iron	160	B	4.9	0.34	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Silver	0.56		0.097	0.0038	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Potassium	5600		49	1.3	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Magnesium	1200	B	49	0.18	mg/Kg		06/18/15 11:21	07/03/15 02:25	1
Sodium	3800	B	49	1.3	mg/Kg		06/18/15 11:21	07/03/15 02:25	1
Nickel	0.89	B	0.097	0.011	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Lead	0.28		0.097	0.0037	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Antimony	0.066	J	0.19	0.0025	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Selenium	2.0		0.49	0.049	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Thallium	0.0049	J	0.097	0.0019	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Vanadium	0.40		0.097	0.0077	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Zinc	1400		0.49	0.063	mg/Kg		06/18/15 11:21	07/01/15 22:06	1
Manganese	17	B	0.49	0.010	mg/Kg		06/18/15 11:21	07/01/15 22:06	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: SRM 2
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-38
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	40		2.9	0.28	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Arsenic	7.2		0.097	0.018	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Barium	6.4		0.97	0.010	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Beryllium	0.010	J	0.097	0.0073	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Cadmium	2.4		0.097	0.0068	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Calcium	760		49	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Chromium	0.36	B	0.19	0.0059	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Cobalt	0.36		0.049	0.0015	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Copper	70		0.19	0.032	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Iron	180	B	4.9	0.34	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Silver	0.62		0.097	0.0038	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Potassium	5800	B	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Magnesium	1300		49	0.18	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Sodium	3800	B	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Nickel	0.93		0.097	0.011	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Lead	0.36		0.097	0.0037	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Antimony	0.0084	J B	0.19	0.0025	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Selenium	2.1		0.49	0.049	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Thallium	0.0035	J B	0.097	0.0019	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Vanadium	0.37		0.097	0.0077	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Zinc	1500		0.49	0.063	mg/Kg		06/18/15 11:45	06/26/15 18:41	1
Manganese	19		0.49	0.010	mg/Kg		06/18/15 11:45	06/26/15 18:41	1

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-081 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 13:36	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-081 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 13:38	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-081 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:45	06/26/15 13:40	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-081 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 13:42	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-081 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 13:43	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-082 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:10	06/26/15 11:11	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-082 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:10	06/26/15 11:13	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-082 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:10	06/26/15 11:19	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-082 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:10	06/26/15 11:21	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-082 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:10	06/26/15 11:23	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-083 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:10	06/26/15 11:25	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-083 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:10	06/26/15 11:26	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-083 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:10	06/26/15 11:32	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-083 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/27/15 08:30	06/29/15 11:15	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-083 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.049	mg/Kg		06/27/15 08:30	06/29/15 11:25	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-084 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.13	0.045	mg/Kg		06/27/15 08:30	06/29/15 11:27	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-084 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.046	mg/Kg		06/27/15 08:30	06/29/15 11:29	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-084 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.055	mg/Kg		06/27/15 08:30	06/29/15 11:30	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-084 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/27/15 08:30	06/29/15 11:32	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-084 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.048	mg/Kg		06/27/15 08:30	06/29/15 11:34	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-085 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.047	mg/Kg		06/27/15 08:30	06/29/15 11:36	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-085 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.051	mg/Kg		06/27/15 08:30	06/29/15 11:38	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-085 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.046	mg/Kg		06/27/15 08:30	06/29/15 11:40	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-085 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/27/15 08:30	06/29/15 11:42	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-085 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.053	mg/Kg		06/27/15 08:30	06/29/15 11:48	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-086 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.051	mg/Kg		06/27/15 08:30	06/29/15 11:50	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-086 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-27
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.046	mg/Kg		06/27/15 08:30	06/29/15 11:51	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-086 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-28
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.048	mg/Kg		06/27/15 08:30	06/29/15 11:53	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-086 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-29
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.047	mg/Kg		06/27/15 08:30	06/29/15 11:55	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-086 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-30
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/27/15 08:30	06/29/15 11:57	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-087 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-31
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/27/15 08:30	06/29/15 11:59	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-087 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-32
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/27/15 08:30	06/29/15 12:01	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-087 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-33
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 11:24	06/27/15 07:55	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-087 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-34
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 11:24	06/27/15 07:57	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-087 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-35
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 11:24	06/27/15 08:03	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-088 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-36
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 11:24	06/27/15 08:05	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: SRM 1
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-37
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.051	mg/Kg		06/27/15 08:30	06/29/15 12:03	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: SRM 2
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-38
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 11:24	06/27/15 08:07	5

General Chemistry

Client Sample ID: AT5-081 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/26/15 16:18	1
Percent Lipids	0.59		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-081 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/26/15 18:13	1
Percent Lipids	0.64		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-081 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	85		0.10	0.10	%			06/26/15 19:10	1
Percent Lipids	0.57		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-081 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/26/15 20:08	1
Percent Lipids	0.48		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-081 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/26/15 21:05	1
Percent Lipids	0.71		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-082 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/27/15 05:25	1
Percent Lipids	0.44		0.20	0.058	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-082 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	88		0.10	0.10	%			06/27/15 11:21	1
Percent Lipids	0.44		0.19	0.057	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-082 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/27/15 07:15	1
Percent Lipids	0.67		0.20	0.059	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-082 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**89**		0.10	0.10	%			06/27/15 08:10	1
Percent Lipids	**0.36**		0.19	0.057	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-082 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/27/15 09:05	1
Percent Lipids	**0.64**		0.20	0.059	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-083 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/26/15 14:33	1
Percent Lipids	0.65		0.20	0.058	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-083 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/26/15 16:20	1
Percent Lipids	0.63		0.20	0.058	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-083 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**87**		0.10	0.10	%			06/26/15 17:14	1
Percent Lipids	**0.39**		0.20	0.059	%		06/24/15 03:25	06/24/15 03:25	1

General Chemistry

Client Sample ID: AT5-083 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	88		0.10	0.10	%			06/26/15 16:07	1
Percent Lipids	0.49		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-083 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/26/15 17:13	1
Percent Lipids	0.35		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-084 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**88**		0.10	0.10	%			06/26/15 18:19	1
Percent Lipids	**0.42**		0.20	0.058	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-084 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/26/15 19:25	1
Percent Lipids	**0.54**		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-084 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/26/15 20:32	1
Percent Lipids	**0.63**		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-084 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/26/15 21:38	1
Percent Lipids	0.54		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-084 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/26/15 23:50	1
Percent Lipids	**0.49**		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-085 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**87**		0.10	0.10	%			06/27/15 00:56	1
Percent Lipids	**0.77**		0.20	0.058	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-085 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/27/15 02:02	1
Percent Lipids	**0.68**		0.19	0.057	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-085 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/27/15 03:09	1
Percent Lipids	0.50		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-085 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/27/15 04:15	1
Percent Lipids	**0.76**		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-085 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**88**		0.10	0.10	%			06/27/15 05:21	1
Percent Lipids	**0.40**		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-086 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/27/15 06:27	1
Percent Lipids	**0.38**		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-086 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-27
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**88**		0.10	0.10	%			06/27/15 07:33	1
Percent Lipids	**0.53**		0.20	0.058	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-086 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-28
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/27/15 08:39	1
Percent Lipids	0.52		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-086 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-29
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**87**		0.10	0.10	%			06/26/15 13:13	1
Percent Lipids	**0.29**		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-086 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-30
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/26/15 15:05	1
Percent Lipids	0.47		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-087 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-31
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/26/15 16:02	1
Percent Lipids	0.51		0.20	0.058	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-087 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-32
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/26/15 16:58	1
Percent Lipids	**0.69**		0.20	0.059	%		06/26/15 03:45	06/26/15 03:45	1

General Chemistry

Client Sample ID: AT5-087 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-33
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	86		0.10	0.10	%			06/27/15 04:51	1
Percent Lipids	0.53		0.20	0.059	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-087 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-34
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/27/15 05:45	1
Percent Lipids	**0.58**		0.20	0.059	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-087 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-35
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/27/15 06:39	1
Percent Lipids	0.63		0.20	0.059	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-088 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44601-36
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/27/15 07:32	1
Percent Lipids	0.59		0.20	0.058	%		06/25/15 03:45	06/25/15 03:45	1

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44601-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
Acenaphthene	6.7	0.64	ug/Kg	8270D LL
Acenaphthylene	6.7	0.76	ug/Kg	8270D LL
Anthracene	6.7	0.65	ug/Kg	8270D LL
Benzo[a]anthracene	6.7	0.84	ug/Kg	8270D LL
Benzo[a]pyrene	6.7	0.67	ug/Kg	8270D LL
Benzo[b]fluoranthene	6.7	1.0	ug/Kg	8270D LL
Benzo[g,h,i]perylene	6.7	0.66	ug/Kg	8270D LL
Benzo[k]fluoranthene	6.7	1.3	ug/Kg	8270D LL
Bis(2-ethylhexyl) phthalate	67	5.4	ug/Kg	8270D LL
Chrysene	6.7	0.79	ug/Kg	8270D LL
Dibenz(a,h)anthracene	6.7	0.74	ug/Kg	8270D LL
Fluoranthene	6.7	0.71	ug/Kg	8270D LL
Fluorene	6.7	0.88	ug/Kg	8270D LL
Indeno[1,2,3-cd]pyrene	6.7	0.69	ug/Kg	8270D LL
Naphthalene	6.7	0.58	ug/Kg	8270D LL
Phenanthrene	6.7	1.1	ug/Kg	8270D LL
Phenol	6.7	0.79	ug/Kg	8270D LL
Pyrene	6.7	0.67	ug/Kg	8270D LL

Method: 6020A - Metals (ICP/MS)

Analyte	RL	MDL	Units	Method
Aluminum	3.0	0.28	mg/Kg	6020A
Antimony	0.20	0.0026	mg/Kg	6020A
Arsenic	0.10	0.018	mg/Kg	6020A
Barium	1.0	0.011	mg/Kg	6020A
Beryllium	0.10	0.0075	mg/Kg	6020A
Cadmium	0.10	0.0070	mg/Kg	6020A
Calcium	50	1.3	mg/Kg	6020A
Chromium	0.20	0.0061	mg/Kg	6020A
Cobalt	0.050	0.0015	mg/Kg	6020A
Copper	0.20	0.033	mg/Kg	6020A
Iron	5.0	0.35	mg/Kg	6020A
Lead	0.10	0.0038	mg/Kg	6020A
Magnesium	50	0.19	mg/Kg	6020A
Manganese	0.50	0.010	mg/Kg	6020A
Nickel	0.10	0.011	mg/Kg	6020A
Potassium	50	1.4	mg/Kg	6020A
Selenium	0.50	0.050	mg/Kg	6020A
Silver	0.10	0.0039	mg/Kg	6020A
Sodium	50	1.4	mg/Kg	6020A
Thallium	0.10	0.0020	mg/Kg	6020A
Vanadium	0.10	0.0079	mg/Kg	6020A
Zinc	0.50	0.065	mg/Kg	6020A

Method: 7471B - Mercury (CVAA)

Analyte	RL	MDL	Units	Method
Mercury	0.033	0.011	mg/Kg	7471B

General Chemistry

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44601-1

General Chemistry

Analyte	RL	MDL	Units	Method
Percent Moisture	0.10	0.10	%	2540G
Percent Lipids	0.10	0.030	%	Lipids

Shipping and Receiving Documents

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print but[illegible] dialog box that appears. Note: If your browser does not support this function select P[illegible] menu to print the label.

2. **Fold th[illegible] at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not h[illegible] fix the folded label using clear plastic shipping tape over the entire label.

3. **GETTIN[illegible] MENT TO UPS**
   UPS lo[illegible] the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail o[illegible] drivers.
   Schedul[illegible] future day Pickup to have a UPS driver pickup all your CampusShip package[illegible]
   Hand th[illegible] y UPS driver in your area.
   Take yo[illegible] ny location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliance[illegible] ® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return [illegible] cluding via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

180-44597 Waybill

Customers with a Daily Pickup
Your driver will pickup your shipment(s) as usual.

FOLD HERE

KATHRYN MINCZUK
4105847000 5206
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

60 LBS 3 OF 7
DWT: 24,18,18

SHIP TO:
CARRIE GAMBER
4129632428
TESTAMERICA
301 ALPHA DRIVE
PITTSBURGH PA 15238-2907

PA 152 9-22
Uncorrected temp 2.1 °C
Thermometer ID 6
CF +/-C Initials TN
PT-WI-SR-001 effective 7/26/13

UPS EARLY A.M.
TRACKING #: 1Z 288 682 15 9061 4446

BILLING: P/P

Department Code: 2123
Project Phase AND Task: 1520401_0012
CS 17.2.07. WNTNV50 63.0A 04/2015

5/29

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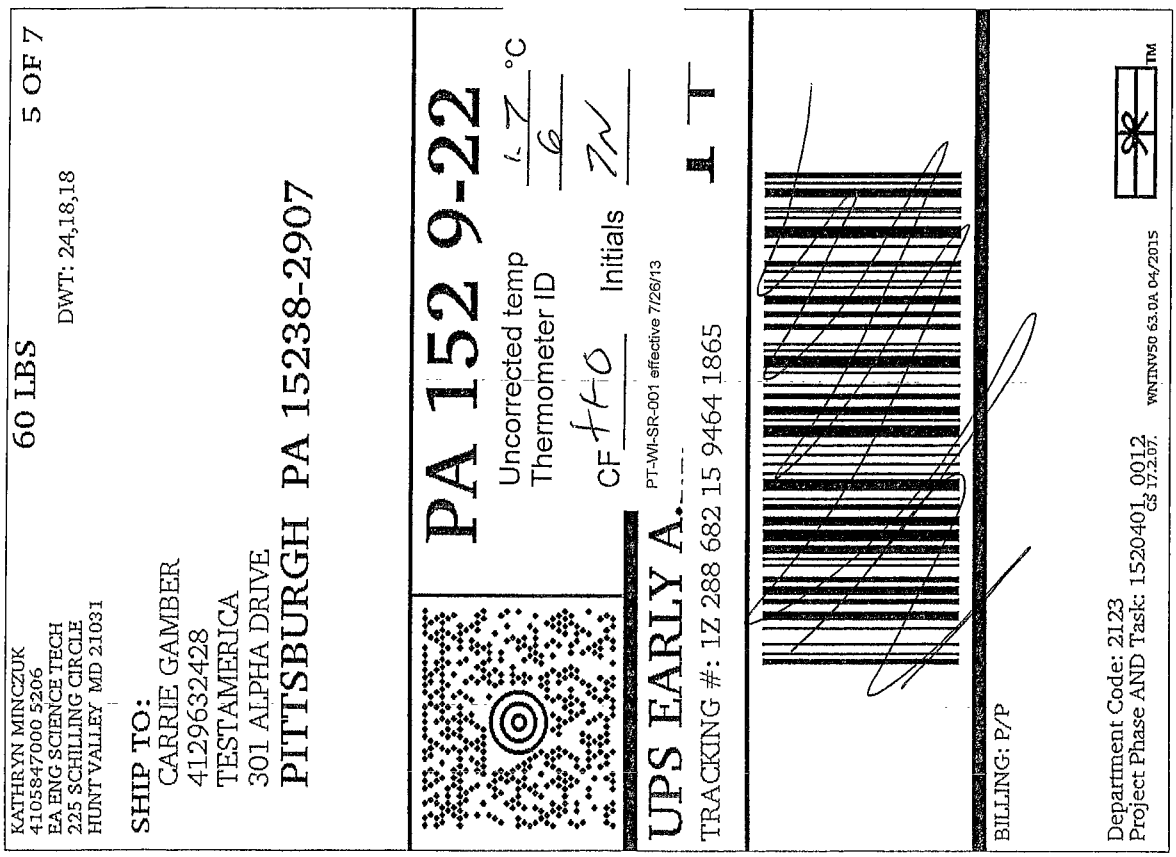
2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE



5/29

UPS CampusShip: View/Print Label

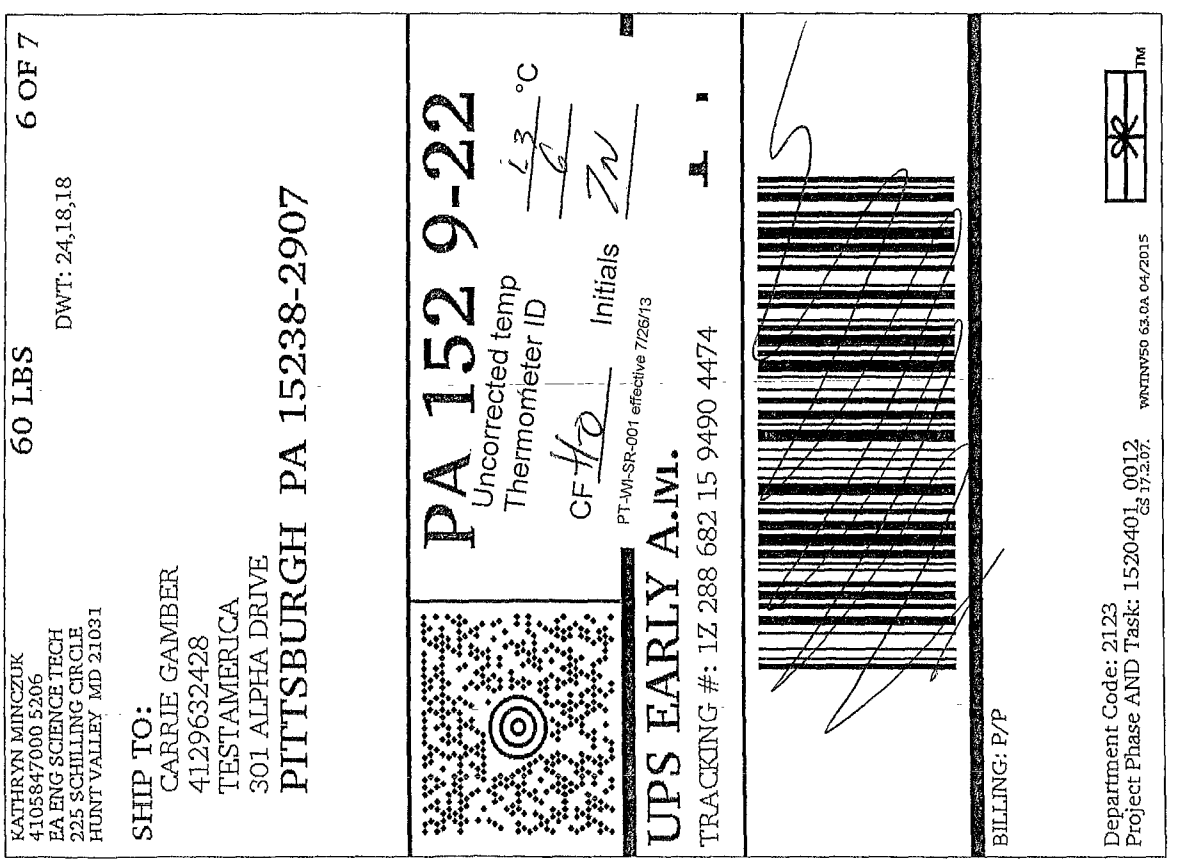
1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE



5/29

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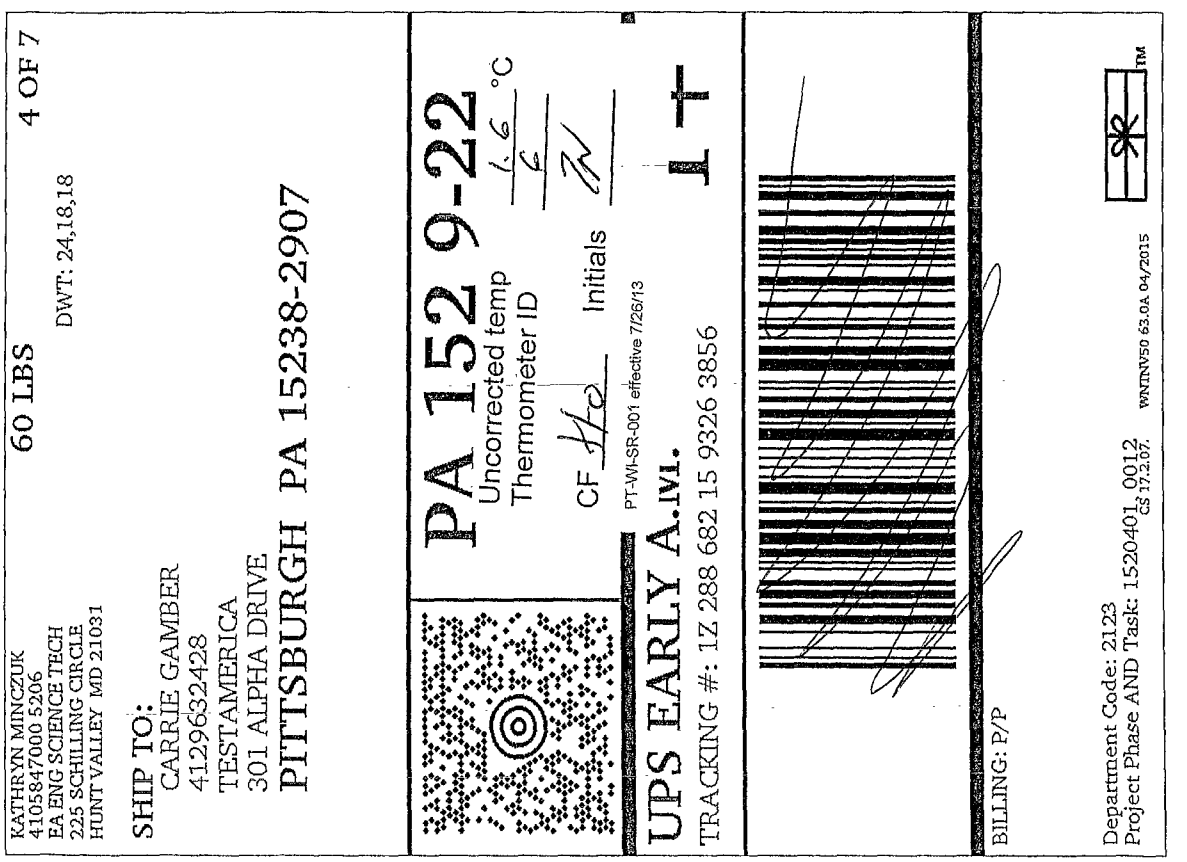

5/29

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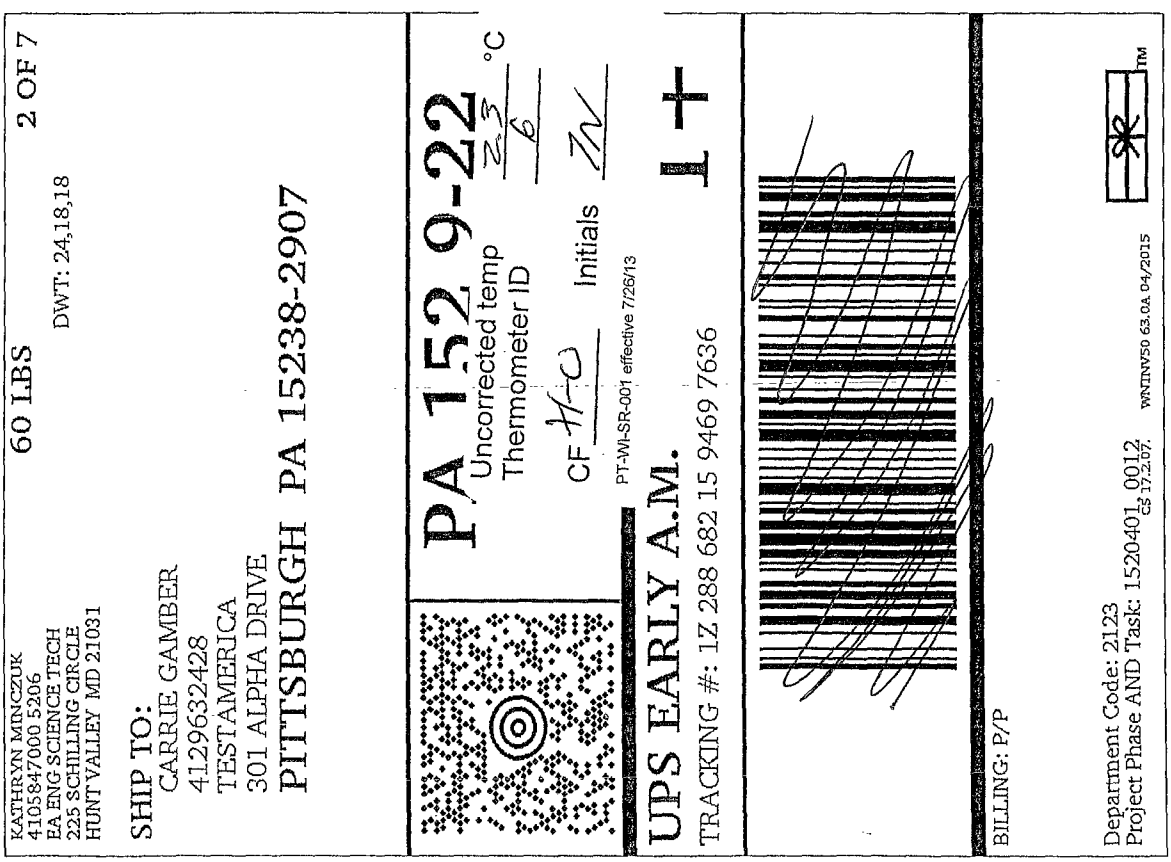
FOLD HERE



5/29

UPS CampusShip: View/Print Label

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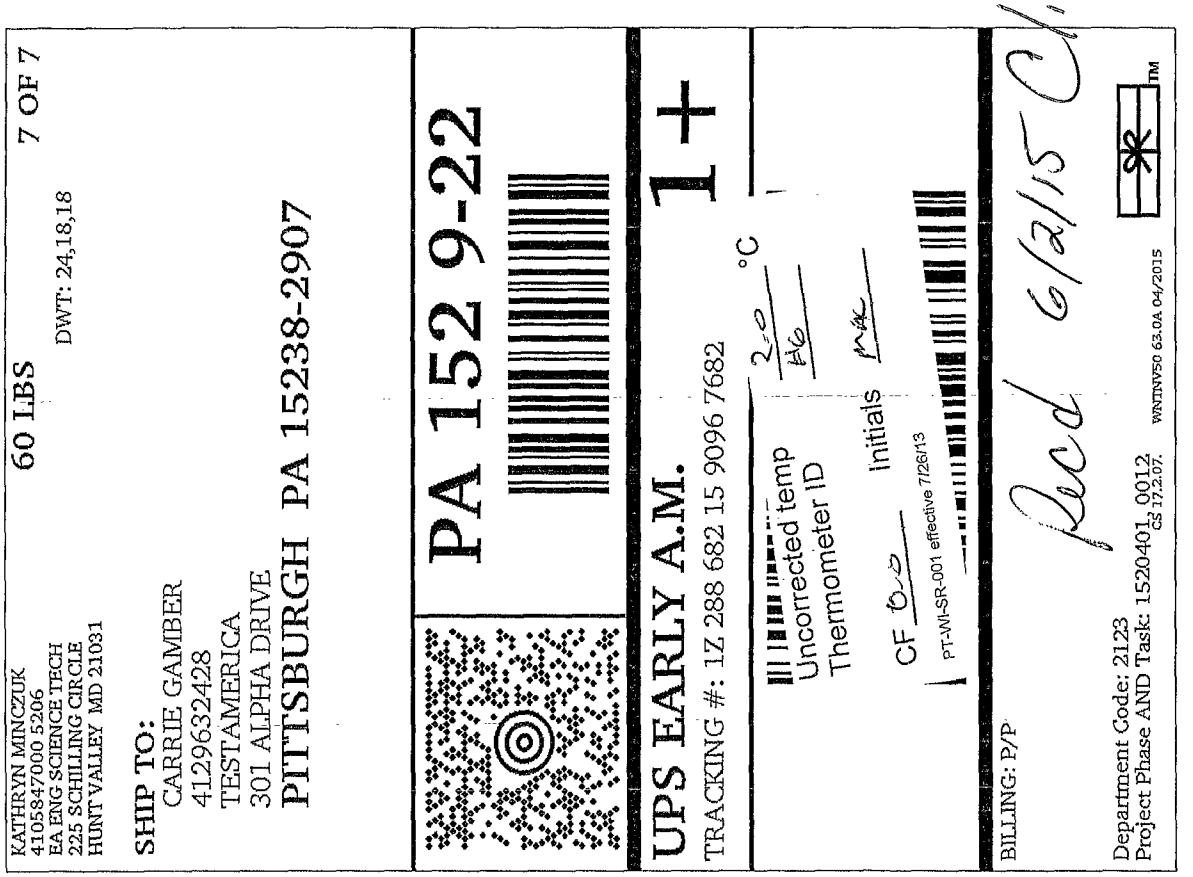
   Your driver will pickup your shipment(s) as usual.

FOLD HERE



UPS CampusShip: View/Print Label

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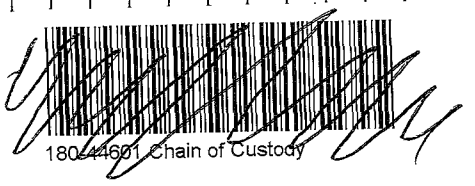
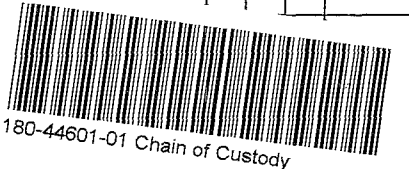
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE

4460|

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	Peggy Derrick		Laboratory: TestAmerica - Pittsburgh
	Phone: 410.329.5126		301 Alpha Drive
225 Schilling Circle	Project Contact:		Pittsburgh, PA 15238
Hunt Valley, MD 21031	Morgan Gelinas		
	Phone: 860.287.0745		phone: 412.963.2428
			fax: 412.963.2468
Project Name: Parallel Thimble Shoal Tunnel			
Project#: 15204.01			ATTN: Carrie Gamber
Page 3 of 6			





Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-081A-C	1	X	Hold frozen until notified by P.
5/21/2015	1200	X		AT5-081B-C	1	X	Derrick
5/21/2015	1200	X		AT5-081C-C	1	X	
5/21/2015	1200	X		AT5-081D-C	1	X	
5/21/2015	1200	X		AT5-081E-C	1	X	
5/21/2015	1200	X		AT5-082A-C	1	X	
5/21/2015	1200	X		AT5-082B-C	1	X	
5/21/2015	1200	X		AT5-082C-C	1	X	
5/21/2015	1200	X		AT5-082D-C	1	X	
5/21/2015	1200	X		AT5-082E-C	1	X	
5/21/2015	1200	X		AT5-083A-C	1	X	
5/21/2015	1200	X		AT5-083B-C	1	X	
5/21/2015	1200	X		AT5-083C-C	1	X	
5/21/2015	1200	X		AT5-083D-C	1	X	
5/21/2015	1200	X		AT5-083E-C	1	X	
5/21/2015	1200	X		AT5-084A-C	1	X	
5/21/2015	1200	X		AT5-084B-C	1	X	
5/21/2015	1200	X		AT5-084C-C	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600			Parallel Thimble
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	Shoal Tunnel Tissue
	5/28/15 1700		5/29/15 850	

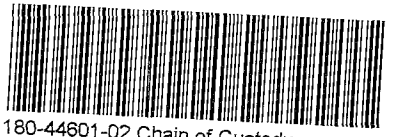
Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory:
	Phone: **410.329.5126**		**TestAmerica - Pittsburgh**
225 Schilling Circle	Project Contact:		**301 Alpha Drive**
Hunt Valley, MD 21031	**Morgan Gelinas**		**Pittsburgh, PA 15238**
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 4 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-084D-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-084E-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-085A-C	1	X	
5/21/2015	1200	X		AT5-085B-C	1	X	
5/21/2015	1200	X		AT5-085C-C	1	X	
5/21/2015	1200	X		AT5-085D-C	1	X	
5/21/2015	1200	X		AT5-085E-C	1	X	
5/21/2015	1200	X		AT5-086A-C	1	X	
5/21/2015	1200	X		AT5-086B-C	1	X	
5/21/2015	1200	X		AT5-086C-C	1	X	
5/21/2015	1200	X		AT5-086D-C	1	X	
5/21/2015	1200	X		AT5-086E-C	1	X	
5/21/2015	1200	X		AT5-087A-C	1	X	
5/21/2015	1200	X		AT5-087B-C	1	X	
5/21/2015	1200	X		AT5-087C-C	1	X	
5/21/2015	1200	X		AT5-087D-C	1	X	
5/21/2015	1200	X		AT5-087E-C	1	X	
5/21/2015	1200	X		AT5-088A-C	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600			**Parallel Thimble**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	**Shoal Tunnel Tissue**
	5/28/15 1700		5/29/15 850	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 3 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-081A-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-081B-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-081C-C	1	X	
5/21/2015	1200	X		AT5-081D-C	1	X	
5/21/2015	1200	X		AT5-081E-C	1	X	
5/21/2015	1200	X		AT5-082A-C	1	X	
5/21/2015	1200	X		AT5-082B-C	1	X	
5/21/2015	1200	X		AT5-082C-C	1	X	
5/21/2015	1200	X		AT5-082D-C	1	X	
5/21/2015	1200	X		AT5-082E-C	1	X	
5/21/2015	1200	X		AT5-083A-C	1	X	
5/21/2015	1200	X		AT5-083B-C	1	X	
5/21/2015	1200	X		AT5-083C-C	1	X	
5/21/2015	1200	X		AT5-083D-C	1	X	
5/21/2015	1200	X		AT5-083E-C	1	X	
5/21/2015	1200	X		AT5-084A-C	1	X	
5/21/2015	1200	X		AT5-084B-C	1	X	
5/21/2015	1200	X		AT5-084C-C	1	X	



Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600		6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1700		6/2/15 ~~1235~~ 1235 mac 6/1/15	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 4 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
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5/21/2015	1200	X		AT5-084E-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-085A-C	1	X	
5/21/2015	1200	X		AT5-085B-C	1	X	
5/21/2015	1200	X		AT5-085C-C	1	X	
5/21/2015	1200	X		AT5-085D-C	1	X	
5/21/2015	1200	X		AT5-085E-C	1	X	
5/21/2015	1200	X		AT5-086A-C	1	X	
5/21/2015	1200	X		AT5-086B-C	1	X	
5/21/2015	1200	X		AT5-086C-C	1	X	
5/21/2015	1200	X		AT5-086D-C	1	X	
5/21/2015	1200	X		AT5-086E-C	1	X	
5/21/2015	1200	X		AT5-087A-C	1	X	
5/21/2015	1200	X		AT5-087B-C	1	X	
5/21/2015	1200	X		AT5-087C-C	1	X	
5/21/2015	1200	X		AT5-087D-C	1	X	
5/21/2015	1200	X		AT5-087E-C	1	X	
5/21/2015	1200	X		AT5-088A-C	1	X	

Sampled by: (Signature)	Date/Time 5/28/15 1600	Relinquished by: (Signature)	Date/Time 6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time 5/28/15 1700	Received by Laboratory: (Signature)	Date/Time 6/1/15 ~~1250~~ 1235 6/1/15 MAL	

Client:	Project Manager:
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**
	Phone: **410.329.5126**
225 Schilling Circle	Project Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: **860.287.0745**

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 3 of 6

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Moisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-081A-C	1	X	X				X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-081B-C	1	X	X				X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-081C-C	1	X	X				X	X	X	
5/21/2015	1200	X		AT5-081D-C	1	X	X				X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
5/21/2015	1200	X		AT5-081E-C	1	X	X				X	X	X	
5/21/2015	1200	X		AT5-082A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082B-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082C-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082D-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082E-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083B-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083C-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083D-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083E-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-084A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-084B-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-084C-C	1	X	X	X		X	X	X	X	

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
Danita Corum	6/10/15 1530		6/13/15 0800
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time

Parallel Thimble Shoal Tunnel Tissue

Client:	Project Manager:
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**
	Phone: **410.329.5126**
225 Schilling Circle	Project Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: **860.287.0745**

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 4 of 6

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Mooisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-084D-C	1	X	X	X		X	X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-084E-C	1	X	X	X		X	X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-085A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-085B-C	1	X	X	X		X	X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
5/21/2015	1200	X		AT5-085C-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-085D-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-085E-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086B-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086C-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086D-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086E-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087B-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087C-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087D-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087E-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-088A-C	1	X	X	X		X	X	X	X	

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
Sarita Corum	6/10/15 1530		6/11/15 0800	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-44601-1

Login Number: 44601
List Number: 1
Creator: Kovitch, Christina M

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-44601-2

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/15/2015 12:36 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/15/2015

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Job Narrative
180-44601-2

Comments
No additional comments.

Receipt
The samples were received on 5/29/2015 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 7 coolers at receipt time were 1.3º C, 1.6º C, 1.7º C, 2.0º C, 2.1º C, 2.3º C and 2.7º C.

Subcontract Work
Method 1613 B Dioxins/Furans + TEQs (EA criteria: This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44601-2

Client Sample ID: AT5-081 A-C — Lab Sample ID: 180-44601-1

No Detections.

Client Sample ID: AT5-081 B-C — Lab Sample ID: 180-44601-2

No Detections.

Client Sample ID: AT5-081 C-C — Lab Sample ID: 180-44601-3

No Detections.

Client Sample ID: AT5-081 D-C — Lab Sample ID: 180-44601-4

No Detections.

Client Sample ID: AT5-081 E-C — Lab Sample ID: 180-44601-5

No Detections.

Client Sample ID: AT5-082 A-C — Lab Sample ID: 180-44601-6

No Detections.

Client Sample ID: AT5-082 B-C — Lab Sample ID: 180-44601-7

No Detections.

Client Sample ID: AT5-082 C-C — Lab Sample ID: 180-44601-8

No Detections.

Client Sample ID: AT5-082 D-C — Lab Sample ID: 180-44601-9

No Detections.

Client Sample ID: AT5-082 E-C — Lab Sample ID: 180-44601-10

No Detections.

Client Sample ID: AT5-083 A-C — Lab Sample ID: 180-44601-11

No Detections.

Client Sample ID: AT5-083 B-C — Lab Sample ID: 180-44601-12

No Detections.

Client Sample ID: AT5-083 C-C — Lab Sample ID: 180-44601-13

No Detections.

Client Sample ID: AT5-083 D-C — Lab Sample ID: 180-44601-14

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44601-2

Client Sample ID: AT5-083 E-C — **Lab Sample ID: 180-44601-15**

No Detections.

Client Sample ID: AT5-084 A-C — **Lab Sample ID: 180-44601-16**

No Detections.

Client Sample ID: AT5-084 B-C — **Lab Sample ID: 180-44601-17**

No Detections.

Client Sample ID: AT5-084 C-C — **Lab Sample ID: 180-44601-18**

No Detections.

Client Sample ID: AT5-084 D-C — **Lab Sample ID: 180-44601-19**

No Detections.

Client Sample ID: AT5-084 E-C — **Lab Sample ID: 180-44601-20**

No Detections.

Client Sample ID: AT5-085 A-C — **Lab Sample ID: 180-44601-21**

No Detections.

Client Sample ID: AT5-085 B-C — **Lab Sample ID: 180-44601-22**

No Detections.

Client Sample ID: AT5-085 C-C — **Lab Sample ID: 180-44601-23**

No Detections.

Client Sample ID: AT5-085 D-C — **Lab Sample ID: 180-44601-24**

No Detections.

Client Sample ID: AT5-085 E-C — **Lab Sample ID: 180-44601-25**

No Detections.

Client Sample ID: AT5-086 A-C — **Lab Sample ID: 180-44601-26**

No Detections.

Client Sample ID: AT5-086 B-C — **Lab Sample ID: 180-44601-27**

No Detections.

Client Sample ID: AT5-086 C-C — **Lab Sample ID: 180-44601-28**

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44601-2

Client Sample ID: AT5-086 D-C — Lab Sample ID: 180-44601-29

No Detections.

Client Sample ID: AT5-086 E-C — Lab Sample ID: 180-44601-30

No Detections.

Client Sample ID: AT5-087 A-C — Lab Sample ID: 180-44601-31

No Detections.

Client Sample ID: AT5-087 B-C — Lab Sample ID: 180-44601-32

No Detections.

Client Sample ID: AT5-087 C-C — Lab Sample ID: 180-44601-33

No Detections.

Client Sample ID: AT5-087 D-C — Lab Sample ID: 180-44601-34

No Detections.

Client Sample ID: AT5-087 E-C — Lab Sample ID: 180-44601-35

No Detections.

Client Sample ID: AT5-088 A-C — Lab Sample ID: 180-44601-36

No Detections.

This Detection Summary does not include radiochemical test results.

Certification Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44601-2

Laboratory: TestAmerica Pittsburgh

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-16
California	State Program	9	2891	03-31-16
Connecticut	State Program	1	PH-0688	09-30-16
Florida	NELAP	4	E871008	06-30-16
Illinois	NELAP	5	002602	06-30-16
Kansas	NELAP	7	E-10350	07-31-15
Louisiana	NELAP	6	04041	06-30-16
New Hampshire	NELAP	1	203011	04-04-16
New Jersey	NELAP	2	PA005	09-30-15
New York	NELAP	2	11182	03-31-16
North Carolina (WW/SW)	State Program	4	434	12-31-15
Pennsylvania	NELAP	3	02-00416	04-30-16
South Carolina	State Program	4	89014	06-30-15 *
Texas	NELAP	6	T104704528	03-31-16
US Fish & Wildlife	Federal		LE94312A-1	11-30-15
USDA	Federal		P-Soil-01	05-23-16
Utah	NELAP	8	STLP	05-31-16
Virginia	NELAP	3	460189	09-14-15
West Virginia DEP	State Program	3	142	01-31-16
Wisconsin	State Program	5	998027800	08-31-15

* Certification renewal pending - certification considered valid.

Sample Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44601-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-44601-1	AT5-081 A-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-2	AT5-081 B-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-3	AT5-081 C-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-4	AT5-081 D-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-5	AT5-081 E-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-6	AT5-082 A-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-7	AT5-082 B-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-8	AT5-082 C-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-9	AT5-082 D-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-10	AT5-082 E-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-11	AT5-083 A-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-12	AT5-083 B-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-13	AT5-083 C-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-14	AT5-083 D-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-15	AT5-083 E-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-16	AT5-084 A-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-17	AT5-084 B-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-18	AT5-084 C-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-19	AT5-084 D-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-20	AT5-084 E-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-21	AT5-085 A-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-22	AT5-085 B-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-23	AT5-085 C-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-24	AT5-085 D-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-25	AT5-085 E-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-26	AT5-086 A-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-27	AT5-086 B-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-28	AT5-086 C-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-29	AT5-086 D-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-30	AT5-086 E-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-31	AT5-087 A-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-32	AT5-087 B-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-33	AT5-087 C-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-34	AT5-087 D-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-35	AT5-087 E-C	Tissue	05/21/15 12:00	05/29/15 08:50
180-44601-36	AT5-088 A-C	Tissue	05/21/15 12:00	05/29/15 08:50

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Sample Receipt Documentation 97

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-44601-2

CBBT Thimble Shoal

Lot #: H5F190411

Carrie Gamber

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.

Bruce Wagner
Project Manager

July 15, 2015

ANALYTICAL METHODS SUMMARY

H5F190411

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

SAMPLE SUMMARY

H5F190411

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M64D1	001	AT5-081 A-C	05/21/15	
M64D2	002	AT5-081 B-C	05/21/15	
M64D3	003	AT5-081 C-C	05/21/15	
M64D4	004	AT5-081 D-C	05/21/15	
M64D5	005	AT5-081 E-C	05/21/15	
M64D6	006	AT5-082 A-C	05/21/15	
M64D7	007	AT5-082 B-C	05/21/15	
M64D8	008	AT5-082 C-C	05/21/15	
M64D9	009	AT5-082 D-C	05/21/15	
M64EA	010	AT5-082 E-C	05/21/15	
M64EC	011	AT5-083 A-C	05/21/15	
M64ED	012	AT5-083 B-C	05/21/15	
M64EE	013	AT5-083 C-C	05/21/15	
M64EF	014	AT5-083 D-C	05/21/15	
M64EG	015	AT5-083 E-C	05/21/15	
M64EH	016	AT5-084 A-C	05/21/15	
M64EJ	017	AT5-084 B-C	05/21/15	
M64EK	018	AT5-084 C-C	05/21/15	
M64EL	019	AT5-084 D-C	05/21/15	
M64EM	020	AT5-084 E-C	05/21/15	
M64EN	021	AT5-085 A-C	05/21/15	
M64EP	022	AT5-085 B-C	05/21/15	
M64EQ	023	AT5-085 C-C	05/21/15	
M64ER	024	AT5-085 D-C	05/21/15	
M64ET	025	AT5-085 E-C	05/21/15	
M64EV	026	AT5-086 A-C	05/21/15	
M64EW	027	AT5-086 B-C	05/21/15	
M64EX	028	AT5-086 C-C	05/21/15	
M64E0	029	AT5-086 D-C	05/21/15	
M64E1	030	AT5-086 E-C	05/21/15	
M64E2	031	AT5-087 A-C	05/21/15	
M64E3	032	AT5-087 B-C	05/21/15	
M64E4	033	AT5-087 C-C	05/21/15	
M64E5	034	AT5-087 D-C	05/21/15	
M64E6	035	AT5-087 E-C	05/21/15	
M64E7	036	AT5-088 A-C	05/21/15	

(Continued on next page)

SAMPLE SUMMARY

H5F190411

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H5F190411

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

All 2378-TCDF results which met all qualitative requirements and were reported from the Rtx-5 column are qualified with an "X". This was done to indicate that the Rtx-5 column is not isomer specific for 2378-TCDF.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

PROJECT NARRATIVE
H5F190411

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

PROJECT NARRATIVE
H5F190411

X – Other. See explanation in narrative.

Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample

PROJECT NARRATIVE
H5F190411

Ais = Sum of areas of the internal standard peaks
RRF = mean relative response factor of compound obtained during initial calibration
W = amount of sample extracted (grams or liters)
S = percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:
1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: AT5-081 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 001	**Work Order #....:**	M64D11AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**7/7/15**	**1**	**0.091 Q J**	**1.0**	**0.086**	**1.0**	**0.091**
1,2,3,7,8-PeCDD	7/7/15	1	ND	5.0	0.039	0.5	0.020
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	5.0	0.026	0.1	0.0026
1,2,3,6,7,8-HxCDD	7/7/15	1	ND	5.0	0.025	0.1	0.0025
1,2,3,7,8,9-HxCDD	7/7/15	1	ND	5.0	0.024	0.1	0.0024
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.18 Q B J**	**5.0**	**0.052**	**0.01**	**0.0018**
OCDD	**7/7/15**	**1**	**1.4 Q B J**	**10**	**0.022**	**0.001**	**0.0014**
2,3,7,8-TCDF	7/7/15	1	ND	1.0	0.024	0.1	0.0024
1,2,3,7,8-PeCDF	7/7/15	1	ND	5.0	0.030	0.05	0.0015
2,3,4,7,8-PeCDF	7/7/15	1	ND	5.0	0.029	0.5	0.014
1,2,3,4,7,8-HxCDF	7/7/15	1	ND	5.0	0.025	0.1	0.0025
1,2,3,6,7,8-HxCDF	7/7/15	1	ND	5.0	0.025	0.1	0.0025
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	5.0	0.025	0.1	0.0025
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.0	0.032	0.1	0.0032
1,2,3,4,6,7,8-HpCDF	**7/7/15**	**1**	**0.067 B J**	**5.0**	**0.014**	**0.01**	**0.00067**
1,2,3,4,7,8,9-HpCDF	7/7/15	1	ND	5.0	0.023	0.01	0.00023
OCDF	**7/7/15**	**1**	**0.16 Q B J**	**10**	**0.014**	**0.001**	**0.00016**
Total TEQ Concentration							**0.15**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	60	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	65	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	74	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	79	(23 - 140)
13C-OCDD	66	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	73	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	63	(26 - 138)
13C-OCDF	51	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-081 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-081 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 002	**Work Order #....:**	M64D21AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	1.0	0.094	1.0	0.094
1,2,3,7,8-PeCDD	7/7/15	1	ND	5.0	0.032	0.5	0.016
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	5.0	0.027	0.1	0.0027
1,2,3,6,7,8-HxCDD	7/7/15	1	ND	5.0	0.025	0.1	0.0025
1,2,3,7,8,9-HxCDD	7/7/15	1	ND	5.0	0.024	0.1	0.0024
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.14 Q B J**	**5.0**	**0.041**	**0.01**	**0.0014**
OCDD	**7/7/15**	**1**	**1.3 B J**	**10**	**0.057**	**0.001**	**0.0013**
2,3,7,8-TCDF	7/7/15	1	ND	1.0	0.024	0.1	0.0024
1,2,3,7,8-PeCDF	7/7/15	1	ND	5.0	0.026	0.05	0.0013
2,3,4,7,8-PeCDF	7/7/15	1	ND	5.0	0.022	0.5	0.011
1,2,3,4,7,8-HxCDF	7/7/15	1	ND	5.0	0.026	0.1	0.0026
1,2,3,6,7,8-HxCDF	7/7/15	1	ND	5.0	0.026	0.1	0.0026
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	5.0	0.026	0.1	0.0026
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.0	0.037	0.1	0.0037
1,2,3,4,6,7,8-HpCDF	7/7/15	1	ND	5.0	0.013	0.01	0.00013
1,2,3,4,7,8,9-HpCDF	7/7/15	1	ND	5.0	0.019	0.01	0.00019
OCDF	**7/7/15**	**1**	**0.14 B J**	**10**	**0.018**	**0.001**	**0.00014**
Total TEQ Concentration							**0.15**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	72	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	80	(23 - 140)
13C-OCDD	72	(17 - 157)
13C-2,3,7,8-TCDF	69	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	73	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	74	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	72	(26 - 138)
13C-OCDF	58	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-081 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	78	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-081 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 003	**Work Order #....:**	M64D31AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	0.98	0.097	1.0	0.097
1,2,3,7,8-PeCDD	7/7/15	1	ND	4.9	0.040	0.5	0.020
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	4.9	0.020	0.1	0.0020
1,2,3,6,7,8-HxCDD	7/7/15	1	ND	4.9	0.021	0.1	0.0021
1,2,3,7,8,9-HxCDD	7/7/15	1	ND	4.9	0.019	0.1	0.0019
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.13 Q B J**	**4.9**	**0.048**	**0.01**	**0.0013**
OCDD	**7/7/15**	**1**	**1.6 Q B J**	**9.8**	**0.047**	**0.001**	**0.0016**
2,3,7,8-TCDF	7/7/15	1	ND	0.98	0.024	0.1	0.0024
1,2,3,7,8-PeCDF	7/7/15	1	ND	4.9	0.027	0.05	0.0014
2,3,4,7,8-PeCDF	7/7/15	1	ND	4.9	0.024	0.5	0.012
1,2,3,4,7,8-HxCDF	7/7/15	1	ND	4.9	0.029	0.1	0.0029
1,2,3,6,7,8-HxCDF	7/7/15	1	ND	4.9	0.029	0.1	0.0029
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	4.9	0.030	0.1	0.0030
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	4.9	0.038	0.1	0.0038
1,2,3,4,6,7,8-HpCDF	7/7/15	1	ND	4.9	0.014	0.01	0.00014
1,2,3,4,7,8,9-HpCDF	7/7/15	1	ND	4.9	0.021	0.01	0.00021
OCDF	**7/7/15**	**1**	**0.20 B J**	**9.8**	**0.013**	**0.001**	**0.00020**
Total TEQ Concentration							**0.15**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	62	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	70	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	84	(23 - 140)
13C-OCDD	75	(17 - 157)
13C-2,3,7,8-TCDF	64	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	69	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	74	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	72	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	77	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	78	(26 - 138)
13C-OCDF	65	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-081 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	72	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-081 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 004	**Work Order #....:**	M64D41AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	0.99	0.093	1.0	0.093
1,2,3,7,8-PeCDD	7/7/15	1	ND	5.0	0.039	0.5	0.020
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	5.0	0.025	0.1	0.0025
1,2,3,6,7,8-HxCDD	7/7/15	1	ND	5.0	0.025	0.1	0.0025
1,2,3,7,8,9-HxCDD	7/7/15	1	ND	5.0	0.023	0.1	0.0023
1,2,3,4,6,7,8-HpCDD	7/7/15	1	ND	5.0	0.051	0.01	0.00051
OCDD	**7/7/15**	**1**	**1.2 Q B J**	**9.9**	**0.050**	**0.001**	**0.0012**
2,3,7,8-TCDF	7/7/15	1	ND	0.99	0.019	0.1	0.0019
1,2,3,7,8-PeCDF	7/7/15	1	ND	5.0	0.030	0.05	0.0015
2,3,4,7,8-PeCDF	7/7/15	1	ND	5.0	0.025	0.5	0.012
1,2,3,4,7,8-HxCDF	7/7/15	1	ND	5.0	0.031	0.1	0.0031
1,2,3,6,7,8-HxCDF	7/7/15	1	ND	5.0	0.030	0.1	0.0030
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	5.0	0.035	0.1	0.0035
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.0	0.040	0.1	0.0040
1,2,3,4,6,7,8-HpCDF	7/7/15	1	ND	5.0	0.012	0.01	0.00012
1,2,3,4,7,8,9-HpCDF	7/7/15	1	ND	5.0	0.017	0.01	0.00017
OCDF	**7/7/15**	**1**	**0.13 Q B J**	**9.9**	**0.019**	**0.001**	**0.00013**
Total TEQ Concentration							**0.15**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	66	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	74	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	82	(23 - 140)
13C-OCDD	71	(17 - 157)
13C-2,3,7,8-TCDF	69	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	72	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	71	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	74	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	74	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	77	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	83	(26 - 138)
13C-OCDF	68	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-081 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	81	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-081 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 005	**Work Order #....:**	M64D51AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	0.99	0.12	1.0	0.12
1,2,3,7,8-PeCDD	7/7/15	1	ND	5.0	0.036	0.5	0.018
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	5.0	0.034	0.1	0.0034
1,2,3,6,7,8-HxCDD	7/7/15	1	ND	5.0	0.038	0.1	0.0038
1,2,3,7,8,9-HxCDD	7/7/15	1	ND	5.0	0.034	0.1	0.0034
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.13 Q B J**	**5.0**	**0.052**	**0.01**	**0.0013**
OCDD	**7/7/15**	**1**	**1.2 Q B J**	**9.9**	**0.066**	**0.001**	**0.0012**
2,3,7,8-TCDF	7/7/15	1	ND	0.99	0.023	0.1	0.0023
1,2,3,7,8-PeCDF	7/7/15	1	ND	5.0	0.026	0.05	0.0013
2,3,4,7,8-PeCDF	7/7/15	1	ND	5.0	0.024	0.5	0.012
1,2,3,4,7,8-HxCDF	7/7/15	1	ND	5.0	0.031	0.1	0.0031
1,2,3,6,7,8-HxCDF	7/7/15	1	ND	5.0	0.032	0.1	0.0032
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	5.0	0.033	0.1	0.0033
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.0	0.040	0.1	0.0040
1,2,3,4,6,7,8-HpCDF	**7/7/15**	**1**	**0.015 Q B J**	**5.0**	**0.012**	**0.01**	**0.00015**
1,2,3,4,7,8,9-HpCDF	**7/7/15**	**1**	**0.029 Q B J**	**5.0**	**0.018**	**0.01**	**0.00029**
OCDF	**7/7/15**	**1**	**0.094 Q B J**	**9.9**	**0.035**	**0.001**	**0.000094**
Total TEQ Concentration							**0.18**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	79	(23 - 140)
13C-OCDD	70	(17 - 157)
13C-2,3,7,8-TCDF	68	(24 - 169)
13C-1,2,3,7,8-PeCDF	69	(24 - 185)
13C-2,3,4,7,8-PeCDF	69	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	68	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	73	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	76	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	76	(26 - 138)
13C-OCDF	64	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-081 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	78	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-082 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 006	**Work Order #....:**	M64D61AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	1.0	0.072	1.0	0.072
1,2,3,7,8-PeCDD	7/7/15	1	ND	5.0	0.032	0.5	0.016
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	5.0	0.019	0.1	0.0019
1,2,3,6,7,8-HxCDD	7/7/15	1	ND	5.0	0.021	0.1	0.0021
1,2,3,7,8,9-HxCDD	7/7/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.12 Q B J**	**5.0**	**0.030**	**0.01**	**0.0012**
OCDD	**7/7/15**	**1**	**0.96 B J**	**10**	**0.043**	**0.001**	**0.00096**
2,3,7,8-TCDF	7/7/15	1	ND	1.0	0.015	0.1	0.0015
1,2,3,7,8-PeCDF	7/7/15	1	ND	5.0	0.019	0.05	0.00095
2,3,4,7,8-PeCDF	7/7/15	1	ND	5.0	0.017	0.5	0.0085
1,2,3,4,7,8-HxCDF	7/7/15	1	ND	5.0	0.022	0.1	0.0022
1,2,3,6,7,8-HxCDF	7/7/15	1	ND	5.0	0.022	0.1	0.0022
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	5.0	0.023	0.1	0.0023
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.0	0.029	0.1	0.0029
1,2,3,4,6,7,8-HpCDF	7/7/15	1	ND	5.0	0.011	0.01	0.00011
1,2,3,4,7,8,9-HpCDF	7/7/15	1	ND	5.0	0.017	0.01	0.00017
OCDF	**7/7/15**	**1**	**0.066 Q B J**	**10**	**0.012**	**0.001**	**0.000066**
Total TEQ Concentration							**0.12**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	63	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	81	(23 - 140)
13C-OCDD	71	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	72	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	75	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	75	(26 - 138)
13C-OCDF	66	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-082 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	77	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-082 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 007	**Work Order #....:**	M64D71AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	1.0	0.087	1.0	0.087
1,2,3,7,8-PeCDD	**7/7/15**	**1**	**0.055 Q J**	**5.0**	**0.033**	**0.5**	**0.028**
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	5.0	0.036	0.1	0.0036
1,2,3,6,7,8-HxCDD	7/7/15	1	ND	5.0	0.035	0.1	0.0035
1,2,3,7,8,9-HxCDD	7/7/15	1	ND	5.0	0.033	0.1	0.0033
1,2,3,4,6,7,8-HpCDD	7/7/15	1	ND	5.0	0.043	0.01	0.00043
OCDD	**7/7/15**	**1**	**0.79 B J**	**10**	**0.057**	**0.001**	**0.00079**
2,3,7,8-TCDF	7/7/15	1	ND	1.0	0.018	0.1	0.0018
1,2,3,7,8-PeCDF	7/7/15	1	ND	5.0	0.025	0.05	0.0012
2,3,4,7,8-PeCDF	7/7/15	1	ND	5.0	0.024	0.5	0.012
1,2,3,4,7,8-HxCDF	7/7/15	1	ND	5.0	0.030	0.1	0.0030
1,2,3,6,7,8-HxCDF	7/7/15	1	ND	5.0	0.029	0.1	0.0029
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	5.0	0.029	0.1	0.0029
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.0	0.037	0.1	0.0037
1,2,3,4,6,7,8-HpCDF	7/7/15	1	ND	5.0	0.016	0.01	0.00016
1,2,3,4,7,8,9-HpCDF	7/7/15	1	ND	5.0	0.023	0.01	0.00023
OCDF	7/7/15	1	ND	10	0.028	0.001	0.000028
Total TEQ Concentration							**0.15**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	66	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	65	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	75	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	81	(23 - 140)
13C-OCDD	72	(17 - 157)
13C-2,3,7,8-TCDF	71	(24 - 169)
13C-1,2,3,7,8-PeCDF	68	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	74	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	76	(26 - 138)
13C-OCDF	66	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-082 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-082 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 008	**Work Order #....:**	M64D81AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	0.99	0.085	1.0	0.085
1,2,3,7,8-PeCDD	7/8/15	1	ND	5.0	0.039	0.5	0.020
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	5.0	0.030	0.1	0.0030
1,2,3,6,7,8-HxCDD	7/8/15	1	ND	5.0	0.030	0.1	0.0030
1,2,3,7,8,9-HxCDD	7/8/15	1	ND	5.0	0.028	0.1	0.0028
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.15 Q B J**	**5.0**	**0.036**	**0.01**	**0.0015**
OCDD	**7/8/15**	**1**	**1.1 B J**	**9.9**	**0.031**	**0.001**	**0.0011**
2,3,7,8-TCDF	7/8/15	1	ND	0.99	0.018	0.1	0.0018
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.0	0.025	0.05	0.0012
2,3,4,7,8-PeCDF	7/8/15	1	ND	5.0	0.023	0.5	0.012
1,2,3,4,7,8-HxCDF	7/8/15	1	ND	5.0	0.025	0.1	0.0025
1,2,3,6,7,8-HxCDF	7/8/15	1	ND	5.0	0.026	0.1	0.0026
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.0	0.026	0.1	0.0026
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.0	0.032	0.1	0.0032
1,2,3,4,6,7,8-HpCDF	**7/8/15**	**1**	**0.024 Q B J**	**5.0**	**0.012**	**0.01**	**0.00024**
1,2,3,4,7,8,9-HpCDF	**7/8/15**	**1**	**0.045 Q B J**	**5.0**	**0.018**	**0.01**	**0.00045**
OCDF	**7/8/15**	**1**	**0.047 Q B J**	**9.9**	**0.011**	**0.001**	**0.000047**
Total TEQ Concentration							**0.14**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	63	(25 - 164)
13C-1,2,3,7,8-PeCDD	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	64	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	75	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	72	(23 - 140)
13C-OCDD	66	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	66	(24 - 185)
13C-2,3,4,7,8-PeCDF	69	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	62	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	70	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	69	(26 - 138)
13C-OCDF	58	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-082 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	79	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-082 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 009	**Work Order #....:**	M64D91AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	0.98	0.082	1.0	0.082
1,2,3,7,8-PeCDD	7/8/15	1	ND	4.9	0.031	0.5	0.016
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	4.9	0.020	0.1	0.0020
1,2,3,6,7,8-HxCDD	7/8/15	1	ND	4.9	0.021	0.1	0.0021
1,2,3,7,8,9-HxCDD	7/8/15	1	ND	4.9	0.019	0.1	0.0019
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.16 Q B J**	**4.9**	**0.031**	**0.01**	**0.0016**
OCDD	**7/8/15**	**1**	**0.63 B J**	**9.8**	**0.025**	**0.001**	**0.00063**
2,3,7,8-TCDF	7/8/15	1	ND	0.98	0.013	0.1	0.0013
1,2,3,7,8-PeCDF	7/8/15	1	ND	4.9	0.015	0.05	0.00075
2,3,4,7,8-PeCDF	7/8/15	1	ND	4.9	0.013	0.5	0.0065
1,2,3,4,7,8-HxCDF	7/8/15	1	ND	4.9	0.021	0.1	0.0021
1,2,3,6,7,8-HxCDF	7/8/15	1	ND	4.9	0.020	0.1	0.0020
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	4.9	0.022	0.1	0.0022
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	4.9	0.026	0.1	0.0026
1,2,3,4,6,7,8-HpCDF	7/8/15	1	ND	4.9	0.0092	0.01	0.000092
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	4.9	0.014	0.01	0.00014
OCDF	**7/8/15**	**1**	**0.084 B J**	**9.8**	**0.013**	**0.001**	**0.000084**
Total TEQ Concentration							**0.12**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	79	(23 - 140)
13C-OCDD	68	(17 - 157)
13C-2,3,7,8-TCDF	65	(24 - 169)
13C-1,2,3,7,8-PeCDF	66	(24 - 185)
13C-2,3,4,7,8-PeCDF	69	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	64	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	69	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	69	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	71	(26 - 138)
13C-OCDF	62	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-082 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-082 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 010	**Work Order #....:**	M64EA1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	0.99	0.081	1.0	0.081
1,2,3,7,8-PeCDD	7/8/15	1	ND	5.0	0.038	0.5	0.019
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	5.0	0.020	0.1	0.0020
1,2,3,6,7,8-HxCDD	7/8/15	1	ND	5.0	0.020	0.1	0.0020
1,2,3,7,8,9-HxCDD	7/8/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDD	7/8/15	1	ND	5.0	0.036	0.01	0.00036
OCDD	7/8/15	1	ND	9.9	0.028	0.001	0.000028
2,3,7,8-TCDF	7/8/15	1	ND	0.99	0.016	0.1	0.0016
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.0	0.018	0.05	0.00090
2,3,4,7,8-PeCDF	7/8/15	1	ND	5.0	0.017	0.5	0.0085
1,2,3,4,7,8-HxCDF	7/8/15	1	ND	5.0	0.025	0.1	0.0025
1,2,3,6,7,8-HxCDF	7/8/15	1	ND	5.0	0.023	0.1	0.0023
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.0	0.025	0.1	0.0025
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.0	0.030	0.1	0.0030
1,2,3,4,6,7,8-HpCDF	7/8/15	1	ND	5.0	0.013	0.01	0.00013
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	5.0	0.018	0.01	0.00018
OCDF	7/8/15	1	ND	9.9	0.011	0.001	0.000011

Total TEQ Concentration **0.13**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	74	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	78	(23 - 140)
13C-OCDD	69	(17 - 157)
13C-2,3,7,8-TCDF	70	(24 - 169)
13C-1,2,3,7,8-PeCDF	71	(24 - 185)
13C-2,3,4,7,8-PeCDF	71	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	64	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	64	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	69	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	69	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	73	(26 - 138)
13C-OCDF	64	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-082 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	83	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

TestAmerica Pittsburgh

Client Sample ID: AT5-083 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 011	**Work Order #....:**	M64EC1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	0.98	0.076	1.0	0.076
1,2,3,7,8-PeCDD	7/8/15	1	ND	4.9	0.035	0.5	0.018
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	4.9	0.020	0.1	0.0020
1,2,3,6,7,8-HxCDD	7/8/15	1	ND	4.9	0.021	0.1	0.0021
1,2,3,7,8,9-HxCDD	7/8/15	1	ND	4.9	0.019	0.1	0.0019
1,2,3,4,6,7,8-HpCDD	7/8/15	1	ND	4.9	0.030	0.01	0.00030
OCDD	**7/8/15**	**1**	**1.2 Q B J**	**9.8**	**0.042**	**0.001**	**0.0012**
2,3,7,8-TCDF	7/8/15	1	ND	0.98	0.012	0.1	0.0012
1,2,3,7,8-PeCDF	7/8/15	1	ND	4.9	0.016	0.05	0.00080
2,3,4,7,8-PeCDF	7/8/15	1	ND	4.9	0.014	0.5	0.0070
1,2,3,4,7,8-HxCDF	7/8/15	1	ND	4.9	0.021	0.1	0.0021
1,2,3,6,7,8-HxCDF	7/8/15	1	ND	4.9	0.021	0.1	0.0021
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	4.9	0.020	0.1	0.0020
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	4.9	0.027	0.1	0.0027
1,2,3,4,6,7,8-HpCDF	**7/8/15**	**1**	**0.037 Q B J**	**4.9**	**0.0089**	**0.01**	**0.00037**
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	4.9	0.014	0.01	0.00014
OCDF	**7/8/15**	**1**	**0.10 B J**	**9.8**	**0.018**	**0.001**	**0.00010**
Total TEQ Concentration							**0.12**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	66	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	72	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	82	(23 - 140)
13C-OCDD	70	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	70	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	74	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	71	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	74	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	72	(26 - 138)
13C-OCDF	62	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-083 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-083 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 012	**Work Order #....:**	M64ED1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	9.2 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	1.1	0.10	1.0	0.10
1,2,3,7,8-PeCDD	7/8/15	1	ND	5.4	0.044	0.5	0.022
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	5.4	0.028	0.1	0.0028
1,2,3,6,7,8-HxCDD	7/8/15	1	ND	5.4	0.027	0.1	0.0027
1,2,3,7,8,9-HxCDD	7/8/15	1	ND	5.4	0.026	0.1	0.0026
1,2,3,4,6,7,8-HpCDD	7/8/15	1	ND	5.4	0.043	0.01	0.00043
OCDD	**7/8/15**	**1**	**1.3 Q B J**	**11**	**0.077**	**0.001**	**0.0013**
2,3,7,8-TCDF	7/8/15	1	ND	1.1	0.016	0.1	0.0016
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.4	0.022	0.05	0.0011
2,3,4,7,8-PeCDF	7/8/15	1	ND	5.4	0.020	0.5	0.010
1,2,3,4,7,8-HxCDF	7/8/15	1	ND	5.4	0.029	0.1	0.0029
1,2,3,6,7,8-HxCDF	7/8/15	1	ND	5.4	0.029	0.1	0.0029
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.4	0.029	0.1	0.0029
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.4	0.034	0.1	0.0034
1,2,3,4,6,7,8-HpCDF	7/8/15	1	ND	5.4	0.015	0.01	0.00015
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	5.4	0.027	0.01	0.00027
OCDF	**7/8/15**	**1**	**0.11 Q B J**	**11**	**0.029**	**0.001**	**0.00011**
Total TEQ Concentration							**0.16**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	73	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	74	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	81	(23 - 140)
13C-OCDD	70	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	70	(24 - 185)
13C-2,3,4,7,8-PeCDF	71	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	72	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	68	(26 - 138)
13C-OCDF	58	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-083 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	79	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-083 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 013	**Work Order #....:**	M64EE1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	9 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	1.1	0.11	1.0	0.11
1,2,3,7,8-PeCDD	7/8/15	1	ND	5.6	0.033	0.5	0.016
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	5.6	0.025	0.1	0.0025
1,2,3,6,7,8-HxCDD	7/8/15	1	ND	5.6	0.025	0.1	0.0025
1,2,3,7,8,9-HxCDD	7/8/15	1	ND	5.6	0.023	0.1	0.0023
1,2,3,4,6,7,8-HpCDD	7/8/15	1	ND	5.6	0.040	0.01	0.00040
OCDD	**7/8/15**	**1**	**1.2 B J**	**11**	**0.047**	**0.001**	**0.0012**
2,3,7,8-TCDF	7/8/15	1	ND	1.1	0.014	0.1	0.0014
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.6	0.024	0.05	0.0012
2,3,4,7,8-PeCDF	7/8/15	1	ND	5.6	0.020	0.5	0.010
1,2,3,4,7,8-HxCDF	7/8/15	1	ND	5.6	0.025	0.1	0.0025
1,2,3,6,7,8-HxCDF	7/8/15	1	ND	5.6	0.025	0.1	0.0025
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.6	0.026	0.1	0.0026
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.6	0.031	0.1	0.0031
1,2,3,4,6,7,8-HpCDF	7/8/15	1	ND	5.6	0.013	0.01	0.00013
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	5.6	0.021	0.01	0.00021
OCDF	**7/8/15**	**1**	**0.044 Q B J**	**11**	**0.016**	**0.001**	**0.000044**
Total TEQ Concentration							**0.16**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	66	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	74	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	78	(23 - 140)
13C-OCDD	67	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	70	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	64	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	69	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	71	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	70	(26 - 138)
13C-OCDF	61	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-083 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	77	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-083 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 014	**Work Order #....:**	M64EF1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/9/15	1	ND	0.99	0.11	1.0	0.11
1,2,3,7,8-PeCDD	7/9/15	1	ND	5.0	0.053	0.5	0.026
1,2,3,4,7,8-HxCDD	7/9/15	1	ND	5.0	0.054	0.1	0.0054
1,2,3,6,7,8-HxCDD	7/9/15	1	ND	5.0	0.053	0.1	0.0053
1,2,3,7,8,9-HxCDD	7/9/15	1	ND	5.0	0.049	0.1	0.0049
1,2,3,4,6,7,8-HpCDD	7/9/15	1	ND	5.0	0.10	0.01	0.0010
OCDD	**7/9/15**	**1**	**1.5 Q B J**	**9.9**	**0.041**	**0.001**	**0.0015**
2,3,7,8-TCDF	7/9/15	1	ND	0.99	0.044	0.1	0.0044
1,2,3,7,8-PeCDF	7/9/15	1	ND	5.0	0.041	0.05	0.0020
2,3,4,7,8-PeCDF	7/9/15	1	ND	5.0	0.039	0.5	0.020
1,2,3,4,7,8-HxCDF	7/9/15	1	ND	5.0	0.050	0.1	0.0050
1,2,3,6,7,8-HxCDF	7/9/15	1	ND	5.0	0.049	0.1	0.0049
2,3,4,6,7,8-HxCDF	7/9/15	1	ND	5.0	0.056	0.1	0.0056
1,2,3,7,8,9-HxCDF	7/9/15	1	ND	5.0	0.068	0.1	0.0068
1,2,3,4,6,7,8-HpCDF	**7/9/15**	**1**	**0.13 B J**	**5.0**	**0.018**	**0.01**	**0.0013**
1,2,3,4,7,8,9-HpCDF	7/9/15	1	ND	5.0	0.028	0.01	0.00028
OCDF	**7/9/15**	**1**	**0.20 Q B J**	**9.9**	**0.018**	**0.001**	**0.00020**
Total TEQ Concentration							**0.20**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	58	(25 - 164)
13C-1,2,3,7,8-PeCDD	59	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	58	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	73	(23 - 140)
13C-OCDD	76	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	58	(24 - 185)
13C-2,3,4,7,8-PeCDF	59	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	76	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	73	(26 - 138)
13C-OCDF	69	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-083 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	72	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-083 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 015	**Work Order #....:**	M64EG1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	9.4 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	1.1	0.087	1.0	0.087
1,2,3,7,8-PeCDD	7/8/15	1	ND	5.3	0.039	0.5	0.020
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	5.3	0.023	0.1	0.0023
1,2,3,6,7,8-HxCDD	7/8/15	1	ND	5.3	0.025	0.1	0.0025
1,2,3,7,8,9-HxCDD	7/8/15	1	ND	5.3	0.022	0.1	0.0022
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.11 Q B J**	**5.3**	**0.032**	**0.01**	**0.0011**
OCDD	**7/8/15**	**1**	**1.1 B J**	**11**	**0.040**	**0.001**	**0.0011**
2,3,7,8-TCDF	7/8/15	1	ND	1.1	0.017	0.1	0.0017
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.3	0.019	0.05	0.00095
2,3,4,7,8-PeCDF	7/8/15	1	ND	5.3	0.016	0.5	0.0080
1,2,3,4,7,8-HxCDF	7/8/15	1	ND	5.3	0.022	0.1	0.0022
1,2,3,6,7,8-HxCDF	7/8/15	1	ND	5.3	0.022	0.1	0.0022
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.3	0.022	0.1	0.0022
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.3	0.029	0.1	0.0029
1,2,3,4,6,7,8-HpCDF	7/8/15	1	ND	5.3	0.0099	0.01	0.000099
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	5.3	0.015	0.01	0.00015
OCDF	7/8/15	1	ND	11	0.018	0.001	0.000018

Total TEQ Concentration **0.14**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	65	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	70	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	80	(23 - 140)
13C-OCDD	72	(17 - 157)
13C-2,3,7,8-TCDF	63	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	69	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	64	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	72	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	72	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	74	(26 - 138)
13C-OCDF	65	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-083 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-084 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 016	**Work Order #....:**	M64EH1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	1.0	0.090	1.0	0.090
1,2,3,7,8-PeCDD	**7/8/15**	**1**	**0.10 Q J**	**5.0**	**0.033**	**0.5**	**0.050**
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	5.0	0.031	0.1	0.0031
1,2,3,6,7,8-HxCDD	7/8/15	1	ND	5.0	0.032	0.1	0.0032
1,2,3,7,8,9-HxCDD	**7/8/15**	**1**	**0.051 Q J**	**5.0**	**0.029**	**0.1**	**0.0051**
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.12 Q B J**	**5.0**	**0.055**	**0.01**	**0.0012**
OCDD	**7/8/15**	**1**	**0.88 B J**	**10**	**0.040**	**0.001**	**0.00088**
2,3,7,8-TCDF	7/8/15	1	ND	1.0	0.030	0.1	0.0030
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.0	0.028	0.05	0.0014
2,3,4,7,8-PeCDF	7/8/15	1	ND	5.0	0.025	0.5	0.012
1,2,3,4,7,8-HxCDF	7/8/15	1	ND	5.0	0.033	0.1	0.0033
1,2,3,6,7,8-HxCDF	7/8/15	1	ND	5.0	0.032	0.1	0.0032
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.0	0.034	0.1	0.0034
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.0	0.043	0.1	0.0043
1,2,3,4,6,7,8-HpCDF	7/8/15	1	ND	5.0	0.013	0.01	0.00013
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	5.0	0.021	0.01	0.00021
OCDF	**7/8/15**	**1**	**0.15 Q B J**	**10**	**0.011**	**0.001**	**0.00015**
Total TEQ Concentration							**0.19**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	66	(25 - 164)
13C-1,2,3,7,8-PeCDD	64	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	71	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	85	(23 - 140)
13C-OCDD	68	(17 - 157)
13C-2,3,7,8-TCDF	76	(24 - 169)
13C-1,2,3,7,8-PeCDF	66	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	74	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	73	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	77	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	74	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	83	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	80	(26 - 138)
13C-OCDF	69	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-084 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	85	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-084 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 017	**Work Order #....:**	M64EJ1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	1.0	0.082	1.0	0.082
1,2,3,7,8-PeCDD	7/8/15	1	ND	5.0	0.033	0.5	0.016
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	5.0	0.033	0.1	0.0033
1,2,3,6,7,8-HxCDD	7/8/15	1	ND	5.0	0.035	0.1	0.0035
1,2,3,7,8,9-HxCDD	7/8/15	1	ND	5.0	0.032	0.1	0.0032
1,2,3,4,6,7,8-HpCDD	7/8/15	1	ND	5.0	0.052	0.01	0.00052
OCDD	**7/8/15**	**1**	**0.79 Q B J**	**10**	**0.054**	**0.001**	**0.00079**
2,3,7,8-TCDF	7/8/15	1	ND	1.0	0.022	0.1	0.0022
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.0	0.026	0.05	0.0013
2,3,4,7,8-PeCDF	7/8/15	1	ND	5.0	0.024	0.5	0.012
1,2,3,4,7,8-HxCDF	7/8/15	1	ND	5.0	0.032	0.1	0.0032
1,2,3,6,7,8-HxCDF	7/8/15	1	ND	5.0	0.030	0.1	0.0030
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.0	0.030	0.1	0.0030
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.0	0.039	0.1	0.0039
1,2,3,4,6,7,8-HpCDF	7/8/15	1	ND	5.0	0.015	0.01	0.00015
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	5.0	0.022	0.01	0.00022
OCDF	**7/8/15**	**1**	**0.15 B J**	**10**	**0.024**	**0.001**	**0.00015**
Total TEQ Concentration							**0.14**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	68	(25 - 164)
13C-1,2,3,7,8-PeCDD	71	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	71	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	87	(23 - 140)
13C-OCDD	73	(17 - 157)
13C-2,3,7,8-TCDF	80	(24 - 169)
13C-1,2,3,7,8-PeCDF	72	(24 - 185)
13C-2,3,4,7,8-PeCDF	74	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	75	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	74	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	83	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	80	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	84	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	86	(26 - 138)
13C-OCDF	70	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-084 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	89	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-084 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 018	**Work Order #....:**	M64EK1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	9.4 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	1.1	0.098	1.0	0.098
1,2,3,7,8-PeCDD	7/8/15	1	ND	5.3	0.042	0.5	0.021
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	5.3	0.038	0.1	0.0038
1,2,3,6,7,8-HxCDD	7/8/15	1	ND	5.3	0.040	0.1	0.0040
1,2,3,7,8,9-HxCDD	7/8/15	1	ND	5.3	0.036	0.1	0.0036
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.27 Q B J**	**5.3**	**0.052**	**0.01**	**0.0027**
OCDD	**7/8/15**	**1**	**1.2 Q B J**	**11**	**0.055**	**0.001**	**0.0012**
2,3,7,8-TCDF	7/8/15	1	ND	1.1	0.031	0.1	0.0031
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.3	0.030	0.05	0.0015
2,3,4,7,8-PeCDF	7/8/15	1	ND	5.3	0.025	0.5	0.012
1,2,3,4,7,8-HxCDF	7/8/15	1	ND	5.3	0.033	0.1	0.0033
1,2,3,6,7,8-HxCDF	7/8/15	1	ND	5.3	0.032	0.1	0.0032
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.3	0.036	0.1	0.0036
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.3	0.044	0.1	0.0044
1,2,3,4,6,7,8-HpCDF	7/8/15	1	ND	5.3	0.013	0.01	0.00013
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	5.3	0.019	0.01	0.00019
OCDF	7/8/15	1	ND	11	0.022	0.001	0.000022
Total TEQ Concentration							**0.17**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	72	(25 - 164)
13C-1,2,3,7,8-PeCDD	75	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	77	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	88	(23 - 140)
13C-OCDD	75	(17 - 157)
13C-2,3,7,8-TCDF	82	(24 - 169)
13C-1,2,3,7,8-PeCDF	71	(24 - 185)
13C-2,3,4,7,8-PeCDF	77	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	80	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	79	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	83	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	79	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	86	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	91	(26 - 138)
13C-OCDF	73	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-084 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	93	(35 - 197)

NOTES:

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When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-084 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 019	**Work Order #....:**	M64EL1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/25/15			**Dilution Factor:**	1
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	0.99	0.081	1.0	0.081
1,2,3,7,8-PeCDD	7/8/15	1	ND	5.0	0.034	0.5	0.017
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	5.0	0.028	0.1	0.0028
1,2,3,6,7,8-HxCDD	7/8/15	1	ND	5.0	0.030	0.1	0.0030
1,2,3,7,8,9-HxCDD	7/8/15	1	ND	5.0	0.027	0.1	0.0027
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.11 Q B J**	**5.0**	**0.044**	**0.01**	**0.0011**
OCDD	**7/8/15**	**1**	**0.92 Q B J**	**9.9**	**0.050**	**0.001**	**0.00092**
2,3,7,8-TCDF	7/8/15	1	ND	0.99	0.026	0.1	0.0026
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.0	0.026	0.05	0.0013
2,3,4,7,8-PeCDF	7/8/15	1	ND	5.0	0.024	0.5	0.012
1,2,3,4,7,8-HxCDF	7/8/15	1	ND	5.0	0.032	0.1	0.0032
1,2,3,6,7,8-HxCDF	7/8/15	1	ND	5.0	0.031	0.1	0.0031
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.0	0.033	0.1	0.0033
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.0	0.040	0.1	0.0040
1,2,3,4,6,7,8-HpCDF	7/8/15	1	ND	5.0	0.012	0.01	0.00012
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	5.0	0.019	0.01	0.00019
OCDF	**7/8/15**	**1**	**0.13 Q B J**	**9.9**	**0.019**	**0.001**	**0.00013**
Total TEQ Concentration							**0.14**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	66	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	73	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	90	(23 - 140)
13C-OCDD	74	(17 - 157)
13C-2,3,7,8-TCDF	77	(24 - 169)
13C-1,2,3,7,8-PeCDF	69	(24 - 185)
13C-2,3,4,7,8-PeCDF	72	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	81	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	77	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	84	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	81	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	87	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	89	(26 - 138)
13C-OCDF	71	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-084 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	86	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-084 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 020	**Work Order #....:**	M64EM1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	9.9 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/9/15	1	ND	1.0	0.087	1.0	0.087
1,2,3,7,8-PeCDD	7/9/15	1	ND	5.1	0.035	0.5	0.018
1,2,3,4,7,8-HxCDD	7/9/15	1	ND	5.1	0.030	0.1	0.0030
1,2,3,6,7,8-HxCDD	7/9/15	1	ND	5.1	0.031	0.1	0.0031
1,2,3,7,8,9-HxCDD	7/9/15	1	ND	5.1	0.028	0.1	0.0028
1,2,3,4,6,7,8-HpCDD	**7/9/15**	**1**	**0.17 Q J**	**5.1**	**0.062**	**0.01**	**0.0017**
OCDD	**7/9/15**	**1**	**1.1 Q B J**	**10**	**0.040**	**0.001**	**0.0011**
2,3,7,8-TCDF	7/9/15	1	ND	1.0	0.034	0.1	0.0034
1,2,3,7,8-PeCDF	7/9/15	1	ND	5.1	0.027	0.05	0.0014
2,3,4,7,8-PeCDF	7/9/15	1	ND	5.1	0.024	0.5	0.012
1,2,3,4,7,8-HxCDF	7/9/15	1	ND	5.1	0.036	0.1	0.0036
1,2,3,6,7,8-HxCDF	7/9/15	1	ND	5.1	0.035	0.1	0.0035
2,3,4,6,7,8-HxCDF	7/9/15	1	ND	5.1	0.037	0.1	0.0037
1,2,3,7,8,9-HxCDF	7/9/15	1	ND	5.1	0.045	0.1	0.0045
1,2,3,4,6,7,8-HpCDF	7/9/15	1	ND	5.1	0.23	0.01	0.0023
1,2,3,4,7,8,9-HpCDF	7/9/15	1	ND	5.1	0.36	0.01	0.0036
OCDF	**7/9/15**	**1**	**0.14 Q B J**	**10**	**0.037**	**0.001**	**0.00014**
Total TEQ Concentration							**0.15**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	63	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	64	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	81	(23 - 140)
13C-OCDD	87	(17 - 157)
13C-2,3,7,8-TCDF	72	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	72	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	72	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	75	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	74	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	82	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	82	(26 - 138)
13C-OCDF	81	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-084 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-085 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 021	**Work Order #....:**	M64EN1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/9/15	1	ND	0.99	0.11	1.0	0.11
1,2,3,7,8-PeCDD	7/9/15	1	ND	5.0	0.042	0.5	0.021
1,2,3,4,7,8-HxCDD	7/9/15	1	ND	5.0	0.037	0.1	0.0037
1,2,3,6,7,8-HxCDD	7/9/15	1	ND	5.0	0.038	0.1	0.0038
1,2,3,7,8,9-HxCDD	7/9/15	1	ND	5.0	0.035	0.1	0.0035
1,2,3,4,6,7,8-HpCDD	7/9/15	1	ND	5.0	0.082	0.01	0.00082
OCDD	**7/9/15**	**1**	**1.4 Q B J**	**9.9**	**0.11**	**0.001**	**0.0014**
2,3,7,8-TCDF	7/9/15	1	ND	0.99	0.045	0.1	0.0045
1,2,3,7,8-PeCDF	7/9/15	1	ND	5.0	0.030	0.05	0.0015
2,3,4,7,8-PeCDF	7/9/15	1	ND	5.0	0.026	0.5	0.013
1,2,3,4,7,8-HxCDF	7/9/15	1	ND	5.0	0.045	0.1	0.0045
1,2,3,6,7,8-HxCDF	7/9/15	1	ND	5.0	0.046	0.1	0.0046
2,3,4,6,7,8-HxCDF	7/9/15	1	ND	5.0	0.048	0.1	0.0048
1,2,3,7,8,9-HxCDF	7/9/15	1	ND	5.0	0.058	0.1	0.0058
1,2,3,4,6,7,8-HpCDF	7/9/15	1	ND	5.0	0.15	0.01	0.0015
1,2,3,4,7,8,9-HpCDF	7/9/15	1	ND	5.0	0.20	0.01	0.0020
OCDF	**7/9/15**	**1**	**0.27 Q B J**	**9.9**	**0.059**	**0.001**	**0.00027**
Total TEQ Concentration							**0.19**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	83	(23 - 140)
13C-OCDD	85	(17 - 157)
13C-2,3,7,8-TCDF	69	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	69	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	70	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	73	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	81	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	89	(26 - 138)
13C-OCDF	80	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-085 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	78	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-085 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 022	**Work Order #....:**	M64EP1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/9/15	1	ND	1.0	0.10	1.0	0.10
1,2,3,7,8-PeCDD	7/9/15	1	ND	5.0	0.040	0.5	0.020
1,2,3,4,7,8-HxCDD	7/9/15	1	ND	5.0	0.033	0.1	0.0033
1,2,3,6,7,8-HxCDD	7/9/15	1	ND	5.0	0.036	0.1	0.0036
1,2,3,7,8,9-HxCDD	7/9/15	1	ND	5.0	0.032	0.1	0.0032
1,2,3,4,6,7,8-HpCDD	7/9/15	1	ND	5.0	0.079	0.01	0.00079
OCDD	**7/9/15**	**1**	**2.6 B J**	**10**	**0.079**	**0.001**	**0.0026**
2,3,7,8-TCDF	7/9/15	1	ND	1.0	0.033	0.1	0.0033
1,2,3,7,8-PeCDF	7/9/15	1	ND	5.0	0.033	0.05	0.0016
2,3,4,7,8-PeCDF	7/9/15	1	ND	5.0	0.028	0.5	0.014
1,2,3,4,7,8-HxCDF	7/9/15	1	ND	5.0	0.051	0.1	0.0051
1,2,3,6,7,8-HxCDF	7/9/15	1	ND	5.0	0.048	0.1	0.0048
2,3,4,6,7,8-HxCDF	7/9/15	1	ND	5.0	0.050	0.1	0.0050
1,2,3,7,8,9-HxCDF	7/9/15	1	ND	5.0	0.065	0.1	0.0065
1,2,3,4,6,7,8-HpCDF	7/9/15	1	ND	5.0	0.096	0.01	0.00096
1,2,3,4,7,8,9-HpCDF	7/9/15	1	ND	5.0	0.14	0.01	0.0014
OCDF	**7/9/15**	**1**	**0.16 Q B J**	**10**	**0.045**	**0.001**	**0.00016**
Total TEQ Concentration							**0.18**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	58	(25 - 164)
13C-1,2,3,7,8-PeCDD	63	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	62	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	78	(23 - 140)
13C-OCDD	76	(17 - 157)
13C-2,3,7,8-TCDF	65	(24 - 169)
13C-1,2,3,7,8-PeCDF	57	(24 - 185)
13C-2,3,4,7,8-PeCDF	62	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	64	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	69	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	74	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	77	(26 - 138)
13C-OCDF	70	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-085 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	73	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-085 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 023	**Work Order #....:**	M64EQ1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/9/15	1	ND	0.98	0.11	1.0	0.11
1,2,3,7,8-PeCDD	7/9/15	1	ND	4.9	0.034	0.5	0.017
1,2,3,4,7,8-HxCDD	7/9/15	1	ND	4.9	0.043	0.1	0.0043
1,2,3,6,7,8-HxCDD	7/9/15	1	ND	4.9	0.042	0.1	0.0042
1,2,3,7,8,9-HxCDD	7/9/15	1	ND	4.9	0.040	0.1	0.0040
1,2,3,4,6,7,8-HpCDD	7/9/15	1	ND	4.9	0.093	0.01	0.00093
OCDD	**7/9/15**	**1**	**1.3 Q B J**	**9.8**	**0.066**	**0.001**	**0.0013**
2,3,7,8-TCDF	7/9/15	1	ND	0.98	0.038	0.1	0.0038
1,2,3,7,8-PeCDF	7/9/15	1	ND	4.9	0.042	0.05	0.0021
2,3,4,7,8-PeCDF	7/9/15	1	ND	4.9	0.033	0.5	0.016
1,2,3,4,7,8-HxCDF	7/9/15	1	ND	4.9	0.050	0.1	0.0050
1,2,3,6,7,8-HxCDF	7/9/15	1	ND	4.9	0.050	0.1	0.0050
2,3,4,6,7,8-HxCDF	7/9/15	1	ND	4.9	0.052	0.1	0.0052
1,2,3,7,8,9-HxCDF	7/9/15	1	ND	4.9	0.066	0.1	0.0066
1,2,3,4,6,7,8-HpCDF	7/9/15	1	ND	4.9	0.055	0.01	0.00055
1,2,3,4,7,8,9-HpCDF	7/9/15	1	ND	4.9	0.082	0.01	0.00082
OCDF	**7/9/15**	**1**	**0.082 Q B J**	**9.8**	**0.024**	**0.001**	**0.000082**
Total TEQ Concentration							**0.19**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	77	(23 - 140)
13C-OCDD	77	(17 - 157)
13C-2,3,7,8-TCDF	74	(24 - 169)
13C-1,2,3,7,8-PeCDF	56	(24 - 185)
13C-2,3,4,7,8-PeCDF	62	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	68	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	71	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	77	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	81	(26 - 138)
13C-OCDF	71	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-085 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	74	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-085 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 024	**Work Order #....:**	M64ER1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/9/15	1	ND	1.0	0.10	1.0	0.10
1,2,3,7,8-PeCDD	**7/9/15**	**1**	**0.22 J**	**5.0**	**0.048**	**0.5**	**0.11**
1,2,3,4,7,8-HxCDD	7/9/15	1	ND	5.0	0.035	0.1	0.0035
1,2,3,6,7,8-HxCDD	7/9/15	1	ND	5.0	0.037	0.1	0.0037
1,2,3,7,8,9-HxCDD	7/9/15	1	ND	5.0	0.033	0.1	0.0033
1,2,3,4,6,7,8-HpCDD	7/9/15	1	ND	5.0	0.076	0.01	0.00076
OCDD	**7/9/15**	**1**	**1.7 B J**	**10**	**0.099**	**0.001**	**0.0017**
2,3,7,8-TCDF	7/9/15	1	ND	1.0	0.037	0.1	0.0037
1,2,3,7,8-PeCDF	7/9/15	1	ND	5.0	0.038	0.05	0.0019
2,3,4,7,8-PeCDF	7/9/15	1	ND	5.0	0.031	0.5	0.016
1,2,3,4,7,8-HxCDF	7/9/15	1	ND	5.0	0.042	0.1	0.0042
1,2,3,6,7,8-HxCDF	7/9/15	1	ND	5.0	0.044	0.1	0.0044
2,3,4,6,7,8-HxCDF	7/9/15	1	ND	5.0	0.044	0.1	0.0044
1,2,3,7,8,9-HxCDF	7/9/15	1	ND	5.0	0.053	0.1	0.0053
1,2,3,4,6,7,8-HpCDF	7/9/15	1	ND	5.0	0.042	0.01	0.00042
1,2,3,4,7,8,9-HpCDF	7/9/15	1	ND	5.0	0.064	0.01	0.00064
OCDF	**7/9/15**	**1**	**0.11 Q B J**	**10**	**0.046**	**0.001**	**0.00011**
Total TEQ Concentration							**0.26**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	59	(25 - 164)
13C-1,2,3,7,8-PeCDD	63	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	61	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	75	(23 - 140)
13C-OCDD	77	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	58	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	69	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	73	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	72	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	81	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	81	(26 - 138)
13C-OCDF	70	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-085 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	75	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-085 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 025	**Work Order #....:**	M64ET1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	6.2 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/9/15	1	ND	1.6	0.15	1.0	0.15
1,2,3,7,8-PeCDD	**7/9/15**	**1**	**0.20 Q J**	**8.1**	**0.071**	**0.5**	**0.10**
1,2,3,4,7,8-HxCDD	7/9/15	1	ND	8.1	0.059	0.1	0.0059
1,2,3,6,7,8-HxCDD	7/9/15	1	ND	8.1	0.061	0.1	0.0061
1,2,3,7,8,9-HxCDD	7/9/15	1	ND	8.1	0.056	0.1	0.0056
1,2,3,4,6,7,8-HpCDD	7/9/15	1	ND	8.1	0.13	0.01	0.0013
OCDD	**7/9/15**	**1**	**3.2 B J**	**16**	**0.15**	**0.001**	**0.0032**
2,3,7,8-TCDF	7/9/15	1	ND	1.6	0.051	0.1	0.0051
1,2,3,7,8-PeCDF	7/9/15	1	ND	8.1	0.040	0.05	0.0020
2,3,4,7,8-PeCDF	7/9/15	1	ND	8.1	0.039	0.5	0.020
1,2,3,4,7,8-HxCDF	7/9/15	1	ND	8.1	0.050	0.1	0.0050
1,2,3,6,7,8-HxCDF	7/9/15	1	ND	8.1	0.048	0.1	0.0048
2,3,4,6,7,8-HxCDF	7/9/15	1	ND	8.1	0.053	0.1	0.0053
1,2,3,7,8,9-HxCDF	7/9/15	1	ND	8.1	0.068	0.1	0.0068
1,2,3,4,6,7,8-HpCDF	7/9/15	1	ND	8.1	0.048	0.01	0.00048
1,2,3,4,7,8,9-HpCDF	7/9/15	1	ND	8.1	0.072	0.01	0.00072
OCDF	**7/9/15**	**1**	**0.15 Q B J**	**16**	**0.055**	**0.001**	**0.00015**
Total TEQ Concentration							**0.32**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	59	(25 - 164)
13C-1,2,3,7,8-PeCDD	64	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	66	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	71	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	85	(23 - 140)
13C-OCDD	85	(17 - 157)
13C-2,3,7,8-TCDF	70	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	75	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	73	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	76	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	76	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	86	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	90	(26 - 138)
13C-OCDF	79	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-085 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	72	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-086 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 026	**Work Order #....:**	M64EV1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/13/15	1	ND	0.98	0.080	1.0	0.080
1,2,3,7,8-PeCDD	7/13/15	1	ND	4.9	0.035	0.5	0.018
1,2,3,4,7,8-HxCDD	7/13/15	1	ND	4.9	0.038	0.1	0.0038
1,2,3,6,7,8-HxCDD	7/13/15	1	ND	4.9	0.044	0.1	0.0044
1,2,3,7,8,9-HxCDD	7/13/15	1	ND	4.9	0.038	0.1	0.0038
1,2,3,4,6,7,8-HpCDD	7/13/15	1	ND	4.9	0.086	0.01	0.00086
OCDD	**7/13/15**	**1**	**0.97 Q B J**	**9.8**	**0.044**	**0.001**	**0.00097**
2,3,7,8-TCDF	7/13/15	1	ND	0.98	0.040	0.1	0.0040
1,2,3,7,8-PeCDF	7/13/15	1	ND	4.9	0.031	0.05	0.0015
2,3,4,7,8-PeCDF	7/13/15	1	ND	4.9	0.028	0.5	0.014
1,2,3,4,7,8-HxCDF	7/13/15	1	ND	4.9	0.041	0.1	0.0041
1,2,3,6,7,8-HxCDF	7/13/15	1	ND	4.9	0.042	0.1	0.0042
2,3,4,6,7,8-HxCDF	7/13/15	1	ND	4.9	0.044	0.1	0.0044
1,2,3,7,8,9-HxCDF	7/13/15	1	ND	4.9	0.053	0.1	0.0053
1,2,3,4,6,7,8-HpCDF	7/13/15	1	ND	4.9	0.018	0.01	0.00018
1,2,3,4,7,8,9-HpCDF	7/13/15	1	ND	4.9	0.028	0.01	0.00028
OCDF	**7/13/15**	**1**	**0.32 Q B J**	**9.8**	**0.011**	**0.001**	**0.00032**
Total TEQ Concentration							**0.15**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	56	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	61	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	55	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	71	(23 - 140)
13C-OCDD	73	(17 - 157)
13C-2,3,7,8-TCDF	65	(24 - 169)
13C-1,2,3,7,8-PeCDF	55	(24 - 185)
13C-2,3,4,7,8-PeCDF	60	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	65	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	73	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	75	(26 - 138)
13C-OCDF	71	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-086 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	73	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-086 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 027	**Work Order #....:**	M64EW1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/13/15	1	ND	0.99	0.071	1.0	0.071
1,2,3,7,8-PeCDD	7/13/15	1	ND	5.0	0.035	0.5	0.018
1,2,3,4,7,8-HxCDD	7/13/15	1	ND	5.0	0.024	0.1	0.0024
1,2,3,6,7,8-HxCDD	7/13/15	1	ND	5.0	0.026	0.1	0.0026
1,2,3,7,8,9-HxCDD	**7/13/15**	**1**	**0.075 Q J**	**5.0**	**0.023**	**0.1**	**0.0075**
1,2,3,4,6,7,8-HpCDD	**7/13/15**	**1**	**0.056 Q J**	**5.0**	**0.040**	**0.01**	**0.00056**
OCDD	**7/13/15**	**1**	**0.70 Q B J**	**9.9**	**0.050**	**0.001**	**0.00070**
2,3,7,8-TCDF	7/13/15	1	ND	0.99	0.025	0.1	0.0025
1,2,3,7,8-PeCDF	7/13/15	1	ND	5.0	0.024	0.05	0.0012
2,3,4,7,8-PeCDF	7/13/15	1	ND	5.0	0.021	0.5	0.010
1,2,3,4,7,8-HxCDF	7/13/15	1	ND	5.0	0.031	0.1	0.0031
1,2,3,6,7,8-HxCDF	7/13/15	1	ND	5.0	0.030	0.1	0.0030
2,3,4,6,7,8-HxCDF	7/13/15	1	ND	5.0	0.033	0.1	0.0033
1,2,3,7,8,9-HxCDF	7/13/15	1	ND	5.0	0.039	0.1	0.0039
1,2,3,4,6,7,8-HpCDF	**7/13/15**	**1**	**0.055 Q B J**	**5.0**	**0.016**	**0.01**	**0.00055**
1,2,3,4,7,8,9-HpCDF	7/13/15	1	ND	5.0	0.022	0.01	0.00022
OCDF	**7/13/15**	**1**	**0.16 Q B J**	**9.9**	**0.016**	**0.001**	**0.00016**
Total TEQ Concentration							**0.13**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	56	(25 - 164)
13C-1,2,3,7,8-PeCDD	59	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	61	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	63	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	72	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	56	(24 - 185)
13C-2,3,4,7,8-PeCDF	59	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	65	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	67	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	71	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	77	(26 - 138)
13C-OCDF	68	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-086 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	71	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-086 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 028	**Work Order #....:**	M64EX1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/13/15	1	ND	0.98	0.072	1.0	0.072
1,2,3,7,8-PeCDD	7/13/15	1	ND	4.9	0.026	0.5	0.013
1,2,3,4,7,8-HxCDD	7/13/15	1	ND	4.9	0.029	0.1	0.0029
1,2,3,6,7,8-HxCDD	7/13/15	1	ND	4.9	0.030	0.1	0.0030
1,2,3,7,8,9-HxCDD	7/13/15	1	ND	4.9	0.028	0.1	0.0028
1,2,3,4,6,7,8-HpCDD	**7/13/15**	**1**	**0.12 Q J**	**4.9**	**0.053**	**0.01**	**0.0012**
OCDD	**7/13/15**	**1**	**1.2 B J**	**9.8**	**0.065**	**0.001**	**0.0012**
2,3,7,8-TCDF	7/13/15	1	ND	0.98	0.028	0.1	0.0028
1,2,3,7,8-PeCDF	7/13/15	1	ND	4.9	0.024	0.05	0.0012
2,3,4,7,8-PeCDF	7/13/15	1	ND	4.9	0.020	0.5	0.010
1,2,3,4,7,8-HxCDF	7/13/15	1	ND	4.9	0.026	0.1	0.0026
1,2,3,6,7,8-HxCDF	7/13/15	1	ND	4.9	0.027	0.1	0.0027
2,3,4,6,7,8-HxCDF	7/13/15	1	ND	4.9	0.028	0.1	0.0028
1,2,3,7,8,9-HxCDF	7/13/15	1	ND	4.9	0.033	0.1	0.0033
1,2,3,4,6,7,8-HpCDF	**7/13/15**	**1**	**0.036 Q B J**	**4.9**	**0.012**	**0.01**	**0.00036**
1,2,3,4,7,8,9-HpCDF	7/13/15	1	ND	4.9	0.017	0.01	0.00017
OCDF	**7/13/15**	**1**	**0.22 Q B J**	**9.8**	**0.032**	**0.001**	**0.00022**
Total TEQ Concentration							**0.12**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	57	(25 - 164)
13C-1,2,3,7,8-PeCDD	62	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	77	(23 - 140)
13C-OCDD	74	(17 - 157)
13C-2,3,7,8-TCDF	68	(24 - 169)
13C-1,2,3,7,8-PeCDF	59	(24 - 185)
13C-2,3,4,7,8-PeCDF	62	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	69	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	71	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	75	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	80	(26 - 138)
13C-OCDF	70	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-086 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	73	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-086 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 029	**Work Order #....:**	M64E01AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/13/15	1	ND	0.98	0.094	1.0	0.094
1,2,3,7,8-PeCDD	7/13/15	1	ND	4.9	0.041	0.5	0.020
1,2,3,4,7,8-HxCDD	7/13/15	1	ND	4.9	0.034	0.1	0.0034
1,2,3,6,7,8-HxCDD	7/13/15	1	ND	4.9	0.037	0.1	0.0037
1,2,3,7,8,9-HxCDD	7/13/15	1	ND	4.9	0.033	0.1	0.0033
1,2,3,4,6,7,8-HpCDD	7/13/15	1	ND	4.9	0.077	0.01	0.00077
OCDD	**7/13/15**	**1**	**0.70 B J**	**9.8**	**0.087**	**0.001**	**0.00070**
2,3,7,8-TCDF	7/13/15	1	ND	0.98	0.033	0.1	0.0033
1,2,3,7,8-PeCDF	7/13/15	1	ND	4.9	0.034	0.05	0.0017
2,3,4,7,8-PeCDF	7/13/15	1	ND	4.9	0.029	0.5	0.014
1,2,3,4,7,8-HxCDF	7/13/15	1	ND	4.9	0.037	0.1	0.0037
1,2,3,6,7,8-HxCDF	7/13/15	1	ND	4.9	0.035	0.1	0.0035
2,3,4,6,7,8-HxCDF	7/13/15	1	ND	4.9	0.039	0.1	0.0039
1,2,3,7,8,9-HxCDF	7/13/15	1	ND	4.9	0.047	0.1	0.0047
1,2,3,4,6,7,8-HpCDF	7/13/15	1	ND	4.9	0.022	0.01	0.00022
1,2,3,4,7,8,9-HpCDF	7/13/15	1	ND	4.9	0.033	0.01	0.00033
OCDF	**7/13/15**	**1**	**0.16 Q B J**	**9.8**	**0.030**	**0.001**	**0.00016**
Total TEQ Concentration							**0.16**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	48	(25 - 164)
13C-1,2,3,7,8-PeCDD	54	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	52	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	57	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	62	(23 - 140)
13C-OCDD	59	(17 - 157)
13C-2,3,7,8-TCDF	55	(24 - 169)
13C-1,2,3,7,8-PeCDF	51	(24 - 185)
13C-2,3,4,7,8-PeCDF	55	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	54	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	53	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	55	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	57	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	58	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	62	(26 - 138)
13C-OCDF	54	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-086 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	73	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-086 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 030	**Work Order #....:**	M64E11AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10.4 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	0.96	0.062	1.0	0.062
1,2,3,7,8-PeCDD	7/14/15	1	ND	4.8	0.023	0.5	0.012
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	4.8	0.029	0.1	0.0029
1,2,3,6,7,8-HxCDD	7/14/15	1	ND	4.8	0.031	0.1	0.0031
1,2,3,7,8,9-HxCDD	**7/14/15**	**1**	**0.11 J**	**4.8**	**0.028**	**0.1**	**0.011**
1,2,3,4,6,7,8-HpCDD	7/14/15	1	ND	4.8	0.059	0.01	0.00059
OCDD	**7/14/15**	**1**	**0.94 B J**	**9.6**	**0.035**	**0.001**	**0.00094**
2,3,7,8-TCDF	7/14/15	1	ND	0.96	0.029	0.1	0.0029
1,2,3,7,8-PeCDF	7/14/15	1	ND	4.8	0.030	0.05	0.0015
2,3,4,7,8-PeCDF	7/14/15	1	ND	4.8	0.028	0.5	0.014
1,2,3,4,7,8-HxCDF	7/14/15	1	ND	4.8	0.034	0.1	0.0034
1,2,3,6,7,8-HxCDF	7/14/15	1	ND	4.8	0.031	0.1	0.0031
2,3,4,6,7,8-HxCDF	7/14/15	1	ND	4.8	0.034	0.1	0.0034
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	4.8	0.042	0.1	0.0042
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.042 Q B J**	**4.8**	**0.011**	**0.01**	**0.00042**
1,2,3,4,7,8,9-HpCDF	7/14/15	1	ND	4.8	0.017	0.01	0.00017
OCDF	**7/14/15**	**1**	**0.15 Q B J**	**9.6**	**0.016**	**0.001**	**0.00015**
Total TEQ Concentration							**0.13**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	59	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	60	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	76	(23 - 140)
13C-OCDD	72	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	60	(24 - 185)
13C-2,3,4,7,8-PeCDF	61	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	72	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	69	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	77	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	77	(26 - 138)
13C-OCDF	70	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-086 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	81	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-087 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 031	**Work Order #....:**	M64E21AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	0.98	0.074	1.0	0.074
1,2,3,7,8-PeCDD	7/14/15	1	ND	4.9	0.037	0.5	0.018
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	4.9	0.034	0.1	0.0034
1,2,3,6,7,8-HxCDD	7/14/15	1	ND	4.9	0.035	0.1	0.0035
1,2,3,7,8,9-HxCDD	7/14/15	1	ND	4.9	0.032	0.1	0.0032
1,2,3,4,6,7,8-HpCDD	7/14/15	1	ND	4.9	0.070	0.01	0.00070
OCDD	**7/14/15**	**1**	**1.6 Q B J**	**9.8**	**0.073**	**0.001**	**0.0016**
2,3,7,8-TCDF	7/14/15	1	ND	0.98	0.031	0.1	0.0031
1,2,3,7,8-PeCDF	7/14/15	1	ND	4.9	0.031	0.05	0.0015
2,3,4,7,8-PeCDF	7/14/15	1	ND	4.9	0.029	0.5	0.014
1,2,3,4,7,8-HxCDF	7/14/15	1	ND	4.9	0.034	0.1	0.0034
1,2,3,6,7,8-HxCDF	7/14/15	1	ND	4.9	0.033	0.1	0.0033
2,3,4,6,7,8-HxCDF	7/14/15	1	ND	4.9	0.039	0.1	0.0039
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	4.9	0.044	0.1	0.0044
1,2,3,4,6,7,8-HpCDF	7/14/15	1	ND	4.9	0.023	0.01	0.00023
1,2,3,4,7,8,9-HpCDF	7/14/15	1	ND	4.9	0.038	0.01	0.00038
OCDF	**7/14/15**	**1**	**0.17 Q B J**	**9.8**	**0.029**	**0.001**	**0.00017**
Total TEQ Concentration							**0.14**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	55	(25 - 164)
13C-1,2,3,7,8-PeCDD	54	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	60	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	70	(23 - 140)
13C-OCDD	70	(17 - 157)
13C-2,3,7,8-TCDF	63	(24 - 169)
13C-1,2,3,7,8-PeCDF	58	(24 - 185)
13C-2,3,4,7,8-PeCDF	57	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	69	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	66	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	74	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	74	(26 - 138)
13C-OCDF	67	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-087 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	67	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-087 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 032	**Work Order #....:**	M64E31AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10.3 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	0.97	0.069	1.0	0.069
1,2,3,7,8-PeCDD	7/14/15	1	ND	4.9	0.035	0.5	0.018
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	4.9	0.029	0.1	0.0029
1,2,3,6,7,8-HxCDD	7/14/15	1	ND	4.9	0.030	0.1	0.0030
1,2,3,7,8,9-HxCDD	**7/14/15**	**1**	**0.11 Q J**	**4.9**	**0.028**	**0.1**	**0.011**
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.23 Q J**	**4.9**	**0.068**	**0.01**	**0.0023**
OCDD	**7/14/15**	**1**	**2.8 B J**	**9.7**	**0.071**	**0.001**	**0.0028**
2,3,7,8-TCDF	7/14/15	1	ND	0.97	0.030	0.1	0.0030
1,2,3,7,8-PeCDF	7/14/15	1	ND	4.9	0.032	0.05	0.0016
2,3,4,7,8-PeCDF	7/14/15	1	ND	4.9	0.030	0.5	0.015
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.031 Q J**	**4.9**	**0.032**	**0.1**	**0.0031**
1,2,3,6,7,8-HxCDF	7/14/15	1	ND	4.9	0.032	0.1	0.0032
2,3,4,6,7,8-HxCDF	7/14/15	1	ND	4.9	0.033	0.1	0.0033
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	4.9	0.044	0.1	0.0044
1,2,3,4,6,7,8-HpCDF	7/14/15	1	ND	4.9	0.017	0.01	0.00017
1,2,3,4,7,8,9-HpCDF	7/14/15	1	ND	4.9	0.025	0.01	0.00025
OCDF	**7/14/15**	**1**	**0.18 B J**	**9.7**	**0.025**	**0.001**	**0.00018**
Total TEQ Concentration							**0.14**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	54	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	64	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	78	(23 - 140)
13C-OCDD	74	(17 - 157)
13C-2,3,7,8-TCDF	63	(24 - 169)
13C-1,2,3,7,8-PeCDF	57	(24 - 185)
13C-2,3,4,7,8-PeCDF	59	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	68	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	64	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	69	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	77	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	77	(26 - 138)
13C-OCDF	67	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-087 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	68	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-087 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 033	**Work Order #....:**	M64E41AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	8.9 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	1.1	0.11	1.0	0.11
1,2,3,7,8-PeCDD	7/14/15	1	ND	5.6	0.042	0.5	0.021
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	5.6	0.056	0.1	0.0056
1,2,3,6,7,8-HxCDD	7/14/15	1	ND	5.6	0.061	0.1	0.0061
1,2,3,7,8,9-HxCDD	7/14/15	1	ND	5.6	0.054	0.1	0.0054
1,2,3,4,6,7,8-HpCDD	7/14/15	1	ND	5.6	0.096	0.01	0.00096
OCDD	**7/14/15**	**1**	**2.7 B J**	**11**	**0.17**	**0.001**	**0.0027**
2,3,7,8-TCDF	7/14/15	1	ND	1.1	0.042	0.1	0.0042
1,2,3,7,8-PeCDF	7/14/15	1	ND	5.6	0.060	0.05	0.0030
2,3,4,7,8-PeCDF	7/14/15	1	ND	5.6	0.047	0.5	0.024
1,2,3,4,7,8-HxCDF	7/14/15	1	ND	5.6	0.061	0.1	0.0061
1,2,3,6,7,8-HxCDF	7/14/15	1	ND	5.6	0.063	0.1	0.0063
2,3,4,6,7,8-HxCDF	7/14/15	1	ND	5.6	0.064	0.1	0.0064
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.6	0.080	0.1	0.0080
1,2,3,4,6,7,8-HpCDF	7/14/15	1	ND	5.6	0.025	0.01	0.00025
1,2,3,4,7,8,9-HpCDF	7/14/15	1	ND	5.6	0.040	0.01	0.00040
OCDF	7/14/15	1	ND	11	0.080	0.001	0.000080

Total TEQ Concentration **0.21**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	65	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	87	(23 - 140)
13C-OCDD	79	(17 - 157)
13C-2,3,7,8-TCDF	68	(24 - 169)
13C-1,2,3,7,8-PeCDF	59	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	69	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	73	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	71	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	79	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	81	(26 - 138)
13C-OCDF	75	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-087 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	79	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.

TestAmerica Pittsburgh

Client Sample ID: AT5-087 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 034	**Work Order #....:**	M64E51AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	1.0	0.073	1.0	0.073
1,2,3,7,8-PeCDD	7/14/15	1	ND	5.0	0.029	0.5	0.014
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	5.0	0.035	0.1	0.0035
1,2,3,6,7,8-HxCDD	7/14/15	1	ND	5.0	0.038	0.1	0.0038
1,2,3,7,8,9-HxCDD	7/14/15	1	ND	5.0	0.034	0.1	0.0034
1,2,3,4,6,7,8-HpCDD	7/14/15	1	ND	5.0	0.057	0.01	0.00057
OCDD	**7/14/15**	**1**	**3.0 B J**	**10**	**0.069**	**0.001**	**0.0030**
2,3,7,8-TCDF	7/14/15	1	ND	1.0	0.020	0.1	0.0020
1,2,3,7,8-PeCDF	7/14/15	1	ND	5.0	0.022	0.05	0.0011
2,3,4,7,8-PeCDF	7/14/15	1	ND	5.0	0.018	0.5	0.0090
1,2,3,4,7,8-HxCDF	7/14/15	1	ND	5.0	0.027	0.1	0.0027
1,2,3,6,7,8-HxCDF	7/14/15	1	ND	5.0	0.029	0.1	0.0029
2,3,4,6,7,8-HxCDF	7/14/15	1	ND	5.0	0.029	0.1	0.0029
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.0	0.033	0.1	0.0033
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.056 Q B J**	**5.0**	**0.013**	**0.01**	**0.00056**
1,2,3,4,7,8,9-HpCDF	7/14/15	1	ND	5.0	0.019	0.01	0.00019
OCDF	7/14/15	1	ND	10	0.025	0.001	0.000025
Total TEQ Concentration							**0.13**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	64	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	77	(23 - 140)
13C-OCDD	72	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	57	(24 - 185)
13C-2,3,4,7,8-PeCDF	62	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	69	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	75	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	78	(26 - 138)
13C-OCDF	69	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-087 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	78	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-087 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 035	**Work Order #....:**	M64E61AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	8.7 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	1.1	0.080	1.0	0.080
1,2,3,7,8-PeCDD	7/14/15	1	ND	5.7	0.041	0.5	0.020
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	5.7	0.038	0.1	0.0038
1,2,3,6,7,8-HxCDD	7/14/15	1	ND	5.7	0.038	0.1	0.0038
1,2,3,7,8,9-HxCDD	7/14/15	1	ND	5.7	0.036	0.1	0.0036
1,2,3,4,6,7,8-HpCDD	7/14/15	1	ND	5.7	0.065	0.01	0.00065
OCDD	**7/14/15**	**1**	**2.9 B J**	**11**	**0.097**	**0.001**	**0.0029**
2,3,7,8-TCDF	7/14/15	1	ND	1.1	0.019	0.1	0.0019
1,2,3,7,8-PeCDF	7/14/15	1	ND	5.7	0.034	0.05	0.0017
2,3,4,7,8-PeCDF	7/14/15	1	ND	5.7	0.028	0.5	0.014
1,2,3,4,7,8-HxCDF	7/14/15	1	ND	5.7	0.031	0.1	0.0031
1,2,3,6,7,8-HxCDF	7/14/15	1	ND	5.7	0.031	0.1	0.0031
2,3,4,6,7,8-HxCDF	7/14/15	1	ND	5.7	0.033	0.1	0.0033
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.7	0.042	0.1	0.0042
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.072 Q B J**	**5.7**	**0.012**	**0.01**	**0.00072**
1,2,3,4,7,8,9-HpCDF	7/14/15	1	ND	5.7	0.017	0.01	0.00017
OCDF	7/14/15	1	ND	11	0.036	0.001	0.000036
Total TEQ Concentration							**0.15**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	64	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	80	(23 - 140)
13C-OCDD	77	(17 - 157)
13C-2,3,7,8-TCDF	69	(24 - 169)
13C-1,2,3,7,8-PeCDF	56	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	80	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	85	(26 - 138)
13C-OCDF	73	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-087 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-088 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190411 - 036	**Work Order #....:**	M64E71AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	8.3 g	**Instrument ID....:**	D11A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	1.2	0.10	1.0	0.10
1,2,3,7,8-PeCDD	7/14/15	1	ND	6.0	0.035	0.5	0.018
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	6.0	0.053	0.1	0.0053
1,2,3,6,7,8-HxCDD	7/14/15	1	ND	6.0	0.054	0.1	0.0054
1,2,3,7,8,9-HxCDD	7/14/15	1	ND	6.0	0.050	0.1	0.0050
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.39 Q J**	**6.0**	**0.087**	**0.01**	**0.0039**
OCDD	**7/14/15**	**1**	**16 B**	**12**	**0.099**	**0.001**	**0.016**
2,3,7,8-TCDF	7/14/15	1	ND	1.2	0.022	0.1	0.0022
1,2,3,7,8-PeCDF	7/14/15	1	ND	6.0	0.023	0.05	0.0012
2,3,4,7,8-PeCDF	7/14/15	1	ND	6.0	0.022	0.5	0.011
1,2,3,4,7,8-HxCDF	7/14/15	1	ND	6.0	0.034	0.1	0.0034
1,2,3,6,7,8-HxCDF	7/14/15	1	ND	6.0	0.032	0.1	0.0032
2,3,4,6,7,8-HxCDF	7/14/15	1	ND	6.0	0.035	0.1	0.0035
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	6.0	0.042	0.1	0.0042
1,2,3,4,6,7,8-HpCDF	7/14/15	1	ND	6.0	0.018	0.01	0.00018
1,2,3,4,7,8,9-HpCDF	7/14/15	1	ND	6.0	0.028	0.01	0.00028
OCDF	7/14/15	1	ND	12	0.036	0.001	0.000036
Total TEQ Concentration							**0.18**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	59	(25 - 164)
13C-1,2,3,7,8-PeCDD	57	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	66	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	83	(23 - 140)
13C-OCDD	75	(17 - 157)
13C-2,3,7,8-TCDF	69	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	62	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	72	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	75	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	73	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	82	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	80	(26 - 138)
13C-OCDF	73	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-088 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

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When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H5F250000 - 010B **Work Order #....:** M64291AA **Matrix....:** BIOLOGICAL
Dilution Factor: 1
Prep Date....: 06/25/15 **Analysis Date....:** 07/08/15
Prep Batch # ....: 5176010
Initial Wgt/Vol : 10 g **Instrument ID....:** D11A **Method:** EPA-5 1613B
Analyst ID....: Linda K. McWhirter

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.092	pg/g
1,2,3,7,8-PeCDD	ND		5.0	0.033	pg/g
1,2,3,4,7,8-HxCDD	ND		5.0	0.030	pg/g
1,2,3,6,7,8-HxCDD	ND		5.0	0.032	pg/g
1,2,3,7,8,9-HxCDD	ND		5.0	0.029	pg/g
1,2,3,4,6,7,8-HpCDD	**0.070**	**Q J**	**5.0**	**0.036**	**pg/g**
OCDD	**0.32**	**Q J**	**10**	**0.026**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.016	pg/g
1,2,3,7,8-PeCDF	ND		5.0	0.024	pg/g
2,3,4,7,8-PeCDF	ND		5.0	0.023	pg/g
1,2,3,4,7,8-HxCDF	**0.053**	**Q J**	**5.0**	**0.020**	**pg/g**
1,2,3,6,7,8-HxCDF	ND		5.0	0.019	pg/g
2,3,4,6,7,8-HxCDF	ND		5.0	0.022	pg/g
1,2,3,7,8,9-HxCDF	ND		5.0	0.028	pg/g
1,2,3,4,6,7,8-HpCDF	**0.10**	**Q J**	**5.0**	**0.0096**	**pg/g**
1,2,3,4,7,8,9-HpCDF	**0.020**	**Q J**	**5.0**	**0.015**	**pg/g**
OCDF	**0.12**	**Q J**	**10**	**0.013**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	25 - 164
13C-1,2,3,7,8-PeCDD	69	25 - 181
13C-1,2,3,4,7,8-HxCDD	75	32 - 141
13C-1,2,3,6,7,8-HxCDD	81	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	79	23 - 140
13C-OCDD	71	17 - 157
13C-2,3,7,8-TCDF	70	24 - 169
13C-1,2,3,7,8-PeCDF	74	24 - 185
13C-2,3,4,7,8-PeCDF	70	21 - 178
13C-1,2,3,4,7,8-HxCDF	78	26 - 152
13C-1,2,3,6,7,8-HxCDF	78	26 - 123
13C-2,3,4,6,7,8-HxCDF	79	28 - 136
13C-1,2,3,7,8,9-HxCDF	76	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	72	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	70	26 - 138
13C-OCDF	65	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F250000 - 010B	**Work Order #....:**	M64291AA	**Matrix.....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/25/15	**Analysis Date....:**	07/08/15		
Prep Batch # ....:	5176010				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D11A	**Method:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190411	**Work Order # ...:**	M64291AC-LCS	**Matrix .....:**	BIOLOGICA
LCS Lot-Sample# :	H5F250000 - 010				
Prep Date .....:	06/25/15	**Analysis Date ..:**	07/07/15		
Prep Batch # ...:	5176010				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D11A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**22.0**	**pg/g**	**110**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**111**	**pg/g**	**111**		**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**101**	**pg/g**	**101**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**97.9**	**pg/g**	**98**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**106**	**pg/g**	**106**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**98.3**	**pg/g**	**98**	**B**	**(70 - 140)**
OCDD	**200**	**194**	**pg/g**	**97**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**20.5**	**pg/g**	**103**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**101**	**pg/g**	**101**		**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**102**	**pg/g**	**102**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**97.9**	**pg/g**	**98**	**B**	**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**96.8**	**pg/g**	**97**		**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**97.8**	**pg/g**	**98**		**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**95.2**	**pg/g**	**95**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**96.9**	**pg/g**	**97**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**95.1**	**pg/g**	**95**	**B**	**(78 - 138)**
OCDF	**200**	**182**	**pg/g**	**91**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	63	(20 - 175)
13C-1,2,3,7,8-PeCDD	66	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	67	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	77	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	75	(26 - 166)
13C-OCDD	68	(13 - 199)
13C-2,3,7,8-TCDF	68	(22 - 152)
13C-1,2,3,7,8-PeCDF	69	(21 - 192)
13C-2,3,4,7,8-PeCDF	70	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	65	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	72	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	72	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	69	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	71	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	67	(20 - 186)
13C-OCDF	61	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190411	**Work Order # ...:**	M64D71AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190411 - 007		M64D71AD-MSD		
Prep Date .....:	06/25/15	**Analysis Date ..:**	07/07/15		
Prep Batch # ...:	5176010				
Dilution Factor :	1				
Analyst ID.....:	Kenneya L. Reynolds	**Instrument ID..:**	D11A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SAMPLE AMOUNT	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	**ND**	**22.2**	**25.8**	**pg/g**	**116**	**(67 - 158)**		
	ND	**22.2**	**25.2**	**pg/g**	**113**	**(67 - 158)**	**2.3**	**(0 - 25)**
1,2,3,7,8-PeCDD	**0.055**	**111**	**127**	**pg/g**	**114**	**(70 - 142)**		
	0.055	**111**	**116**	**pg/g**	**105**	**(70 - 142)**	**8.5**	**(0 - 25)**
1,2,3,4,7,8-HxCDD	**ND**	**111**	**119**	**pg/g**	**108**	**(70 - 164)**		
	ND	**111**	**125**	**pg/g**	**112**	**(70 - 164)**	**4.2**	**(0 - 25)**
1,2,3,6,7,8-HxCDD	**ND**	**111**	**116**	**pg/g**	**105**	**(76 - 134)**		
	ND	**111**	**121**	**pg/g**	**109**	**(76 - 134)**	**4.3**	**(0 - 25)**
1,2,3,7,8,9-HxCDD	**ND**	**111**	**123**	**pg/g**	**111**	**(64 - 162)**		
	ND	**111**	**134**	**pg/g**	**120**	**(64 - 162)**	**8.6**	**(0 - 25)**
1,2,3,4,6,7,8-HpCDD	**ND**	**111**	**114**	**pg/g**	**103 B**	**(70 - 140)**		
	ND	**111**	**112**	**pg/g**	**101 B**	**(70 - 140)**	**2.0**	**(0 - 25)**
OCDD	**0.79**	**222**	**229**	**pg/g**	**103 B**	**(78 - 144)**		
	0.79	**222**	**225**	**pg/g**	**101 B**	**(78 - 144)**	**1.8**	**(0 - 25)**
2,3,7,8-TCDF	**ND**	**22.2**	**26.4**	**pg/g**	**119 X**	**(75 - 158)**		
	ND	**22.2**	**26.7**	**pg/g**	**120 X**	**(75 - 158)**	**1.2**	**(0 - 25)**
1,2,3,7,8-PeCDF	**ND**	**111**	**116**	**pg/g**	**104**	**(80 - 134)**		
	ND	**111**	**114**	**pg/g**	**102**	**(80 - 134)**	**1.8**	**(0 - 25)**
2,3,4,7,8-PeCDF	**ND**	**111**	**120**	**pg/g**	**108**	**(68 - 160)**		
	ND	**111**	**121**	**pg/g**	**109**	**(68 - 160)**	**0.63**	**(0 - 25)**
1,2,3,4,7,8-HxCDF	**ND**	**111**	**120**	**pg/g**	**108 B**	**(72 - 134)**		
	ND	**111**	**127**	**pg/g**	**114 B**	**(72 - 134)**	**6.0**	**(0 - 25)**
1,2,3,6,7,8-HxCDF	**ND**	**111**	**121**	**pg/g**	**109**	**(84 - 130)**		
	ND	**111**	**123**	**pg/g**	**111**	**(84 - 130)**	**1.7**	**(0 - 25)**
2,3,4,6,7,8-HxCDF	**ND**	**111**	**123**	**pg/g**	**111**	**(70 - 156)**		
	ND	**111**	**125**	**pg/g**	**112**	**(70 - 156)**	**1.4**	**(0 - 25)**
1,2,3,7,8,9-HxCDF	**ND**	**111**	**120**	**pg/g**	**108**	**(78 - 130)**		
	ND	**111**	**117**	**pg/g**	**105**	**(78 - 130)**	**2.7**	**(0 - 25)**
1,2,3,4,6,7,8-HpCDF	**ND**	**111**	**119**	**pg/g**	**107 B**	**(82 - 122)**		
	ND	**111**	**120**	**pg/g**	**108 B**	**(82 - 122)**	**1.2**	**(0 - 25)**
1,2,3,4,7,8,9-HpCDF	**ND**	**111**	**118**	**pg/g**	**107 B**	**(78 - 138)**		
	ND	**111**	**121**	**pg/g**	**109 B**	**(78 - 138)**	**2.2**	**(0 - 25)**
OCDF	**ND**	**222**	**222**	**pg/g**	**100 B**	**(63 - 170)**		
	ND	**222**	**218**	**pg/g**	**98 B**	**(63 - 170)**	**1.6**	**(0 - 25)**

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190411	**Work Order # ...:**	M64D71AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190411 - 007		M64D71AD-MSD		
Prep Date .....:	06/25/15	**Analysis Date ..:**	07/07/15		
Prep Batch # ...:	5176010				
Dilution Factor :	1				
Analyst ID.....:	Kenneya L. Reynolds	**Instrument ID..:**	D11A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	65	(25 - 164)
	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	63	(25 - 181)
	64	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
	62	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	74	(28 - 130)
	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	87	(23 - 140)
	83	(23 - 140)
13C-OCDD	78	(17 - 157)
	72	(17 - 157)
13C-2,3,7,8-TCDF	72	(24 - 169)
	68	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
	60	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	73	(26 - 152)
	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	72	(26 - 123)
	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	78	(28 - 136)
	74	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	76	(29 - 147)
	77	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	81	(28 - 143)
	79	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	88	(26 - 138)
	78	(26 - 138)
13C-OCDF	73	(17 - 157)
	64	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	78	(35 - 197)
	75	(35 - 197)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190411	**Work Order # ...:**	M64D71AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190411 - 007		M64D71AD-MSD		
Prep Date .....:	06/25/15	**Analysis Date ..:**	07/07/15		
Prep Batch # ...:	5176010				
Dilution Factor :	1				
Analyst ID.....:	Kenneya L. Reynolds	**Instrument ID..:**	D11A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

X See project narrative.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F250000 - 011B	**Work Order #....:**	M643A1AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/26/15	**Analysis Date....:**	07/09/15		
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D11A	**Method:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.077	pg/g
1,2,3,7,8-PeCDD	ND		5.0	0.036	pg/g
1,2,3,4,7,8-HxCDD	ND		5.0	0.040	pg/g
1,2,3,6,7,8-HxCDD	ND		5.0	0.041	pg/g
1,2,3,7,8,9-HxCDD	ND		5.0	0.038	pg/g
1,2,3,4,6,7,8-HpCDD	ND		5.0	0.079	pg/g
OCDD	**0.38**	**Q J**	**10**	**0.036**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.041	pg/g
1,2,3,7,8-PeCDF	ND		5.0	0.027	pg/g
2,3,4,7,8-PeCDF	ND		5.0	0.026	pg/g
1,2,3,4,7,8-HxCDF	ND		5.0	0.043	pg/g
1,2,3,6,7,8-HxCDF	ND		5.0	0.043	pg/g
2,3,4,6,7,8-HxCDF	ND		5.0	0.047	pg/g
1,2,3,7,8,9-HxCDF	ND		5.0	0.065	pg/g
1,2,3,4,6,7,8-HpCDF	**0.047**	**J**	**5.0**	**0.012**	**pg/g**
1,2,3,4,7,8,9-HpCDF	**0.13**	**Q J**	**5.0**	**0.021**	**pg/g**
OCDF	**0.30**	**Q J**	**10**	**0.026**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	70	25 - 164
13C-1,2,3,7,8-PeCDD	70	25 - 181
13C-1,2,3,4,7,8-HxCDD	68	32 - 141
13C-1,2,3,6,7,8-HxCDD	76	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	75	23 - 140
13C-OCDD	71	17 - 157
13C-2,3,7,8-TCDF	80	24 - 169
13C-1,2,3,7,8-PeCDF	76	24 - 185
13C-2,3,4,7,8-PeCDF	72	21 - 178
13C-1,2,3,4,7,8-HxCDF	84	26 - 152
13C-1,2,3,6,7,8-HxCDF	85	26 - 123
13C-2,3,4,6,7,8-HxCDF	83	28 - 136
13C-1,2,3,7,8,9-HxCDF	76	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	83	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	76	26 - 138
13C-OCDF	64	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F250000 - 011B	**Work Order #....:**	M643A1AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/26/15	**Analysis Date....:**	07/09/15		
Prep Batch # ....:	5176011				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D11A	**Method:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	82	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190411	**Work Order # ...:**	M643A1AC-LCS	**Matrix .....:**	BIOLOGICA
LCS Lot-Sample# :	H5F250000 - 011				
Prep Date .....:	06/26/15	**Analysis Date ..:**	07/09/15		
Prep Batch # ...:	5176011				
Dilution Factor :	1				
Analyst ID.....:	Kenneya L. Reynolds	**Instrument ID..:**	D11A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**24.5**	**pg/g**	**123**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**108**	**pg/g**	**108**		**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**114**	**pg/g**	**114**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**109**	**pg/g**	**109**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**116**	**pg/g**	**116**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**107**	**pg/g**	**107**		**(70 - 140)**
OCDD	**200**	**201**	**pg/g**	**100**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**25.2**	**pg/g**	**126**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**99.4**	**pg/g**	**99**		**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**107**	**pg/g**	**107**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**115**	**pg/g**	**115**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**111**	**pg/g**	**111**		**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**114**	**pg/g**	**114**		**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**108**	**pg/g**	**108**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**105**	**pg/g**	**105**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**118**	**pg/g**	**118**	**B**	**(78 - 138)**
OCDF	**200**	**202**	**pg/g**	**101**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(20 - 175)
13C-1,2,3,7,8-PeCDD	69	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	69	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	78	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	79	(26 - 166)
13C-OCDD	75	(13 - 199)
13C-2,3,7,8-TCDF	79	(22 - 152)
13C-1,2,3,7,8-PeCDF	79	(21 - 192)
13C-2,3,4,7,8-PeCDF	72	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	77	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	87	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	83	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	79	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	96	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	73	(20 - 186)
13C-OCDF	70	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	82	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190411	**Work Order # ...:**	M64EF1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190411 - 014		M64EF1AD-MSD		
Prep Date .....:	06/26/15	**Analysis Date ..:**	07/09/15		
Prep Batch # ...:	5176011				
Dilution Factor :	1				
Analyst ID.....:	Kenneya L. Reynolds	**Instrument ID..:**	D11A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10.1 g				

PARAMETER	SAMPLE AMOUNT	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	**ND**	**20.0**	**23.0**	**pg/g**	**115**	**(67 - 158)**		
	ND	**20.0**	**22.4**	**pg/g**	**112**	**(67 - 158)**	**2.6**	**(0 - 25)**
1,2,3,7,8-PeCDD	**ND**	**100**	**105**	**pg/g**	**105**	**(70 - 142)**		
	ND	**100**	**104**	**pg/g**	**104**	**(70 - 142)**	**0.99**	**(0 - 25)**
1,2,3,4,7,8-HxCDD	**ND**	**100**	**109**	**pg/g**	**109**	**(70 - 164)**		
	ND	**100**	**107**	**pg/g**	**107**	**(70 - 164)**	**1.9**	**(0 - 25)**
1,2,3,6,7,8-HxCDD	**ND**	**100**	**106**	**pg/g**	**106**	**(76 - 134)**		
	ND	**100**	**107**	**pg/g**	**107**	**(76 - 134)**	**1.5**	**(0 - 25)**
1,2,3,7,8,9-HxCDD	**ND**	**100**	**111**	**pg/g**	**111**	**(64 - 162)**		
	ND	**100**	**113**	**pg/g**	**113**	**(64 - 162)**	**1.7**	**(0 - 25)**
1,2,3,4,6,7,8-HpCDD	**ND**	**100**	**104**	**pg/g**	**104**	**(70 - 140)**		
	ND	**100**	**102**	**pg/g**	**102**	**(70 - 140)**	**2.6**	**(0 - 25)**
OCDD	**1.5**	**200**	**203**	**pg/g**	**101 B**	**(78 - 144)**		
	1.5	**200**	**204**	**pg/g**	**101 B**	**(78 - 144)**	**0.35**	**(0 - 25)**
2,3,7,8-TCDF	**ND**	**20.0**	**22.6**	**pg/g**	**113 X**	**(75 - 158)**		
	ND	**20.0**	**23.9**	**pg/g**	**119 X**	**(75 - 158)**	**5.4**	**(0 - 25)**
1,2,3,7,8-PeCDF	**ND**	**100**	**103**	**pg/g**	**103**	**(80 - 134)**		
	ND	**100**	**102**	**pg/g**	**102**	**(80 - 134)**	**1.4**	**(0 - 25)**
2,3,4,7,8-PeCDF	**ND**	**100**	**108**	**pg/g**	**108**	**(68 - 160)**		
	ND	**100**	**105**	**pg/g**	**105**	**(68 - 160)**	**2.8**	**(0 - 25)**
1,2,3,4,7,8-HxCDF	**ND**	**100**	**107**	**pg/g**	**107**	**(72 - 134)**		
	ND	**100**	**109**	**pg/g**	**109**	**(72 - 134)**	**2.2**	**(0 - 25)**
1,2,3,6,7,8-HxCDF	**ND**	**100**	**111**	**pg/g**	**111**	**(84 - 130)**		
	ND	**100**	**107**	**pg/g**	**107**	**(84 - 130)**	**3.2**	**(0 - 25)**
2,3,4,6,7,8-HxCDF	**ND**	**100**	**107**	**pg/g**	**107**	**(70 - 156)**		
	ND	**100**	**109**	**pg/g**	**109**	**(70 - 156)**	**1.9**	**(0 - 25)**
1,2,3,7,8,9-HxCDF	**ND**	**100**	**103**	**pg/g**	**103**	**(78 - 130)**		
	ND	**100**	**105**	**pg/g**	**105**	**(78 - 130)**	**1.6**	**(0 - 25)**
1,2,3,4,6,7,8-HpCDF	**0.13**	**100**	**102**	**pg/g**	**102 B**	**(82 - 122)**		
	0.13	**100**	**103**	**pg/g**	**103 B**	**(82 - 122)**	**0.46**	**(0 - 25)**
1,2,3,4,7,8,9-HpCDF	**ND**	**100**	**107**	**pg/g**	**107 B**	**(78 - 138)**		
	ND	**100**	**106**	**pg/g**	**106 B**	**(78 - 138)**	**0.91**	**(0 - 25)**
OCDF	**0.20**	**200**	**192**	**pg/g**	**96 B**	**(63 - 170)**		
	0.20	**200**	**200**	**pg/g**	**100 B**	**(63 - 170)**	**4.4**	**(0 - 25)**

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190411	**Work Order # ...:**	M64EF1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190411 - 014		M64EF1AD-MSD		
Prep Date .....:	06/26/15	**Analysis Date ..:**	07/09/15		
Prep Batch # ...:	5176011				
Dilution Factor :	1				
Analyst ID.....:	Kenneya L. Reynolds	**Instrument ID..:**	D11A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10.1 g				

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	57	(25 - 164)
	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	64	(32 - 141)
	64	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	76	(23 - 140)
	80	(23 - 140)
13C-OCDD	79	(17 - 157)
	78	(17 - 157)
13C-2,3,7,8-TCDF	69	(24 - 169)
	68	(24 - 169)
13C-1,2,3,7,8-PeCDF	58	(24 - 185)
	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	63	(21 - 178)
	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	68	(26 - 152)
	65	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	72	(29 - 147)
	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	79	(28 - 143)
	79	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	85	(26 - 138)
	81	(26 - 138)
13C-OCDF	76	(17 - 157)
	74	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	72	(35 - 197)
	75	(35 - 197)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190411	**Work Order # ...:**	M64EF1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190411 - 014		M64EF1AD-MSD		
Prep Date .....:	06/26/15	**Analysis Date ..:**	07/09/15		
Prep Batch # ...:	5176011				
Dilution Factor :	1				
Analyst ID.....:	Kenneya L. Reynolds	**Instrument ID..:**	D11A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10.1 g				

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

X See project narrative.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSF190411

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 4
Company: TestAmerica Laboratories, Inc.				Job #: 180-44601-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-081 A-C (180-44601-1)	5/21/15	12:00 Eastern		Tissue			X	1	CUSTODY SEALS INTACT
AT5-081 B-C (180-44601-2)	5/21/15	12:00 Eastern		Tissue			X	1	RECEIVED AT
AT5-081 C-C (180-44601-3)	5/21/15	12:00 Eastern		Tissue			X	1	RT 0.4,0.2,0.2/CT 0.4,0.2,0.2°C
AT5-081 D-C (180-44601-4)	5/21/15	12:00 Eastern		Tissue			X	1	DKD 6-19-15
AT5-081 E-C (180-44601-5)	5/21/15	12:00 Eastern		Tissue			X	1	3 COOLERS FED X P
AT5-082 A-C (180-44601-6)	5/21/15	12:00 Eastern		Tissue			X	1	568237263908 M
AT5-082 B-C (180-44601-7)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-082 B-C (180-44601-7MS)	5/21/15	12:00 Eastern	MS	Tissue			X	1	
AT5-082 B-C (180-44601-7MSD)	5/21/15	12:00 Eastern	MSD	Tissue			X	1	
AT5-082 C-C (180-44601-8)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-082 D-C (180-44601-9)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/19/15		[signature]	6-19-15 D9:45	TA KNOX

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

HSFM0411

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 180-203361.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 2 of 4
Company: TestAmerica Laboratories, Inc.				Job #: 180-44601-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-082 E-C (180-44601-10)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-083 A-C (180-44601-11)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-083 B-C (180-44601-12)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-083 C-C (180-44601-13)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-083 D-C (180-44601-14)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-083 D-C (180-44601-14MS)	5/21/15	12:00 Eastern	MS	Tissue			X	1	
AT5-083 D-C (180-44601-14MSD)	5/21/15	12:00 Eastern	MSD	Tissue			X	1	
AT5-083 E-C (180-44601-15)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-084 A-C (180-44601-16)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-084 B-C (180-44601-17)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-084 C-C (180-44601-18)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification Unconfirmed	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/18/15			6-19-15 09:45	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

HSF190411

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 3 of 4
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-44601-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			Preservation Codes:
City: Knoxville	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify)
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-084 D-C (180-44601-19)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-084 E-C (180-44601-20)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-085 A-C (180-44601-21)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-085 B-C (180-44601-22)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-085 C-C (180-44601-23)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-085 D-C (180-44601-24)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-085 E-C (180-44601-25)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-086 A-C (180-44601-26)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-086 B-C (180-44601-27)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-086 C-C (180-44601-28)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-086 D-C (180-44601-29)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/1/15			6-19-15 09:45	TA KNX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSF190411

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.4
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 4 of 4
Company: TestAmerica Laboratories, Inc.				Job #: 180-44601-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-086 E-C (180-44601-30)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-087 A-C (180-44601-31)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-087 B-C (180-44601-32)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-087 C-C (180-44601-33)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-087 D-C (180-44601-34)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-087 E-C (180-44601-35)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-088 A-C (180-44601-36)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/1/15			6/4/15 09:45	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ^ Yes ^ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSF190411

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC57 Correction factor: 0.0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?		✓	✓	☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:	✓		✓	☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		✓		☐ **19a** Other

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number:

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: _____

Sample Receiving Associate: _____ Date: 6-19-15

QA026R29.doc, 041115

Shipping and Receiving Documents

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print but[t] dialog box that appears. Note: If your browser does not support this function select P[rint] menu to print the label.

2. **Fold th[e] at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not h[ave a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTIN[G SHIPMENT TO UPS**
UPS lo[cations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail o[utlets and UPS drivers.
Schedul[e a] future day Pickup to have a UPS driver pickup all your CampusShip package[s].
Hand th[em to a] UPS driver in your area.
Take yo[ur package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliance [Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return [Services (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

Customers with a Daily Pickup
Your driver will pickup your shipment(s) as usual.

FOLD HERE

KATHRYN MINCZUK
4105847000 5206
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

60 LBS 3 OF 7
DWT: 24,18,18

SHIP TO:
CARRIE GAMBER
4129632428
TESTAMERICA
301 ALPHA DRIVE
PITTSBURGH PA 15238-2907

PA 152 9-22
Uncorrected temp °C
Thermometer ID
CF Initials
PT-WI-SR-001 effective 7/28/13

UPS EARLY A.M. 1 +
TRACKING #: 1Z 288 682 15 9061 4446

BILLING: P/P

Department Code: 2123
Project Phase AND Task: 1520401 0012
CS 17.2.07 WNTNV50 63.0A 04/2015

5/29

UPS CampusShip: View/Print Label

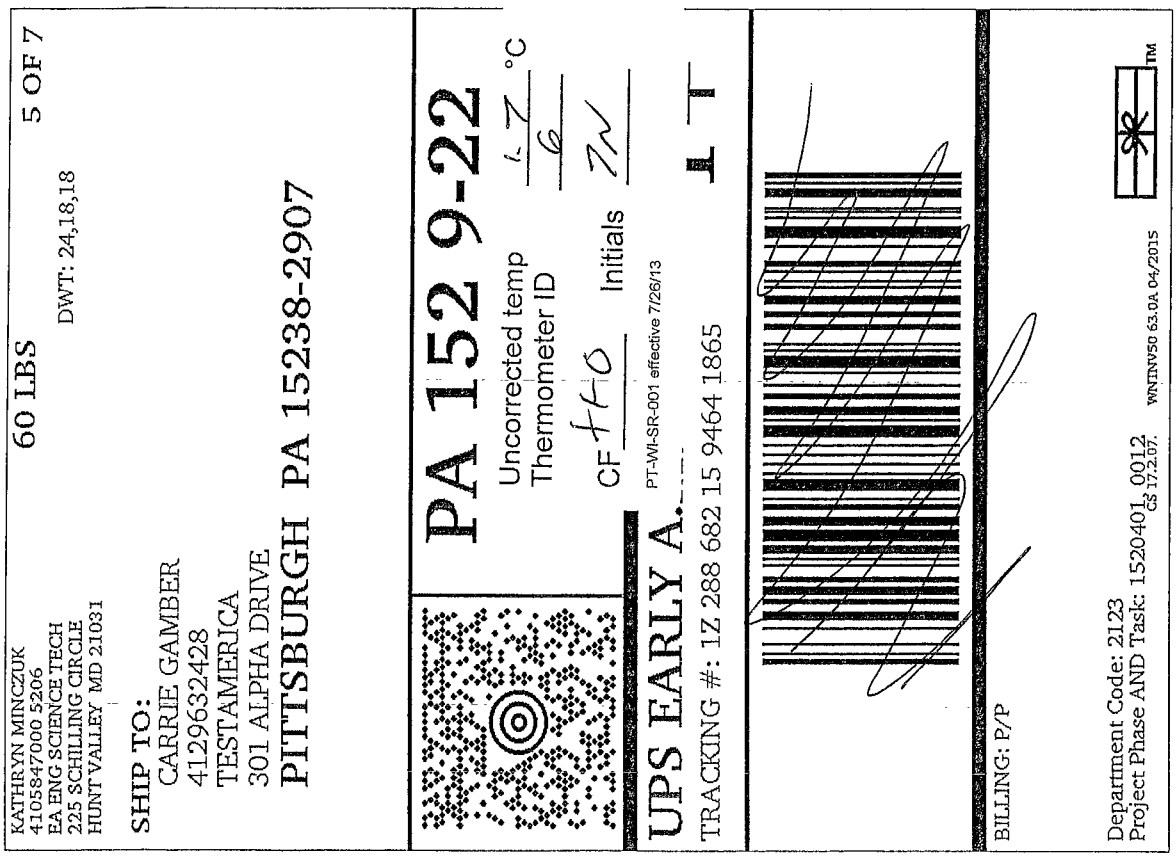
1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE



5/29

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

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3. **GETTING YOUR SHIPMENT TO UPS**
   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
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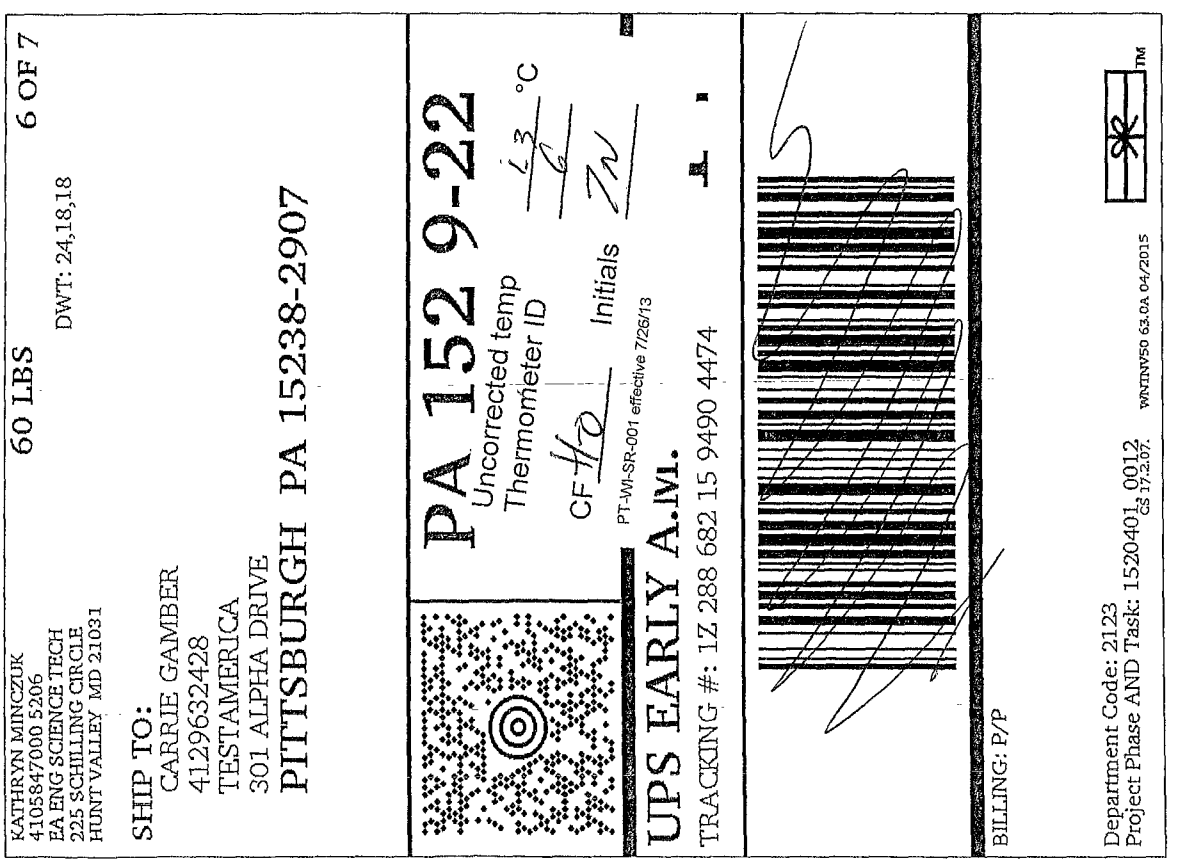

5/29

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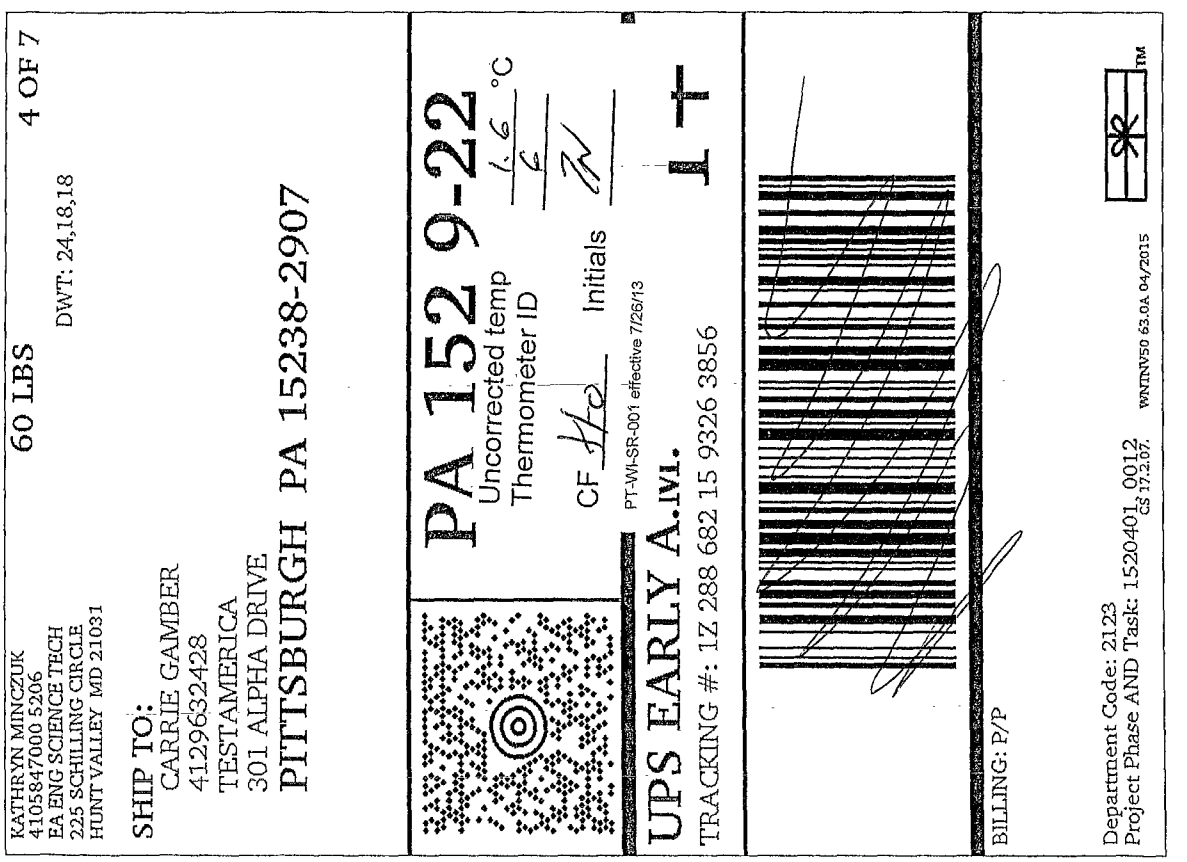

5/29

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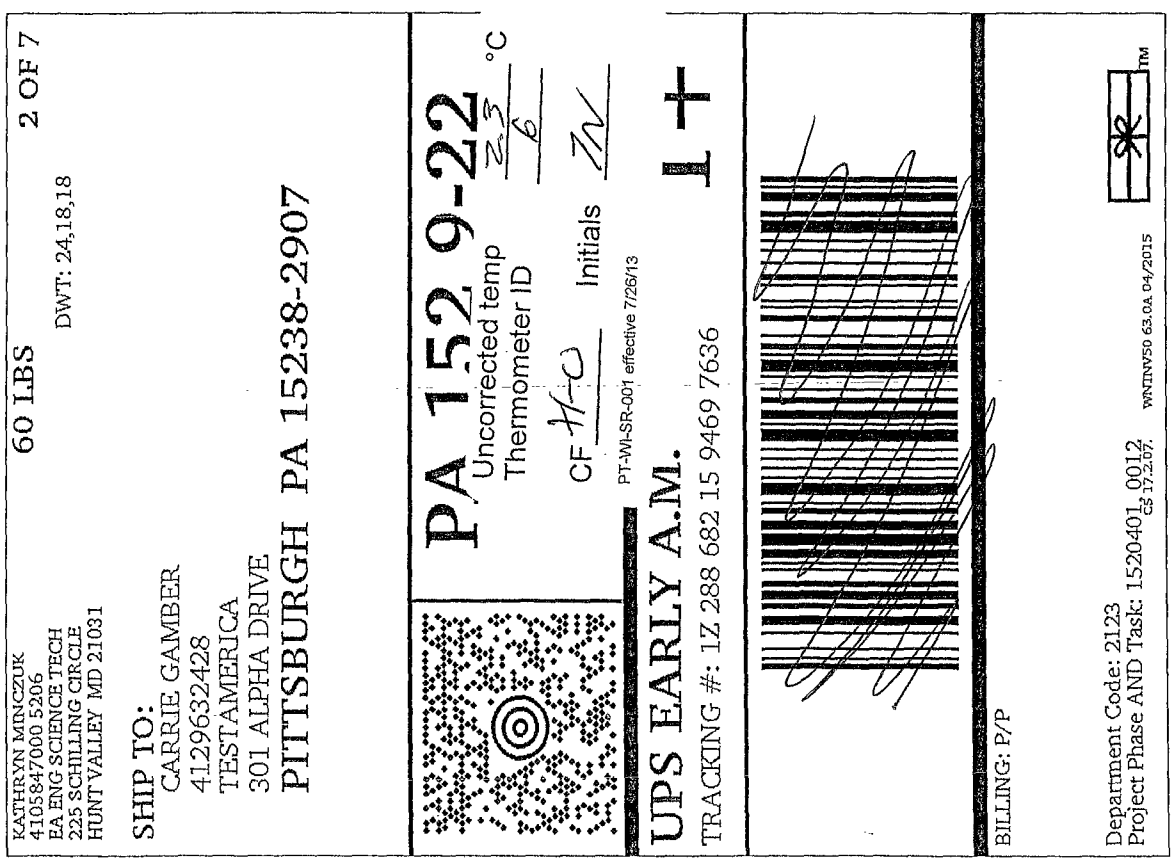

5/29

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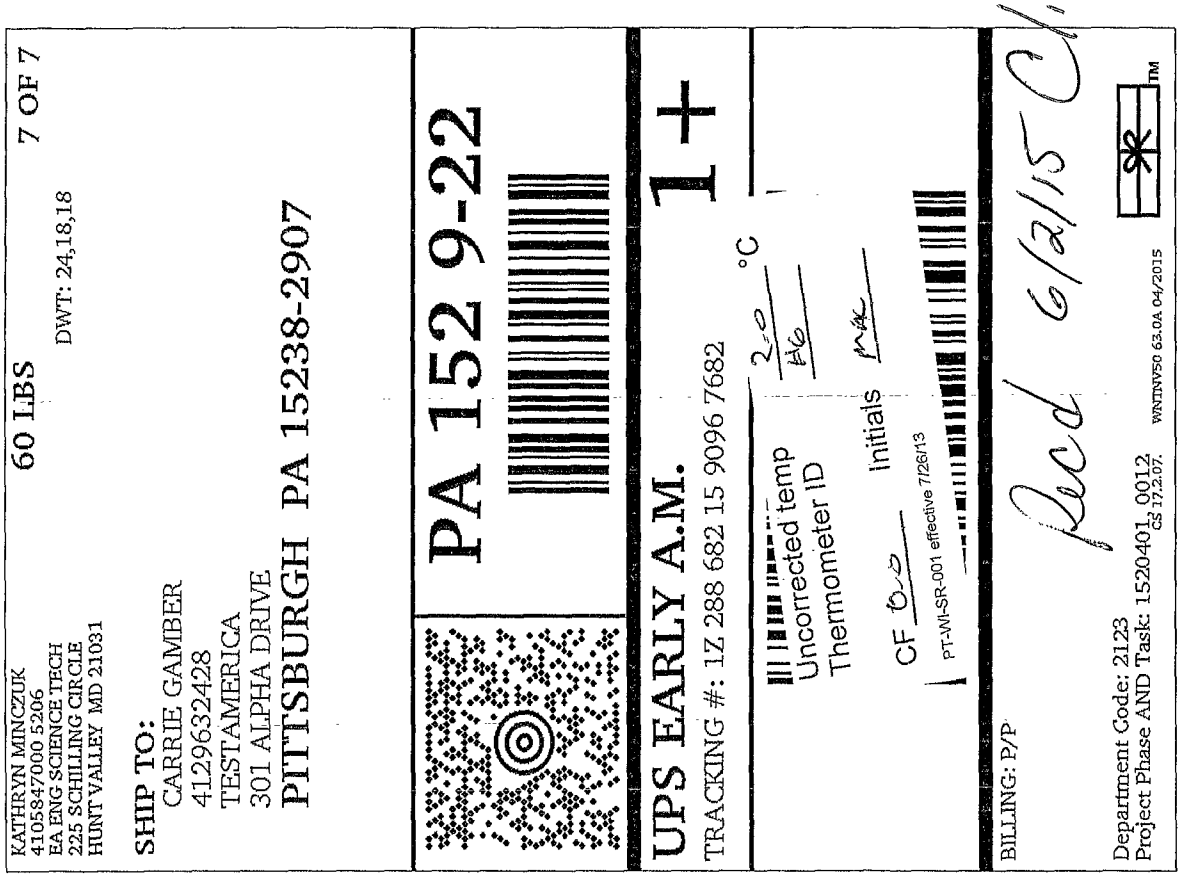

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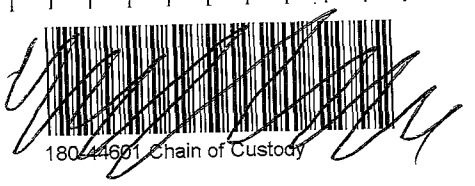
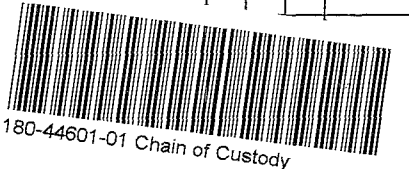
   Your driver will pickup your shipment(s) as usual.

FOLD HERE

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: **860.287.0745**		**phone: 412.963.2428**
			fax: 412.963.2468
Project Name: Parallel Thimble Shoal Tunnel			
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 3 of 6			





Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-081A-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-081B-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-081C-C	1	X	
5/21/2015	1200	X		AT5-081D-C	1	X	
5/21/2015	1200	X		AT5-081E-C	1	X	
5/21/2015	1200	X		AT5-082A-C	1	X	
5/21/2015	1200	X		AT5-082B-C	1	X	
5/21/2015	1200	X		AT5-082C-C	1	X	
5/21/2015	1200	X		AT5-082D-C	1	X	
5/21/2015	1200	X		AT5-082E-C	1	X	
5/21/2015	1200	X		AT5-083A-C	1	X	
5/21/2015	1200	X		AT5-083B-C	1	X	
5/21/2015	1200	X		AT5-083C-C	1	X	
5/21/2015	1200	X		AT5-083D-C	1	X	
5/21/2015	1200	X		AT5-083E-C	1	X	
5/21/2015	1200	X		AT5-084A-C	1	X	
5/21/2015	1200	X		AT5-084B-C	1	X	
5/21/2015	1200	X		AT5-084C-C	1	X	

Sampled by: (Signature)	Date/Time 5/28/15 1600	Relinquished by: (Signature)	Date/Time	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time 5/28/15 1700	Received by Laboratory: (Signature)	Date/Time 5/29/15 850	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory:
	Phone: **410.329.5126**		**TestAmerica - Pittsburgh**
225 Schilling Circle	Project Contact:		**301 Alpha Drive**
Hunt Valley, MD 21031	**Morgan Gelinas**		**Pittsburgh, PA 15238**
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 4 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-084D-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-084E-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-085A-C	1	X	
5/21/2015	1200	X		AT5-085B-C	1	X	
5/21/2015	1200	X		AT5-085C-C	1	X	
5/21/2015	1200	X		AT5-085D-C	1	X	
5/21/2015	1200	X		AT5-085E-C	1	X	
5/21/2015	1200	X		AT5-086A-C	1	X	
5/21/2015	1200	X		AT5-086B-C	1	X	
5/21/2015	1200	X		AT5-086C-C	1	X	
5/21/2015	1200	X		AT5-086D-C	1	X	
5/21/2015	1200	X		AT5-086E-C	1	X	
5/21/2015	1200	X		AT5-087A-C	1	X	
5/21/2015	1200	X		AT5-087B-C	1	X	
5/21/2015	1200	X		AT5-087C-C	1	X	
5/21/2015	1200	X		AT5-087D-C	1	X	
5/21/2015	1200	X		AT5-087E-C	1	X	
5/21/2015	1200	X		AT5-088A-C	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600			**Parallel Thimble**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	**Shoal Tunnel Tissue**
	5/28/15 1700		5/29/15 850	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 3 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-081A-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-081B-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-081C-C	1	X	
5/21/2015	1200	X		AT5-081D-C	1	X	
5/21/2015	1200	X		AT5-081E-C	1	X	
5/21/2015	1200	X		AT5-082A-C	1	X	
5/21/2015	1200	X		AT5-082B-C	1	X	
5/21/2015	1200	X		AT5-082C-C	1	X	
5/21/2015	1200	X		AT5-082D-C	1	X	
5/21/2015	1200	X		AT5-082E-C	1	X	
5/21/2015	1200	X		AT5-083A-C	1	X	
5/21/2015	1200	X		AT5-083B-C	1	X	
5/21/2015	1200	X		AT5-083C-C	1	X	
5/21/2015	1200	X		AT5-083D-C	1	X	
5/21/2015	1200	X		AT5-083E-C	1	X	
5/21/2015	1200	X		AT5-084A-C	1	X	
5/21/2015	1200	X		AT5-084B-C	1	X	
5/21/2015	1200	X		AT5-084C-C	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600		6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1700		6/2/15 1235	

1235
mac
6/1/15

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
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Page 4 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
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5/21/2015	1200	X		AT5-085A-C	1	X	
5/21/2015	1200	X		AT5-085B-C	1	X	
5/21/2015	1200	X		AT5-085C-C	1	X	
5/21/2015	1200	X		AT5-085D-C	1	X	
5/21/2015	1200	X		AT5-085E-C	1	X	
5/21/2015	1200	X		AT5-086A-C	1	X	
5/21/2015	1200	X		AT5-086B-C	1	X	
5/21/2015	1200	X		AT5-086C-C	1	X	
5/21/2015	1200	X		AT5-086D-C	1	X	
5/21/2015	1200	X		AT5-086E-C	1	X	
5/21/2015	1200	X		AT5-087A-C	1	X	
5/21/2015	1200	X		AT5-087B-C	1	X	
5/21/2015	1200	X		AT5-087C-C	1	X	
5/21/2015	1200	X		AT5-087D-C	1	X	
5/21/2015	1200	X		AT5-087E-C	1	X	
5/21/2015	1200	X		AT5-088A-C	1	X	

Sampled by: (Signature)	Date/Time 5/28/15 1600	Relinquished by: (Signature)	Date/Time 6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time 5/28/15 1700	Received by Laboratory: (Signature)	Date/Time 6/1/15 ~~1250~~ 1235 6/1/15 MAL	

Client:	Project Manager:
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**
	Phone: **410.329.5126**
225 Schilling Circle	Project Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: **860.287.0745**

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 3 of 6

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Moisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-081A-C	1	X	X				X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-081B-C	1	X	X				X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-081C-C	1	X	X				X	X	X	
5/21/2015	1200	X		AT5-081D-C	1	X	X				X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
5/21/2015	1200	X		AT5-081E-C	1	X	X				X	X	X	
5/21/2015	1200	X		AT5-082A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082B-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082C-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082D-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082E-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083B-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083C-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083D-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083E-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-084A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-084B-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-084C-C	1	X	X	X		X	X	X	X	

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
Danita Corum	6/10/15 1530		6/13/15 0800
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time

Parallel Thimble Shoal Tunnel Tissue

Client:	Project Manager:
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**
	Phone: **410.329.5126**
225 Schilling Circle	Project Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: **860.287.0745**

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 4 of 6

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Moisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-084D-C	1	X	X	X		X	X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-084E-C	1	X	X	X		X	X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-085A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-085B-C	1	X	X	X		X	X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
5/21/2015	1200	X		AT5-085C-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-085D-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-085E-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086B-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086C-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086D-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086E-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087B-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087C-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087D-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087E-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-088A-C	1	X	X	X		X	X	X	X	

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
Sarita Corum	6/10/15 1530		6/11/15 0800	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-44601-2

Login Number: 44601
List Number: 1
Creator: Kovitch, Christina M

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-44661-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/15/2015 12:29 PM

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07/15/2015
Revision: 1

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
F1	MS and/or MSD Recovery is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
V	Serial Dilution exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-44661-1 REVISED

NOTE: This report has been revised to include Manganese per EA Engineering's request and also to revise the case narrative.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 05/29/2015; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 7 coolers at receipt time were 1.3º C, 1.6º C, 1.7º C, 2.0º C, 2.1º C, 2.3º C and 2.7º C.

SEMIVOLATILES
Several samples were diluted due to the nature of the sample matrix. Elevated Reporting Limits (RLs) are provided.

PESTICIDES
An incorrect volume of surrogate spiking solution was inadvertently added the following samples: AT5-092 C-C (180-44661-22) and AT5-092 D-C (180-44661-23). Percent recoveries were based on the amount spiked. This is due to the 10.0 mL final volume for these samples. Recoveries of all surrogates were within sediment GPC control limits; but outside the stated recovery limits on the report. All data was reported with this narration.

The closing continuing calibration verification (CCV) standard associated with batch 180-146380 failed to meet acceptance limits for 4,4'-DDT and 2,4'-DDT . The associated samples were re-analyzed following a successful CCV and produced similar results, indicating the sample matrix is adversely affecting the instrument and causing the failures.

The closing continuing calibration verification (CCV) standard associated with batch 180-146064 failed to meet acceptance limits for 2,4'-DDT and 4,4'-DDT . The associated samples were re-analyzed following a successful CCV and produced similar results, indicating the sample matrix is adversely affecting the instrument and causing the failures.

METALS
The holding time for mercury on tissues is 28 days from the date sampled. These samples were released from hold after the 28 day holding time for mercury. All results are flagged with the H qualifier and reported with this narration.

Several samples were diluted for mercury due to the nature of the sample matrix. Elevated reporting limits (RLs) are provided.

Chromium and Iron were detected in method blank MB 180-145319/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Chromium was detected in method blank MB 180-145323/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Several analytes were detected in method blank MB 180-145452/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Several analytes were detected in method blank MB 180-145802/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Aluminum, Magnesium and Sodium failed the recovery criteria high for the MS of sample AT5-090 E-C (180-44661-14) in batch 180-146445. Aluminum, Iron, Magnesium and Sodium failed the recovery criteria high for the MSD of sample AT5-090 E-C

(180-44661-14) in batch 180-146445.

Aluminum, Iron and Sodium failed the recovery criteria high for the MS of sample AT5-088 B-C (180-44661-1) in batch 180-146445.
Aluminum, Iron, Magnesium and Sodium failed the recovery criteria high for the MSD of sample AT5-088 B-C (180-44661-1) in batch 180-146445.

The serial dilution performed for the following sample associated with batch 145323 was outside of the control limits for vanadium.: AT5-090 E-C (180-44661-14)

MOISTURE
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT LIPIDS
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SUBCONTRACT WORK
Method 1613 B Dioxins/Furans + TEQs (EA criteria: This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44661-1

Client Sample ID: AT5-088 B-C — Lab Sample ID: 180-44661-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	980	J	1300	150	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	81	F1	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.24	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.033	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	920		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.46	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.29		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	220	B F1	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.021	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2000	B	50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	790	F1	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6700	B F1	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.49		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.18		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.058	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.30	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0061	J B	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.28		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	13		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.4		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.50		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-088 C-C — Lab Sample ID: 180-44661-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	68		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.2		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.24	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.045	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	670		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.51	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.37		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	200	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.040	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2400	B	50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	730		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5800	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.52		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.17		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.014	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.35	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.23		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	16		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.6		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.75		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-088 D-C — Lab Sample ID: 180-44661-3

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-088 D-C (Continued) — Lab Sample ID: 180-44661-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	28		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.7		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.19	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.048	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	460		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.35	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.25		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.5		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	110	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.022	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	1900	B	49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	830		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	7300	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.38		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.13		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.011	J B	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.22	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.20		0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	12		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.7		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.62		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-088 E-C — Lab Sample ID: 180-44661-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	66		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.4		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.25	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.037	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	550		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.44	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.26		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.4		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	190	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.039	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	1800	B	49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	860		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	7700	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.43		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.19		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0071	J B	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.30		0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	13		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.2		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.57		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-089 A-C — Lab Sample ID: 180-44661-5

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-089 A-C (Continued) — Lab Sample ID: 180-44661-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	42		3.0	0.29	mg/Kg	1		6020A	Total/NA
Arsenic	3.7		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.19	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.043	J	0.10	0.0071	mg/Kg	1		6020A	Total/NA
Calcium	600		51	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.45	B	0.20	0.0062	mg/Kg	1		6020A	Total/NA
Cobalt	0.39		0.051	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.6		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	290	B	5.1	0.36	mg/Kg	1		6020A	Total/NA
Silver	0.053	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2500	B	51	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	810		51	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6300	B	51	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.58		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.23		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.18	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.32	J	0.51	0.051	mg/Kg	1		6020A	Total/NA
Thallium	0.013	J B	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.39		0.10	0.0080	mg/Kg	1		6020A	Total/NA
Zinc	18		0.51	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.3		0.51	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.54		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-089 B-C — Lab Sample ID: 180-44661-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	59		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.9		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.23	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.041	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	730		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.49	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.41		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.7		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	330	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.041	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2600	B	49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	800		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6100	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.64		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.26		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.050	J B	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.35	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0067	J B	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.35		0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	17		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.7		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.66		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-089 C-C — Lab Sample ID: 180-44661-7

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-089 C-C (Continued) — Lab Sample ID: 180-44661-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	36		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.17	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Beryllium	0.010	J	0.099	0.0074	mg/Kg	1		6020A	Total/NA
Cadmium	0.038	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	480		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.40	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.27		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.7		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	210	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.015	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1900	B	50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	900		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7800	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.40		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.15		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.033	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0041	J B	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.28		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	12		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.9		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.53		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-089 D-C — Lab Sample ID: 180-44661-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	33		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.2		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.19	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.051	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	1600		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.42	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.41		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	190	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.032	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2200	B	50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	810		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6700	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.55		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.17		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.027	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.26	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0033	J B	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.23		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	16		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.9		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.62		0.19	0.057	%	1		Lipids	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44661-1

Client Sample ID: AT5-089 E-C — Lab Sample ID: 180-44661-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	51		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.7		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.24	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.035	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	700		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.45	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.32		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.6		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	260	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.038	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2300	B	50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	740		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5700	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.46		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.21		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.022	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.39	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0033	J B	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.40		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	17		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.3		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.53		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-090 A-C — Lab Sample ID: 180-44661-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	57		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.9		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.27	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.030	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	460		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.42	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.23		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.1		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	150	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.032	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2100		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	850		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7300		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.48		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.27		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.069	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.29	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0073	J	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.27		0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	14		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	2.8		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.28		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-090 B-C — Lab Sample ID: 180-44661-11

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-090 B-C (Continued) — Lab Sample ID: 180-44661-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	86		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.9		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.32	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.032	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	2800		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.49	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.23		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	190	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.028	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2200		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	860		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	7400		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.49		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.28		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.022	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.23	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.38		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	14		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	2.6		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.29		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-090 C-C — Lab Sample ID: 180-44661-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	69		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.2		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.30	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.030	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	480		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.53	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.20		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.5		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	150	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.019	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2000		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	910		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	8200		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.46		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.24		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.010	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.30		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	14		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.6		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.34		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-090 D-C — Lab Sample ID: 180-44661-13

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-090 D-C (Continued) — Lab Sample ID: 180-44661-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	110		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.1		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.44	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.056	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	1800		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.57	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.28		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.5		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	230		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.036	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2300		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	760		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5900		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.60		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.36		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.034	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.32	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.018	J	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.48		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	16		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	3.9		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.40		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-090 E-C — Lab Sample ID: 180-44661-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	110	F1	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.6		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.37	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.049	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	560		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.63	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.28		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.8		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	250	F1	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.050	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2500		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	800	F1	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6300	F1	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.68		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.47		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.033	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.39	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0040	J	0.097	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.44		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	20		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	4.1		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.46		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-091 A-C — Lab Sample ID: 180-44661-15

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-091 A-C (Continued) — Lab Sample ID: 180-44661-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	750	J	1200	140	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	79		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.1		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.26	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.033	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	820		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.38	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.26		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.9		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	180	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.023	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2200	B	49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	800		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6500	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.52		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.25		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.053	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.34	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0075	J B	0.097	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.31		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	13		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	2.3		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.70		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-091 B-C — Lab Sample ID: 180-44661-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	93		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.5		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.29	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.0077	J	0.097	0.0073	mg/Kg	1		6020A	Total/NA
Cadmium	0.045	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	1000		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.48	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.33		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.1		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	210	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.031	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300	B	49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	720		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5500	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.69		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.38		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.034	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.31	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0040	J B	0.097	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.33		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	16		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	2.6		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.62		0.20	0.058	%	1		Lipids	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44661-1

Client Sample ID: AT5-091 C-C — Lab Sample ID: 180-44661-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	32		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.8		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.092	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.0074	J	0.098	0.0074	mg/Kg	1		6020A	Total/NA
Cadmium	0.036	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	280		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.48	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.26		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.2		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	120	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.012	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2400	B	49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	730		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5200	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.62		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.092	J	0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.010	J B	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.12		0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	10		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	0.91		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.48		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-091-D-C — Lab Sample ID: 180-44661-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	48		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.5		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.29	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.037	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	440		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.38	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.21		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	140	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.061	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1800	B	50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	860		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7500	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.41		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.24		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.015	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.23	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.19		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	11		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.8		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.35		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-091 E-C — Lab Sample ID: 180-44661-19

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-091 E-C (Continued) — Lab Sample ID: 180-44661-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	58		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.7		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.23	J	0.95	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.041	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	600		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.38	B	0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.22		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.9		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	150	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.033	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	2200	B	48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	830		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	7000	B	48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.37		0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.20		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Antimony	0.016	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.31		0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	13		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.0		0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.65		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-092 A-C — Lab Sample ID: 180-44661-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	180	J	1100	130	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	17		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.6		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.16	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.034	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	1300		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.39	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.20		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.4		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	83		4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.031	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2500		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	780		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6300		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.47		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.13		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.020	J	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.32	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0072	J	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.20		0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	17		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.3		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.50		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-092 B-C — Lab Sample ID: 180-44661-21

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-092 B-C (Continued) — Lab Sample ID: 180-44661-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	4500	J	16000	1300	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	23		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.0		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.13	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.018	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	400		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.38	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.13		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.2		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	62		4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.018	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	1700		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	890		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	7900		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.31		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.087	J	0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0088	J	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.22	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0026	J	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.11		0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	10		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.2		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.33		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-092 C-C — Lab Sample ID: 180-44661-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	69		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.2		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.27	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.055	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	930		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.52	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.25		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.3		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	170		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.037	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2300		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	820		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	6500		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.55		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.22		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.010	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.34	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0030	J	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.33		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	19		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.6		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.47		0.20	0.059	%	1		Lipids	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44661-1

Client Sample ID: AT5-092 D-C — Lab Sample ID: 180-44661-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	38		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.19	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.028	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	500		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.64	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.18		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.6		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	97		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.019	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	1800		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	920		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	8300		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.53		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0083	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.14		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	11		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.1		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.33		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-092 E-C — Lab Sample ID: 180-44661-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	37		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.7		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.24	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.049	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	1400		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.46	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.25		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.7		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	120		4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.046	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2600		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	720		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5500		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.51		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.22		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.057	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.39	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0083	J	0.097	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.25		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	19		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	2.7		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.51		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: SRM — Lab Sample ID: 180-44661-25

This Detection Summary does not include radiochemical test results.

Client Sample ID: SRM (Continued) — Lab Sample ID: 180-44661-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDD	1.8	J p	5.0	0.65	ug/Kg	1		8081B_LL	Total/NA
4,4'-DDE	1.5	J p	5.0	0.76	ug/Kg	1		8081B_LL	Total/NA
2,4'-DDD	5.5		5.0	0.30	ug/Kg	1		8081B_LL	Total/NA
2,4'-DDE	0.84	J	5.0	0.46	ug/Kg	1		8081B_LL	Total/NA
Endrin	4.4	J p	5.0	0.97	ug/Kg	1		8081B_LL	Total/NA
Aluminum	40		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	6.5		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	5.8		0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	2.2		0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	690		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.41	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.34		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	65		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	160		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.58		0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	5400		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	1300		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	3900		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.92		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.29		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.12	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	2.0		0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.017	J	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.36		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	1400		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	17		0.50	0.010	mg/Kg	1		6020A	Total/NA

Client Sample ID: SRM — Lab Sample ID: 180-44661-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	33	B	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	6.9		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	6.1		0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	2.2		0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	680		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.36		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.35		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	65		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	160	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.57		0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	5500		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	1100	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	3300	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.91		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.27		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.037	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	2.2		0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0035	J	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.42	B	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	1400		0.50	0.064	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SRM (Continued)

Lab Sample ID: 180-44661-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	17		0.50	0.010	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-088 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-1
Matrix: Tissue
Percent Solids: 12.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1300	120	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Acenaphthylene	ND		1300	150	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Anthracene	ND		1300	120	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Benzo[a]anthracene	ND		1300	160	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Benzo[b]fluoranthene	ND		1300	200	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Benzo[k]fluoranthene	ND		1300	260	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Benzo[g,h,i]perylene	ND		1300	130	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Benzo[a]pyrene	ND		1300	130	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Bis(2-ethylhexyl) phthalate	ND		13000	1000	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Chrysene	ND		1300	150	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Dibenz(a,h)anthracene	ND		1300	140	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Fluoranthene	ND		1300	140	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Fluorene	ND		1300	170	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Indeno[1,2,3-cd]pyrene	ND		1300	130	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Naphthalene	ND		1300	110	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Phenanthrene	ND		1300	200	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Phenol	**980**	**J**	1300	150	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4
Pyrene	ND		1300	130	ug/Kg	☼	06/25/15 03:30	06/29/15 14:34	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*73*		*34 - 103*	*06/25/15 03:30*	*06/29/15 14:34*	*4*
2,4,6-Tribromophenol (Surr)	*76*		*20 - 113*	*06/25/15 03:30*	*06/29/15 14:34*	*4*
Phenol-d5 (Surr)	*70*		*35 - 103*	*06/25/15 03:30*	*06/29/15 14:34*	*4*
2-Fluorobiphenyl	*76*		*38 - 103*	*06/25/15 03:30*	*06/29/15 14:34*	*4*
Nitrobenzene-d5 (Surr)	*69*		*41 - 108*	*06/25/15 03:30*	*06/29/15 14:34*	*4*
Terphenyl-d14 (Surr)	*71*		*28 - 109*	*06/25/15 03:30*	*06/29/15 14:34*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-088 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-2
Matrix: Tissue
Percent Solids: 15.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	96	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Acenaphthylene	ND		1000	110	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Anthracene	ND		1000	98	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Bis(2-ethylhexyl) phthalate	ND		10000	810	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Chrysene	ND		1000	120	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Fluorene	ND		1000	130	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Naphthalene	ND		1000	86	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Phenol	ND		1000	120	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4
Pyrene	ND		1000	100	ug/Kg	☼	06/25/15 03:30	06/29/15 15:01	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*58*		*34 - 103*	*06/25/15 03:30*	*06/29/15 15:01*	*4*
2,4,6-Tribromophenol (Surr)	*68*		*20 - 113*	*06/25/15 03:30*	*06/29/15 15:01*	*4*
Phenol-d5 (Surr)	*64*		*35 - 103*	*06/25/15 03:30*	*06/29/15 15:01*	*4*
2-Fluorobiphenyl	*69*		*38 - 103*	*06/25/15 03:30*	*06/29/15 15:01*	*4*
Nitrobenzene-d5 (Surr)	*63*		*41 - 108*	*06/25/15 03:30*	*06/29/15 15:01*	*4*
Terphenyl-d14 (Surr)	*69*		*28 - 109*	*06/25/15 03:30*	*06/29/15 15:01*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-088 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-3
Matrix: Tissue
Percent Solids: 12.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1300	120	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Acenaphthylene	ND		1300	150	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Anthracene	ND		1300	120	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Benzo[a]anthracene	ND		1300	160	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Benzo[b]fluoranthene	ND		1300	200	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Benzo[k]fluoranthene	ND		1300	260	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Benzo[g,h,i]perylene	ND		1300	130	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Benzo[a]pyrene	ND		1300	130	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Bis(2-ethylhexyl) phthalate	ND		13000	1000	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Chrysene	ND		1300	150	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Dibenz(a,h)anthracene	ND		1300	140	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Fluoranthene	ND		1300	140	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Fluorene	ND		1300	170	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Indeno[1,2,3-cd]pyrene	ND		1300	130	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Naphthalene	ND		1300	110	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Phenanthrene	ND		1300	200	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Phenol	ND		1300	150	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4
Pyrene	ND		1300	130	ug/Kg	☼	06/25/15 03:30	06/29/15 15:29	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*62*		*34 - 103*	*06/25/15 03:30*	*06/29/15 15:29*	*4*
2,4,6-Tribromophenol (Surr)	*68*		*20 - 113*	*06/25/15 03:30*	*06/29/15 15:29*	*4*
Phenol-d5 (Surr)	*64*		*35 - 103*	*06/25/15 03:30*	*06/29/15 15:29*	*4*
2-Fluorobiphenyl	*66*		*38 - 103*	*06/25/15 03:30*	*06/29/15 15:29*	*4*
Nitrobenzene-d5 (Surr)	*63*		*41 - 108*	*06/25/15 03:30*	*06/29/15 15:29*	*4*
Terphenyl-d14 (Surr)	*63*		*28 - 109*	*06/25/15 03:30*	*06/29/15 15:29*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-088 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-4
Matrix: Tissue
Percent Solids: 13.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Acenaphthylene	ND		1200	140	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Anthracene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Benzo[b]fluoranthene	ND		1200	190	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Benzo[k]fluoranthene	ND		1200	250	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Bis(2-ethylhexyl) phthalate	ND		12000	990	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Chrysene	ND		1200	150	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Dibenz(a,h)anthracene	ND		1200	140	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Fluoranthene	ND		1200	130	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Fluorene	ND		1200	160	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Indeno[1,2,3-cd]pyrene	ND		1200	130	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Naphthalene	ND		1200	110	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Phenol	ND		1200	140	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4
Pyrene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 15:56	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*54*		*34 - 103*	*06/25/15 03:30*	*06/29/15 15:56*	*4*
2,4,6-Tribromophenol (Surr)	*61*		*20 - 113*	*06/25/15 03:30*	*06/29/15 15:56*	*4*
Phenol-d5 (Surr)	*55*		*35 - 103*	*06/25/15 03:30*	*06/29/15 15:56*	*4*
2-Fluorobiphenyl	*63*		*38 - 103*	*06/25/15 03:30*	*06/29/15 15:56*	*4*
Nitrobenzene-d5 (Surr)	*57*		*41 - 108*	*06/25/15 03:30*	*06/29/15 15:56*	*4*
Terphenyl-d14 (Surr)	*63*		*28 - 109*	*06/25/15 03:30*	*06/29/15 15:56*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-089 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-5
Matrix: Tissue
Percent Solids: 15.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Anthracene	ND		1100	100	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Benzo[a]anthracene	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Bis(2-ethylhexyl) phthalate	ND		11000	860	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Chrysene	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Fluoranthene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Fluorene	ND		1100	140	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Naphthalene	ND		1100	92	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Phenol	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4
Pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 16:23	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*54*		*34 - 103*	*06/25/15 03:30*	*06/29/15 16:23*	*4*
2,4,6-Tribromophenol (Surr)	*58*		*20 - 113*	*06/25/15 03:30*	*06/29/15 16:23*	*4*
Phenol-d5 (Surr)	*54*		*35 - 103*	*06/25/15 03:30*	*06/29/15 16:23*	*4*
2-Fluorobiphenyl	*59*		*38 - 103*	*06/25/15 03:30*	*06/29/15 16:23*	*4*
Nitrobenzene-d5 (Surr)	*54*		*41 - 108*	*06/25/15 03:30*	*06/29/15 16:23*	*4*
Terphenyl-d14 (Surr)	*53*		*28 - 109*	*06/25/15 03:30*	*06/29/15 16:23*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-089 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-6
Matrix: Tissue
Percent Solids: 15.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Anthracene	ND		1100	100	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Benzo[a]anthracene	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Benzo[k]fluoranthene	ND		1100	210	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Bis(2-ethylhexyl) phthalate	ND		11000	850	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Chrysene	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Fluoranthene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Fluorene	ND		1100	140	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Naphthalene	ND		1100	91	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Phenol	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4
Pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 16:51	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*56*		*34 - 103*	*06/25/15 03:30*	*06/29/15 16:51*	*4*
2,4,6-Tribromophenol (Surr)	*66*		*20 - 113*	*06/25/15 03:30*	*06/29/15 16:51*	*4*
Phenol-d5 (Surr)	*55*		*35 - 103*	*06/25/15 03:30*	*06/29/15 16:51*	*4*
2-Fluorobiphenyl	*64*		*38 - 103*	*06/25/15 03:30*	*06/29/15 16:51*	*4*
Nitrobenzene-d5 (Surr)	*60*		*41 - 108*	*06/25/15 03:30*	*06/29/15 16:51*	*4*
Terphenyl-d14 (Surr)	*61*		*28 - 109*	*06/25/15 03:30*	*06/29/15 16:51*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-089 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-7
Matrix: Tissue
Percent Solids: 14.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Acenaphthylene	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Anthracene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Benzo[b]fluoranthene	ND		1100	180	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Benzo[k]fluoranthene	ND		1100	230	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Bis(2-ethylhexyl) phthalate	ND		11000	910	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Chrysene	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Fluorene	ND		1100	150	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Indeno[1,2,3-cd]pyrene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Naphthalene	ND		1100	97	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Phenanthrene	ND		1100	180	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Phenol	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4
Pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 17:18	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*70*		*34 - 103*	*06/25/15 03:30*	*06/29/15 17:18*	*4*
2,4,6-Tribromophenol (Surr)	*74*		*20 - 113*	*06/25/15 03:30*	*06/29/15 17:18*	*4*
Phenol-d5 (Surr)	*70*		*35 - 103*	*06/25/15 03:30*	*06/29/15 17:18*	*4*
2-Fluorobiphenyl	*70*		*38 - 103*	*06/25/15 03:30*	*06/29/15 17:18*	*4*
Nitrobenzene-d5 (Surr)	*74*		*41 - 108*	*06/25/15 03:30*	*06/29/15 17:18*	*4*
Terphenyl-d14 (Surr)	*67*		*28 - 109*	*06/25/15 03:30*	*06/29/15 17:18*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-089 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-8
Matrix: Tissue
Percent Solids: 13.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	110	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Acenaphthylene	ND		1200	130	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Anthracene	ND		1200	110	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Benzo[b]fluoranthene	ND		1200	180	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Benzo[k]fluoranthene	ND		1200	240	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Bis(2-ethylhexyl) phthalate	ND		12000	940	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Chrysene	ND		1200	140	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Dibenz(a,h)anthracene	ND		1200	130	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Fluoranthene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Fluorene	ND		1200	150	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Indeno[1,2,3-cd]pyrene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Naphthalene	ND		1200	100	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Phenol	ND		1200	140	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4
Pyrene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 17:45	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*64*		*34 - 103*	*06/25/15 03:30*	*06/29/15 17:45*	*4*
2,4,6-Tribromophenol (Surr)	*69*		*20 - 113*	*06/25/15 03:30*	*06/29/15 17:45*	*4*
Phenol-d5 (Surr)	*62*		*35 - 103*	*06/25/15 03:30*	*06/29/15 17:45*	*4*
2-Fluorobiphenyl	*65*		*38 - 103*	*06/25/15 03:30*	*06/29/15 17:45*	*4*
Nitrobenzene-d5 (Surr)	*62*		*41 - 108*	*06/25/15 03:30*	*06/29/15 17:45*	*4*
Terphenyl-d14 (Surr)	*61*		*28 - 109*	*06/25/15 03:30*	*06/29/15 17:45*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-089 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-9
Matrix: Tissue
Percent Solids: 17.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		940	90	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Acenaphthylene	ND		940	110	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Anthracene	ND		940	91	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Benzo[a]anthracene	ND		940	120	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Benzo[b]fluoranthene	ND		940	150	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Benzo[k]fluoranthene	ND		940	190	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Benzo[g,h,i]perylene	ND		940	93	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Benzo[a]pyrene	ND		940	93	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Bis(2-ethylhexyl) phthalate	ND		9300	750	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Chrysene	ND		940	110	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Dibenz(a,h)anthracene	ND		940	100	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Fluoranthene	ND		940	100	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Fluorene	ND		940	120	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Indeno[1,2,3-cd]pyrene	ND		940	96	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Naphthalene	ND		940	80	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Phenanthrene	ND		940	150	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Phenol	ND		940	110	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4
Pyrene	ND		940	94	ug/Kg	☼	06/25/15 03:30	06/29/15 18:12	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*54*		*34 - 103*	*06/25/15 03:30*	*06/29/15 18:12*	*4*
2,4,6-Tribromophenol (Surr)	*50*		*20 - 113*	*06/25/15 03:30*	*06/29/15 18:12*	*4*
Phenol-d5 (Surr)	*51*		*35 - 103*	*06/25/15 03:30*	*06/29/15 18:12*	*4*
2-Fluorobiphenyl	*52*		*38 - 103*	*06/25/15 03:30*	*06/29/15 18:12*	*4*
Nitrobenzene-d5 (Surr)	*49*		*41 - 108*	*06/25/15 03:30*	*06/29/15 18:12*	*4*
Terphenyl-d14 (Surr)	*47*		*28 - 109*	*06/25/15 03:30*	*06/29/15 18:12*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-090 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-10
Matrix: Tissue
Percent Solids: 13.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	110	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Acenaphthylene	ND		1200	140	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Anthracene	ND		1200	120	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Benzo[b]fluoranthene	ND		1200	190	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Benzo[k]fluoranthene	ND		1200	240	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Bis(2-ethylhexyl) phthalate	ND		12000	970	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Chrysene	ND		1200	140	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Dibenz(a,h)anthracene	ND		1200	130	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Fluoranthene	ND		1200	130	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Fluorene	ND		1200	160	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Indeno[1,2,3-cd]pyrene	ND		1200	120	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Naphthalene	ND		1200	100	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Phenol	ND		1200	140	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4
Pyrene	ND		1200	120	ug/Kg	☼	06/17/15 03:25	06/26/15 01:59	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*75*		*34 - 103*	*06/17/15 03:25*	*06/26/15 01:59*	*4*
2,4,6-Tribromophenol (Surr)	*71*		*20 - 113*	*06/17/15 03:25*	*06/26/15 01:59*	*4*
Phenol-d5 (Surr)	*70*		*35 - 103*	*06/17/15 03:25*	*06/26/15 01:59*	*4*
2-Fluorobiphenyl	*70*		*38 - 103*	*06/17/15 03:25*	*06/26/15 01:59*	*4*
Nitrobenzene-d5 (Surr)	*69*		*41 - 108*	*06/17/15 03:25*	*06/26/15 01:59*	*4*
Terphenyl-d14 (Surr)	*69*		*28 - 109*	*06/17/15 03:25*	*06/26/15 01:59*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-090 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-11
Matrix: Tissue
Percent Solids: 13.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Acenaphthylene	ND		1100	130	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Anthracene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Benzo[b]fluoranthene	ND		1100	180	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Benzo[k]fluoranthene	ND		1100	230	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Bis(2-ethylhexyl) phthalate	ND		11000	920	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Chrysene	ND		1100	130	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Dibenz(a,h)anthracene	ND		1100	130	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Fluorene	ND		1100	150	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Indeno[1,2,3-cd]pyrene	ND		1100	120	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Naphthalene	ND		1100	98	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Phenanthrene	ND		1100	180	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Phenol	ND		1100	130	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4
Pyrene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/25/15 15:53	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*52*		*34 - 103*	*06/17/15 03:25*	*06/25/15 15:53*	*4*
2,4,6-Tribromophenol (Surr)	*54*		*20 - 113*	*06/17/15 03:25*	*06/25/15 15:53*	*4*
Phenol-d5 (Surr)	*52*		*35 - 103*	*06/17/15 03:25*	*06/25/15 15:53*	*4*
2-Fluorobiphenyl	*53*		*38 - 103*	*06/17/15 03:25*	*06/25/15 15:53*	*4*
Nitrobenzene-d5 (Surr)	*54*		*41 - 108*	*06/17/15 03:25*	*06/25/15 15:53*	*4*
Terphenyl-d14 (Surr)	*47*		*28 - 109*	*06/17/15 03:25*	*06/25/15 15:53*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-090 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-12
Matrix: Tissue
Percent Solids: 14.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Anthracene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Bis(2-ethylhexyl) phthalate	ND		11000	880	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Chrysene	ND		1100	130	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Fluorene	ND		1100	140	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Naphthalene	ND		1100	94	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Phenol	ND		1100	130	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4
Pyrene	ND		1100	110	ug/Kg	☼	06/17/15 03:25	06/26/15 02:26	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*76*		*34 - 103*	*06/17/15 03:25*	*06/26/15 02:26*	*4*
2,4,6-Tribromophenol (Surr)	*71*		*20 - 113*	*06/17/15 03:25*	*06/26/15 02:26*	*4*
Phenol-d5 (Surr)	*74*		*35 - 103*	*06/17/15 03:25*	*06/26/15 02:26*	*4*
2-Fluorobiphenyl	*72*		*38 - 103*	*06/17/15 03:25*	*06/26/15 02:26*	*4*
Nitrobenzene-d5 (Surr)	*71*		*41 - 108*	*06/17/15 03:25*	*06/26/15 02:26*	*4*
Terphenyl-d14 (Surr)	*65*		*28 - 109*	*06/17/15 03:25*	*06/26/15 02:26*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-090 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-13
Matrix: Tissue
Percent Solids: 15.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	100	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Anthracene	ND		1000	100	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Benzo[k]fluoranthene	ND		1000	210	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Bis(2-ethylhexyl) phthalate	ND		10000	840	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Chrysene	ND		1000	120	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Dibenz(a,h)anthracene	ND		1000	120	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Fluorene	ND		1000	140	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Indeno[1,2,3-cd]pyrene	ND		1000	110	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Naphthalene	ND		1000	89	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Phenol	ND		1000	120	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4
Pyrene	ND		1000	100	ug/Kg	☼	06/19/15 03:25	06/26/15 03:48	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*64*		*34 - 103*	*06/19/15 03:25*	*06/26/15 03:48*	*4*
2,4,6-Tribromophenol (Surr)	*60*		*20 - 113*	*06/19/15 03:25*	*06/26/15 03:48*	*4*
Phenol-d5 (Surr)	*60*		*35 - 103*	*06/19/15 03:25*	*06/26/15 03:48*	*4*
2-Fluorobiphenyl	*60*		*38 - 103*	*06/19/15 03:25*	*06/26/15 03:48*	*4*
Nitrobenzene-d5 (Surr)	*58*		*41 - 108*	*06/19/15 03:25*	*06/26/15 03:48*	*4*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*06/19/15 03:25*	*06/26/15 03:48*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-090 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-14
Matrix: Tissue
Percent Solids: 14.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	110	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Acenaphthylene	ND		1100	130	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Anthracene	ND		1100	110	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Bis(2-ethylhexyl) phthalate	ND		11000	900	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Chrysene	ND		1100	130	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Fluorene	ND		1100	150	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Naphthalene	ND		1100	96	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Phenanthrene	ND		1100	180	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Phenol	ND		1100	130	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4
Pyrene	ND		1100	110	ug/Kg	☼	06/19/15 03:25	06/26/15 04:15	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*77*		*34 - 103*	*06/19/15 03:25*	*06/26/15 04:15*	*4*
2,4,6-Tribromophenol (Surr)	*81*		*20 - 113*	*06/19/15 03:25*	*06/26/15 04:15*	*4*
Phenol-d5 (Surr)	*77*		*35 - 103*	*06/19/15 03:25*	*06/26/15 04:15*	*4*
2-Fluorobiphenyl	*87*		*38 - 103*	*06/19/15 03:25*	*06/26/15 04:15*	*4*
Nitrobenzene-d5 (Surr)	*82*		*41 - 108*	*06/19/15 03:25*	*06/26/15 04:15*	*4*
Terphenyl-d14 (Surr)	*79*		*28 - 109*	*06/19/15 03:25*	*06/26/15 04:15*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-091 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-15
Matrix: Tissue
Percent Solids: 13.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	110	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Acenaphthylene	ND		1200	130	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Anthracene	ND		1200	110	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Benzo[b]fluoranthene	ND		1200	180	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Benzo[k]fluoranthene	ND		1200	240	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Bis(2-ethylhexyl) phthalate	ND		12000	940	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Chrysene	ND		1200	140	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Dibenz(a,h)anthracene	ND		1200	130	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Fluoranthene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Fluorene	ND		1200	150	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Indeno[1,2,3-cd]pyrene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Naphthalene	ND		1200	100	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Phenol	**750**	**J**	1200	140	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4
Pyrene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 18:39	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*60*		*34 - 103*	*06/25/15 03:30*	*06/29/15 18:39*	*4*
2,4,6-Tribromophenol (Surr)	*76*		*20 - 113*	*06/25/15 03:30*	*06/29/15 18:39*	*4*
Phenol-d5 (Surr)	*62*		*35 - 103*	*06/25/15 03:30*	*06/29/15 18:39*	*4*
2-Fluorobiphenyl	*66*		*38 - 103*	*06/25/15 03:30*	*06/29/15 18:39*	*4*
Nitrobenzene-d5 (Surr)	*65*		*41 - 108*	*06/25/15 03:30*	*06/29/15 18:39*	*4*
Terphenyl-d14 (Surr)	*61*		*28 - 109*	*06/25/15 03:30*	*06/29/15 18:39*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-091 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-16
Matrix: Tissue
Percent Solids: 16.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	96	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Acenaphthylene	ND		1000	110	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Anthracene	ND		1000	98	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Bis(2-ethylhexyl) phthalate	ND		10000	810	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Chrysene	ND		1000	120	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Fluorene	ND		1000	130	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Naphthalene	ND		1000	86	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Phenol	ND		1000	120	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4
Pyrene	ND		1000	100	ug/Kg	☼	06/25/15 03:30	06/29/15 19:06	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*52*		*34 - 103*	*06/25/15 03:30*	*06/29/15 19:06*	*4*
2,4,6-Tribromophenol (Surr)	*59*		*20 - 113*	*06/25/15 03:30*	*06/29/15 19:06*	*4*
Phenol-d5 (Surr)	*55*		*35 - 103*	*06/25/15 03:30*	*06/29/15 19:06*	*4*
2-Fluorobiphenyl	*55*		*38 - 103*	*06/25/15 03:30*	*06/29/15 19:06*	*4*
Nitrobenzene-d5 (Surr)	*54*		*41 - 108*	*06/25/15 03:30*	*06/29/15 19:06*	*4*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*06/25/15 03:30*	*06/29/15 19:06*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-091 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-17
Matrix: Tissue
Percent Solids: 13.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Acenaphthylene	ND		1200	140	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Anthracene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Benzo[a]anthracene	ND		1200	150	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Benzo[b]fluoranthene	ND		1200	190	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Benzo[k]fluoranthene	ND		1200	240	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Benzo[g,h,i]perylene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Benzo[a]pyrene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Bis(2-ethylhexyl) phthalate	ND		12000	980	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Chrysene	ND		1200	140	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Dibenz(a,h)anthracene	ND		1200	130	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Fluoranthene	ND		1200	130	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Fluorene	ND		1200	160	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Indeno[1,2,3-cd]pyrene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Naphthalene	ND		1200	100	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Phenanthrene	ND		1200	190	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Phenol	ND		1200	140	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4
Pyrene	ND		1200	120	ug/Kg	☼	06/25/15 03:30	06/29/15 19:33	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*50*		*34 - 103*	*06/25/15 03:30*	*06/29/15 19:33*	*4*
2,4,6-Tribromophenol (Surr)	*63*		*20 - 113*	*06/25/15 03:30*	*06/29/15 19:33*	*4*
Phenol-d5 (Surr)	*53*		*35 - 103*	*06/25/15 03:30*	*06/29/15 19:33*	*4*
2-Fluorobiphenyl	*54*		*38 - 103*	*06/25/15 03:30*	*06/29/15 19:33*	*4*
Nitrobenzene-d5 (Surr)	*50*		*41 - 108*	*06/25/15 03:30*	*06/29/15 19:33*	*4*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*06/25/15 03:30*	*06/29/15 19:33*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-091-D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-18
Matrix: Tissue
Percent Solids: 12.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1300	120	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Acenaphthylene	ND		1300	150	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Anthracene	ND		1300	130	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Benzo[a]anthracene	ND		1300	160	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Benzo[b]fluoranthene	ND		1300	200	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Benzo[k]fluoranthene	ND		1300	260	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Benzo[g,h,i]perylene	ND		1300	130	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Benzo[a]pyrene	ND		1300	130	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Bis(2-ethylhexyl) phthalate	ND		13000	1000	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Chrysene	ND		1300	150	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Dibenz(a,h)anthracene	ND		1300	140	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Fluoranthene	ND		1300	140	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Fluorene	ND		1300	170	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Indeno[1,2,3-cd]pyrene	ND		1300	130	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Naphthalene	ND		1300	110	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Phenanthrene	ND		1300	200	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Phenol	ND		1300	150	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4
Pyrene	ND		1300	130	ug/Kg	☼	06/25/15 03:30	06/29/15 20:00	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*45*		*34 - 103*	*06/25/15 03:30*	*06/29/15 20:00*	*4*
2,4,6-Tribromophenol (Surr)	*57*		*20 - 113*	*06/25/15 03:30*	*06/29/15 20:00*	*4*
Phenol-d5 (Surr)	*48*		*35 - 103*	*06/25/15 03:30*	*06/29/15 20:00*	*4*
2-Fluorobiphenyl	*52*		*38 - 103*	*06/25/15 03:30*	*06/29/15 20:00*	*4*
Nitrobenzene-d5 (Surr)	*48*		*41 - 108*	*06/25/15 03:30*	*06/29/15 20:00*	*4*
Terphenyl-d14 (Surr)	*51*		*28 - 109*	*06/25/15 03:30*	*06/29/15 20:00*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-091 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-19
Matrix: Tissue
Percent Solids: 13.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Acenaphthylene	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Anthracene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Benzo[b]fluoranthene	ND		1100	180	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Benzo[k]fluoranthene	ND		1100	230	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Bis(2-ethylhexyl) phthalate	ND		11000	920	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Chrysene	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Dibenz(a,h)anthracene	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Fluorene	ND		1100	150	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Indeno[1,2,3-cd]pyrene	ND		1100	120	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Naphthalene	ND		1100	98	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Phenanthrene	ND		1100	180	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Phenol	ND		1100	130	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4
Pyrene	ND		1100	110	ug/Kg	☼	06/25/15 03:30	06/29/15 20:27	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*49*		*34 - 103*	*06/25/15 03:30*	*06/29/15 20:27*	*4*
2,4,6-Tribromophenol (Surr)	*58*		*20 - 113*	*06/25/15 03:30*	*06/29/15 20:27*	*4*
Phenol-d5 (Surr)	*50*		*35 - 103*	*06/25/15 03:30*	*06/29/15 20:27*	*4*
2-Fluorobiphenyl	*53*		*38 - 103*	*06/25/15 03:30*	*06/29/15 20:27*	*4*
Nitrobenzene-d5 (Surr)	*48*		*41 - 108*	*06/25/15 03:30*	*06/29/15 20:27*	*4*
Terphenyl-d14 (Surr)	*53*		*28 - 109*	*06/25/15 03:30*	*06/29/15 20:27*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-092 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-20
Matrix: Tissue
Percent Solids: 14.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		11000	870	ug/Kg	☼	06/19/15 03:25	06/26/15 04:43	4
Phenol	**180**	**J**	1100	130	ug/Kg	☼	06/19/15 03:25	06/26/15 04:43	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*38 - 103*	*06/19/15 03:25*	*06/26/15 04:43*	*4*
2-Fluorophenol (Surr)	*60*		*34 - 103*	*06/19/15 03:25*	*06/26/15 04:43*	*4*
2,4,6-Tribromophenol (Surr)	*58*		*20 - 113*	*06/19/15 03:25*	*06/26/15 04:43*	*4*
Nitrobenzene-d5 (Surr)	*60*		*41 - 108*	*06/19/15 03:25*	*06/26/15 04:43*	*4*
Phenol-d5 (Surr)	*62*		*35 - 103*	*06/19/15 03:25*	*06/26/15 04:43*	*4*
Terphenyl-d14 (Surr)	*55*		*28 - 109*	*06/19/15 03:25*	*06/26/15 04:43*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-092 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-21
Matrix: Tissue
Percent Solids: 9.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	**4500**	**J**	16000	1300	ug/Kg	☼	06/19/15 03:25	06/26/15 05:10	4
Phenol	ND		1700	190	ug/Kg	☼	06/19/15 03:25	06/26/15 05:10	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*38 - 103*	*06/19/15 03:25*	*06/26/15 05:10*	*4*
2-Fluorophenol (Surr)	*67*		*34 - 103*	*06/19/15 03:25*	*06/26/15 05:10*	*4*
2,4,6-Tribromophenol (Surr)	*75*		*20 - 113*	*06/19/15 03:25*	*06/26/15 05:10*	*4*
Nitrobenzene-d5 (Surr)	*66*		*41 - 108*	*06/19/15 03:25*	*06/26/15 05:10*	*4*
Phenol-d5 (Surr)	*68*		*35 - 103*	*06/19/15 03:25*	*06/26/15 05:10*	*4*
Terphenyl-d14 (Surr)	*72*		*28 - 109*	*06/19/15 03:25*	*06/26/15 05:10*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-092 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-22
Matrix: Tissue
Percent Solids: 14.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		11000	910	ug/Kg	☼	06/19/15 03:25	06/26/15 05:37	4
Phenol	ND		1100	130	ug/Kg	☼	06/19/15 03:25	06/26/15 05:37	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*38 - 103*	*06/19/15 03:25*	*06/26/15 05:37*	*4*
2-Fluorophenol (Surr)	*65*		*34 - 103*	*06/19/15 03:25*	*06/26/15 05:37*	*4*
2,4,6-Tribromophenol (Surr)	*74*		*20 - 113*	*06/19/15 03:25*	*06/26/15 05:37*	*4*
Nitrobenzene-d5 (Surr)	*70*		*41 - 108*	*06/19/15 03:25*	*06/26/15 05:37*	*4*
Phenol-d5 (Surr)	*67*		*35 - 103*	*06/19/15 03:25*	*06/26/15 05:37*	*4*
Terphenyl-d14 (Surr)	*69*		*28 - 109*	*06/19/15 03:25*	*06/26/15 05:37*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-092 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-23
Matrix: Tissue
Percent Solids: 11.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		14000	1200	ug/Kg	☼	06/19/15 03:25	06/26/15 06:05	4
Phenol	ND		1400	170	ug/Kg	☼	06/19/15 03:25	06/26/15 06:05	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*38 - 103*	*06/19/15 03:25*	*06/26/15 06:05*	*4*
2-Fluorophenol (Surr)	*82*		*34 - 103*	*06/19/15 03:25*	*06/26/15 06:05*	*4*
2,4,6-Tribromophenol (Surr)	*84*		*20 - 113*	*06/19/15 03:25*	*06/26/15 06:05*	*4*
Nitrobenzene-d5 (Surr)	*81*		*41 - 108*	*06/19/15 03:25*	*06/26/15 06:05*	*4*
Phenol-d5 (Surr)	*81*		*35 - 103*	*06/19/15 03:25*	*06/26/15 06:05*	*4*
Terphenyl-d14 (Surr)	*85*		*28 - 109*	*06/19/15 03:25*	*06/26/15 06:05*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-092 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-24
Matrix: Tissue
Percent Solids: 16.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		9800	790	ug/Kg	☼	06/19/15 03:25	06/26/15 06:32	4
Phenol	ND		980	120	ug/Kg	☼	06/19/15 03:25	06/26/15 06:32	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*38 - 103*	*06/19/15 03:25*	*06/26/15 06:32*	*4*
2-Fluorophenol (Surr)	*75*		*34 - 103*	*06/19/15 03:25*	*06/26/15 06:32*	*4*
2,4,6-Tribromophenol (Surr)	*73*		*20 - 113*	*06/19/15 03:25*	*06/26/15 06:32*	*4*
Nitrobenzene-d5 (Surr)	*74*		*41 - 108*	*06/19/15 03:25*	*06/26/15 06:32*	*4*
Phenol-d5 (Surr)	*75*		*35 - 103*	*06/19/15 03:25*	*06/26/15 06:32*	*4*
Terphenyl-d14 (Surr)	*70*		*28 - 109*	*06/19/15 03:25*	*06/26/15 06:32*	*4*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-090 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 21:21	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 21:21	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 21:21	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 21:21	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 21:21	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 21:21	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 21:21	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 21:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*51*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:21*	*1*
Tetrachloro-m-xylene	*59*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:21*	*1*
DCB Decachlorobiphenyl (Surr)	*67*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:21*	*1*
DCB Decachlorobiphenyl (Surr)	*68*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:21*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-090 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 21:37	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 21:37	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 21:37	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 21:37	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 21:37	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 21:37	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 21:37	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 21:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*52*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:37*	*1*
Tetrachloro-m-xylene	*60*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:37*	*1*
DCB Decachlorobiphenyl (Surr)	*68*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:37*	*1*
DCB Decachlorobiphenyl (Surr)	*71*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:37*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-090 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 21:53	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 21:53	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 21:53	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 21:53	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 21:53	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 21:53	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 21:53	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 21:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*52*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:53*	*1*
Tetrachloro-m-xylene	*57*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:53*	*1*
DCB Decachlorobiphenyl (Surr)	*62*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:53*	*1*
DCB Decachlorobiphenyl (Surr)	*66*		*45 - 140*	*06/18/15 03:30*	*06/22/15 21:53*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-090 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/19/15 05:07	06/25/15 10:29	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/19/15 05:07	06/25/15 10:29	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/19/15 05:07	06/25/15 10:29	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/19/15 05:07	06/25/15 10:29	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/19/15 05:07	06/25/15 10:29	1
Endrin	ND		12	2.4	ug/Kg		06/19/15 05:07	06/25/15 10:29	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/19/15 05:07	06/25/15 10:29	1
Mirex	ND		12	1.2	ug/Kg		06/19/15 05:07	06/25/15 10:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*68*		*45 - 140*	*06/19/15 05:07*	*06/25/15 10:29*	*1*
Tetrachloro-m-xylene	*72*		*45 - 140*	*06/19/15 05:07*	*06/25/15 10:29*	*1*
DCB Decachlorobiphenyl (Surr)	*77*		*45 - 140*	*06/19/15 05:07*	*06/25/15 10:29*	*1*
DCB Decachlorobiphenyl (Surr)	*79*		*45 - 140*	*06/19/15 05:07*	*06/25/15 10:29*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-090 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/19/15 05:07	06/25/15 10:44	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/19/15 05:07	06/25/15 10:44	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/19/15 05:07	06/25/15 10:44	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/19/15 05:07	06/25/15 10:44	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/19/15 05:07	06/25/15 10:44	1
Endrin	ND		12	2.4	ug/Kg		06/19/15 05:07	06/25/15 10:44	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/19/15 05:07	06/25/15 10:44	1
Mirex	ND		12	1.2	ug/Kg		06/19/15 05:07	06/25/15 10:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*45 - 140*	*06/19/15 05:07*	*06/25/15 10:44*	*1*
Tetrachloro-m-xylene	*71*		*45 - 140*	*06/19/15 05:07*	*06/25/15 10:44*	*1*
DCB Decachlorobiphenyl (Surr)	*75*		*45 - 140*	*06/19/15 05:07*	*06/25/15 10:44*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 140*	*06/19/15 05:07*	*06/25/15 10:44*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-092 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/19/15 05:07	06/25/15 11:31	1
4,4'-DDE	ND		12	1.8	ug/Kg		06/19/15 05:07	06/25/15 11:31	1
4,4'-DDT	ND		12	1.8	ug/Kg		06/19/15 05:07	06/25/15 11:31	1
2,4'-DDD	ND		12	0.71	ug/Kg		06/19/15 05:07	06/25/15 11:31	1
2,4'-DDE	ND		12	1.1	ug/Kg		06/19/15 05:07	06/25/15 11:31	1
Endrin	ND		12	2.3	ug/Kg		06/19/15 05:07	06/25/15 11:31	1
2,4'-DDT	ND		12	1.0	ug/Kg		06/19/15 05:07	06/25/15 11:31	1
Mirex	ND		12	1.1	ug/Kg		06/19/15 05:07	06/25/15 11:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*56*		*45 - 140*	*06/19/15 05:07*	*06/25/15 11:31*	*1*
Tetrachloro-m-xylene	*67*		*45 - 140*	*06/19/15 05:07*	*06/25/15 11:31*	*1*
DCB Decachlorobiphenyl (Surr)	*74*		*45 - 140*	*06/19/15 05:07*	*06/25/15 11:31*	*1*
DCB Decachlorobiphenyl (Surr)	*76*		*45 - 140*	*06/19/15 05:07*	*06/25/15 11:31*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-092 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/19/15 05:07	06/25/15 11:46	1
4,4'-DDE	ND		12	1.8	ug/Kg		06/19/15 05:07	06/25/15 11:46	1
4,4'-DDT	ND		12	1.8	ug/Kg		06/19/15 05:07	06/25/15 11:46	1
2,4'-DDD	ND		12	0.71	ug/Kg		06/19/15 05:07	06/25/15 11:46	1
2,4'-DDE	ND		12	1.1	ug/Kg		06/19/15 05:07	06/25/15 11:46	1
Endrin	ND		12	2.3	ug/Kg		06/19/15 05:07	06/25/15 11:46	1
2,4'-DDT	ND		12	1.0	ug/Kg		06/19/15 05:07	06/25/15 11:46	1
Mirex	ND		12	1.1	ug/Kg		06/19/15 05:07	06/25/15 11:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*57*		*45 - 140*	*06/19/15 05:07*	*06/25/15 11:46*	*1*
Tetrachloro-m-xylene	*70*		*45 - 140*	*06/19/15 05:07*	*06/25/15 11:46*	*1*
DCB Decachlorobiphenyl (Surr)	*78*		*45 - 140*	*06/19/15 05:07*	*06/25/15 11:46*	*1*
DCB Decachlorobiphenyl (Surr)	*78*		*45 - 140*	*06/19/15 05:07*	*06/25/15 11:46*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-092 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/19/15 05:07	06/25/15 12:02	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/19/15 05:07	06/25/15 12:02	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/19/15 05:07	06/25/15 12:02	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/19/15 05:07	06/25/15 12:02	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/19/15 05:07	06/25/15 12:02	1
Endrin	ND		12	2.4	ug/Kg		06/19/15 05:07	06/25/15 12:02	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/19/15 05:07	06/25/15 12:02	1
Mirex	ND		12	1.2	ug/Kg		06/19/15 05:07	06/25/15 12:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*30*	*X*	*45 - 140*	*06/19/15 05:07*	*06/25/15 12:02*	*1*
Tetrachloro-m-xylene	*36*	*X*	*45 - 140*	*06/19/15 05:07*	*06/25/15 12:02*	*1*
DCB Decachlorobiphenyl (Surr)	*39*	*X*	*45 - 140*	*06/19/15 05:07*	*06/25/15 12:02*	*1*
DCB Decachlorobiphenyl (Surr)	*42*	*X*	*45 - 140*	*06/19/15 05:07*	*06/25/15 12:02*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-092 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/19/15 05:07	06/25/15 12:17	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/19/15 05:07	06/25/15 12:17	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/19/15 05:07	06/25/15 12:17	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/19/15 05:07	06/25/15 12:17	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/19/15 05:07	06/25/15 12:17	1
Endrin	ND		12	2.4	ug/Kg		06/19/15 05:07	06/25/15 12:17	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/19/15 05:07	06/25/15 12:17	1
Mirex	ND		12	1.2	ug/Kg		06/19/15 05:07	06/25/15 12:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*26*	*X*	*45 - 140*	*06/19/15 05:07*	*06/25/15 12:17*	*1*
Tetrachloro-m-xylene	*30*	*X*	*45 - 140*	*06/19/15 05:07*	*06/25/15 12:17*	*1*
DCB Decachlorobiphenyl (Surr)	*32*	*X*	*45 - 140*	*06/19/15 05:07*	*06/25/15 12:17*	*1*
DCB Decachlorobiphenyl (Surr)	*36*	*X*	*45 - 140*	*06/19/15 05:07*	*06/25/15 12:17*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-092 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/19/15 05:07	06/25/15 12:33	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/19/15 05:07	06/25/15 12:33	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/19/15 05:07	06/25/15 12:33	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/19/15 05:07	06/25/15 12:33	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/19/15 05:07	06/25/15 12:33	1
Endrin	ND		12	2.4	ug/Kg		06/19/15 05:07	06/25/15 12:33	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/19/15 05:07	06/25/15 12:33	1
Mirex	ND		12	1.2	ug/Kg		06/19/15 05:07	06/25/15 12:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*54*		*45 - 140*	*06/19/15 05:07*	*06/25/15 12:33*	*1*
Tetrachloro-m-xylene	*55*		*45 - 140*	*06/19/15 05:07*	*06/25/15 12:33*	*1*
DCB Decachlorobiphenyl (Surr)	*60*		*45 - 140*	*06/19/15 05:07*	*06/25/15 12:33*	*1*
DCB Decachlorobiphenyl (Surr)	*64*		*45 - 140*	*06/19/15 05:07*	*06/25/15 12:33*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: SRM
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**1.8**	**J p**	5.0	0.65	ug/Kg		06/19/15 05:13	06/29/15 12:00	1
4,4'-DDE	**1.5**	**J p**	5.0	0.76	ug/Kg		06/19/15 05:13	06/29/15 12:00	1
4,4'-DDT	ND		5.0	0.75	ug/Kg		06/19/15 05:13	06/29/15 12:00	1
2,4'-DDD	**5.5**		5.0	0.30	ug/Kg		06/19/15 05:13	06/29/15 12:00	1
2,4'-DDE	**0.84**	**J**	5.0	0.46	ug/Kg		06/19/15 05:13	06/29/15 12:00	1
Endrin	**4.4**	**J p**	5.0	0.97	ug/Kg		06/19/15 05:13	06/29/15 12:00	1
2,4'-DDT	ND		5.0	0.43	ug/Kg		06/19/15 05:13	06/29/15 12:00	1
Mirex	ND		5.0	0.46	ug/Kg		06/19/15 05:13	06/29/15 12:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*62*		*45 - 140*	*06/19/15 05:13*	*06/29/15 12:00*	*1*
Tetrachloro-m-xylene	*72*		*45 - 140*	*06/19/15 05:13*	*06/29/15 12:00*	*1*
DCB Decachlorobiphenyl (Surr)	*76*		*45 - 140*	*06/19/15 05:13*	*06/29/15 12:00*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*45 - 140*	*06/19/15 05:13*	*06/29/15 12:00*	*1*

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-088 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	81	F1	3.0	0.28	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Arsenic	2.6		0.10	0.018	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Barium	0.24	J	1.0	0.011	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Cadmium	0.033	J	0.10	0.0070	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Calcium	920		50	1.3	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Chromium	0.46	B	0.20	0.0061	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Cobalt	0.29		0.050	0.0015	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Copper	1.8		0.20	0.033	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Iron	220	B F1	5.0	0.35	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Silver	0.021	J	0.10	0.0039	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Potassium	2000	B	50	1.4	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Magnesium	790	F1	50	0.19	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Sodium	6700	B F1	50	1.4	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Nickel	0.49		0.10	0.011	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Lead	0.18		0.10	0.0038	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Antimony	0.058	J B	0.20	0.0026	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Selenium	0.30	J	0.50	0.050	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Thallium	0.0061	J B	0.10	0.0020	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Vanadium	0.28		0.10	0.0079	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Zinc	13		0.50	0.065	mg/Kg		06/18/15 11:45	06/26/15 19:20	1
Manganese	2.4		0.50	0.010	mg/Kg		06/18/15 11:45	06/26/15 19:20	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-088 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	68		3.0	0.28	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Arsenic	3.2		0.10	0.018	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Barium	0.24	J	1.0	0.011	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Cadmium	0.045	J	0.10	0.0070	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Calcium	670		50	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Chromium	0.51	B	0.20	0.0061	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Cobalt	0.37		0.050	0.0015	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Copper	2.0		0.20	0.033	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Iron	200	B	5.0	0.35	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Silver	0.040	J	0.10	0.0039	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Potassium	2400	B	50	1.4	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Magnesium	730		50	0.19	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Sodium	5800	B	50	1.4	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Nickel	0.52		0.10	0.011	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Lead	0.17		0.10	0.0038	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Antimony	0.014	J B	0.20	0.0026	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Selenium	0.35	J	0.50	0.050	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Thallium	ND		0.10	0.0020	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Vanadium	0.23		0.10	0.0079	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Zinc	16		0.50	0.065	mg/Kg		06/18/15 11:45	06/26/15 18:46	1
Manganese	2.6		0.50	0.010	mg/Kg		06/18/15 11:45	06/26/15 18:46	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-088 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	28		2.9	0.28	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Arsenic	2.7		0.098	0.018	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Barium	0.19	J	0.98	0.010	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Cadmium	0.048	J	0.098	0.0069	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Calcium	460		49	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Chromium	0.35	B	0.20	0.0060	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Cobalt	0.25		0.049	0.0015	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Copper	1.5		0.20	0.032	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Iron	110	B	4.9	0.35	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Silver	0.022	J	0.098	0.0038	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Potassium	1900	B	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Magnesium	830		49	0.18	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Sodium	7300	B	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Nickel	0.38		0.098	0.011	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Lead	0.13		0.098	0.0037	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Antimony	0.011	J B	0.20	0.0025	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Selenium	0.22	J	0.49	0.049	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Thallium	ND		0.098	0.0020	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Vanadium	0.20		0.098	0.0077	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Zinc	12		0.49	0.064	mg/Kg		06/18/15 11:45	06/26/15 18:51	1
Manganese	1.7		0.49	0.010	mg/Kg		06/18/15 11:45	06/26/15 18:51	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-088 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	66		2.9	0.28	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Arsenic	2.4		0.098	0.018	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Barium	0.25	J	0.98	0.010	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Cadmium	0.037	J	0.098	0.0069	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Calcium	550		49	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Chromium	0.44	B	0.20	0.0060	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Cobalt	0.26		0.049	0.0015	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Copper	2.4		0.20	0.032	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Iron	190	B	4.9	0.35	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Silver	0.039	J	0.098	0.0038	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Potassium	1800	B	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Magnesium	860		49	0.18	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Sodium	7700	B	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Nickel	0.43		0.098	0.011	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Lead	0.19		0.098	0.0037	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Antimony	0.0071	J B	0.20	0.0025	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Selenium	0.25	J	0.49	0.049	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Thallium	ND		0.098	0.0020	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Vanadium	0.30		0.098	0.0077	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Zinc	13		0.49	0.064	mg/Kg		06/18/15 11:45	06/26/15 18:57	1
Manganese	2.2		0.49	0.010	mg/Kg		06/18/15 11:45	06/26/15 18:57	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-089 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	42		3.0	0.29	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Arsenic	3.7		0.10	0.018	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Barium	0.19	J	1.0	0.011	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Beryllium	ND		0.10	0.0076	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Cadmium	0.043	J	0.10	0.0071	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Calcium	600		51	1.3	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Chromium	0.45	B	0.20	0.0062	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Cobalt	0.39		0.051	0.0015	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Copper	2.6		0.20	0.033	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Iron	290	B	5.1	0.36	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Silver	0.053	J	0.10	0.0039	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Potassium	2500	B	51	1.4	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Magnesium	810		51	0.19	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Sodium	6300	B	51	1.4	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Nickel	0.58		0.10	0.011	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Lead	0.23		0.10	0.0038	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Antimony	0.18	J B	0.20	0.0026	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Selenium	0.32	J	0.51	0.051	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Thallium	0.013	J B	0.10	0.0020	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Vanadium	0.39		0.10	0.0080	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Zinc	18		0.51	0.065	mg/Kg		06/18/15 11:45	06/26/15 19:46	1
Manganese	2.3		0.51	0.010	mg/Kg		06/18/15 11:45	06/26/15 19:46	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-089 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**59**		2.9	0.28	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Arsenic	**3.9**		0.098	0.018	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Barium	**0.23**	**J**	0.98	0.010	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Cadmium	**0.041**	**J**	0.098	0.0069	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Calcium	**730**		49	1.3	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Chromium	**0.49**	**B**	0.20	0.0060	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Cobalt	**0.41**		0.049	0.0015	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Copper	**2.7**		0.20	0.032	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Iron	**330**	**B**	4.9	0.35	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Silver	**0.041**	**J**	0.098	0.0038	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Potassium	**2600**	**B**	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Magnesium	**800**		49	0.18	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Sodium	**6100**	**B**	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Nickel	**0.64**		0.098	0.011	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Lead	**0.26**		0.098	0.0037	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Antimony	**0.050**	**J B**	0.20	0.0025	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Selenium	**0.35**	**J**	0.49	0.049	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Thallium	**0.0067**	**J B**	0.098	0.0020	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Vanadium	**0.35**		0.098	0.0077	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Zinc	**17**		0.49	0.064	mg/Kg		06/18/15 11:45	06/26/15 19:51	1
Manganese	**2.7**		0.49	0.010	mg/Kg		06/18/15 11:45	06/26/15 19:51	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-089 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	36		3.0	0.28	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Arsenic	2.6		0.099	0.018	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Barium	0.17	J	0.99	0.011	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Beryllium	0.010	J	0.099	0.0074	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Cadmium	0.038	J	0.099	0.0069	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Calcium	480		50	1.3	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Chromium	0.40	B	0.20	0.0060	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Cobalt	0.27		0.050	0.0015	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Copper	1.7		0.20	0.033	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Iron	210	B	5.0	0.35	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Silver	0.015	J	0.099	0.0039	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Potassium	1900	B	50	1.3	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Magnesium	900		50	0.19	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Sodium	7800	B	50	1.4	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Nickel	0.40		0.099	0.011	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Lead	0.15		0.099	0.0038	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Antimony	0.033	J B	0.20	0.0026	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Selenium	0.24	J	0.50	0.050	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Thallium	0.0041	J B	0.099	0.0020	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Vanadium	0.28		0.099	0.0078	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Zinc	12		0.50	0.064	mg/Kg		06/18/15 11:45	06/26/15 19:56	1
Manganese	1.9		0.50	0.010	mg/Kg		06/18/15 11:45	06/26/15 19:56	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-089 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	33		3.0	0.28	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Arsenic	3.2		0.099	0.018	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Barium	0.19	J	0.99	0.011	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Cadmium	0.051	J	0.099	0.0069	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Calcium	1600		50	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Chromium	0.42	B	0.20	0.0060	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Cobalt	0.41		0.050	0.0015	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Copper	1.8		0.20	0.033	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Iron	190	B	5.0	0.35	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Silver	0.032	J	0.099	0.0039	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Potassium	2200	B	50	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Magnesium	810		50	0.19	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Sodium	6700	B	50	1.4	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Nickel	0.55		0.099	0.011	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Lead	0.17		0.099	0.0038	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Antimony	0.027	J B	0.20	0.0026	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Selenium	0.26	J	0.50	0.050	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Thallium	0.0033	J B	0.099	0.0020	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Vanadium	0.23		0.099	0.0078	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Zinc	16		0.50	0.064	mg/Kg		06/18/15 11:45	06/26/15 20:01	1
Manganese	1.9		0.50	0.010	mg/Kg		06/18/15 11:45	06/26/15 20:01	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-089 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**51**		3.0	0.28	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Arsenic	**3.7**		0.099	0.018	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Barium	**0.24**	**J**	0.99	0.011	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Cadmium	**0.035**	**J**	0.099	0.0069	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Calcium	**700**		50	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Chromium	**0.45**	**B**	0.20	0.0060	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Cobalt	**0.32**		0.050	0.0015	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Copper	**2.6**		0.20	0.033	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Iron	**260**	**B**	5.0	0.35	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Silver	**0.038**	**J**	0.099	0.0039	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Potassium	**2300**	**B**	50	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Magnesium	**740**		50	0.19	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Sodium	**5700**	**B**	50	1.4	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Nickel	**0.46**		0.099	0.011	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Lead	**0.21**		0.099	0.0038	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Antimony	**0.022**	**J B**	0.20	0.0026	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Selenium	**0.39**	**J**	0.50	0.050	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Thallium	**0.0033**	**J B**	0.099	0.0020	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Vanadium	**0.40**		0.099	0.0078	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Zinc	**17**		0.50	0.064	mg/Kg		06/18/15 11:45	06/26/15 20:06	1
Manganese	**2.3**		0.50	0.010	mg/Kg		06/18/15 11:45	06/26/15 20:06	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-090 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	57		3.0	0.28	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Arsenic	2.9		0.10	0.018	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Barium	0.27	J	1.0	0.011	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Cadmium	0.030	J	0.10	0.0070	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Calcium	460		50	1.3	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Chromium	0.42	B	0.20	0.0061	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Cobalt	0.23		0.050	0.0015	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Copper	2.1		0.20	0.033	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Iron	150	B	5.0	0.35	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Silver	0.032	J	0.10	0.0039	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Potassium	2100		50	1.4	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Magnesium	850		50	0.19	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Sodium	7300		50	1.4	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Nickel	0.48		0.10	0.011	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Lead	0.27		0.10	0.0038	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Antimony	0.069	J	0.20	0.0026	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Selenium	0.29	J	0.50	0.050	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Thallium	0.0073	J	0.10	0.0020	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Vanadium	0.27		0.10	0.0079	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Zinc	14		0.50	0.065	mg/Kg		06/17/15 13:34	06/27/15 00:11	1
Manganese	2.8		0.50	0.010	mg/Kg		06/17/15 13:34	06/27/15 00:11	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-090 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**86**		2.9	0.28	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Arsenic	**2.9**		0.097	0.018	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Barium	**0.32**	**J**	0.97	0.010	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Cadmium	**0.032**	**J**	0.097	0.0068	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Calcium	**2800**		49	1.3	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Chromium	**0.49**	**B**	0.19	0.0059	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Cobalt	**0.23**		0.049	0.0015	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Copper	**2.0**		0.19	0.032	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Iron	**190**	**B**	4.9	0.34	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Silver	**0.028**	**J**	0.097	0.0038	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Potassium	**2200**		49	1.3	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Magnesium	**860**		49	0.18	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Sodium	**7400**		49	1.3	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Nickel	**0.49**		0.097	0.011	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Lead	**0.28**		0.097	0.0037	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Antimony	**0.022**	**J**	0.19	0.0025	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Selenium	**0.23**	**J**	0.49	0.049	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Thallium	ND		0.097	0.0019	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Vanadium	**0.38**		0.097	0.0077	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Zinc	**14**		0.49	0.063	mg/Kg		06/17/15 13:34	06/27/15 00:16	1
Manganese	**2.6**		0.49	0.010	mg/Kg		06/17/15 13:34	06/27/15 00:16	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-090 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**69**		2.9	0.27	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Arsenic	**2.2**		0.096	0.017	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Barium	**0.30**	**J**	0.96	0.010	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Cadmium	**0.030**	**J**	0.096	0.0067	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Calcium	**480**		48	1.3	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Chromium	**0.53**	**B**	0.19	0.0059	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Cobalt	**0.20**		0.048	0.0014	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Copper	**1.5**		0.19	0.032	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Iron	**150**	**B**	4.8	0.34	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Silver	**0.019**	**J**	0.096	0.0038	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Potassium	**2000**		48	1.3	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Magnesium	**910**		48	0.18	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Sodium	**8200**		48	1.3	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Nickel	**0.46**		0.096	0.011	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Lead	**0.24**		0.096	0.0037	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Antimony	**0.010**	**J**	0.19	0.0025	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Selenium	**0.24**	**J**	0.48	0.048	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Thallium	ND		0.096	0.0019	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Vanadium	**0.30**		0.096	0.0076	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Zinc	**14**		0.48	0.062	mg/Kg		06/17/15 13:34	06/27/15 00:21	1
Manganese	**2.6**		0.48	0.0099	mg/Kg		06/17/15 13:34	06/27/15 00:21	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-090 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**110**		3.0	0.28	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Arsenic	**3.1**		0.099	0.018	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Barium	**0.44**	**J**	0.99	0.011	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Cadmium	**0.056**	**J**	0.099	0.0069	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Calcium	**1800**		50	1.3	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Chromium	**0.57**	**B**	0.20	0.0060	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Cobalt	**0.28**		0.050	0.0015	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Copper	**2.5**		0.20	0.033	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Iron	**230**		5.0	0.35	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Silver	**0.036**	**J**	0.099	0.0039	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Potassium	**2300**		50	1.3	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Magnesium	**760**		50	0.19	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Sodium	**5900**		50	1.4	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Nickel	**0.60**		0.099	0.011	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Lead	**0.36**		0.099	0.0038	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Antimony	**0.034**	**J**	0.20	0.0026	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Selenium	**0.32**	**J**	0.50	0.050	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Thallium	**0.018**	**J**	0.099	0.0020	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Vanadium	**0.48**		0.099	0.0078	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Zinc	**16**		0.50	0.064	mg/Kg		06/17/15 13:45	06/27/15 00:40	1
Manganese	**3.9**		0.50	0.010	mg/Kg		06/17/15 13:45	06/27/15 00:40	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-090 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	110	F1	2.9	0.28	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Arsenic	3.6		0.097	0.018	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Barium	0.37	J	0.97	0.010	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Cadmium	0.049	J	0.097	0.0068	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Calcium	560		49	1.3	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Chromium	0.63	B	0.19	0.0059	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Cobalt	0.28		0.049	0.0015	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Copper	2.8		0.19	0.032	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Iron	250	F1	4.9	0.34	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Silver	0.050	J	0.097	0.0038	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Potassium	2500		49	1.3	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Magnesium	800	F1	49	0.18	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Sodium	6300	F1	49	1.3	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Nickel	0.68		0.097	0.011	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Lead	0.47		0.097	0.0037	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Antimony	0.033	J	0.19	0.0025	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Selenium	0.39	J	0.49	0.049	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Thallium	0.0040	J	0.097	0.0019	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Vanadium	0.44		0.097	0.0077	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Zinc	20		0.49	0.063	mg/Kg		06/17/15 13:45	06/27/15 01:29	1
Manganese	4.1		0.49	0.010	mg/Kg		06/17/15 13:45	06/27/15 01:29	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-091 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	79		2.9	0.28	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Arsenic	3.1		0.097	0.018	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Barium	0.26	J	0.97	0.010	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Cadmium	0.033	J	0.097	0.0068	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Calcium	820		49	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Chromium	0.38	B	0.19	0.0059	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Cobalt	0.26		0.049	0.0015	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Copper	1.9		0.19	0.032	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Iron	180	B	4.9	0.34	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Silver	0.023	J	0.097	0.0038	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Potassium	2200	B	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Magnesium	800		49	0.18	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Sodium	6500	B	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Nickel	0.52		0.097	0.011	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Lead	0.25		0.097	0.0037	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Antimony	0.053	J B	0.19	0.0025	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Selenium	0.34	J	0.49	0.049	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Thallium	0.0075	J B	0.097	0.0019	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Vanadium	0.31		0.097	0.0077	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Zinc	13		0.49	0.063	mg/Kg		06/18/15 11:45	06/26/15 20:30	1
Manganese	2.3		0.49	0.010	mg/Kg		06/18/15 11:45	06/26/15 20:30	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-091 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	93		2.9	0.28	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Arsenic	3.5		0.097	0.018	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Barium	0.29	J	0.97	0.010	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Beryllium	0.0077	J	0.097	0.0073	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Cadmium	0.045	J	0.097	0.0068	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Calcium	1000		49	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Chromium	0.48	B	0.19	0.0059	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Cobalt	0.33		0.049	0.0015	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Copper	2.1		0.19	0.032	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Iron	210	B	4.9	0.34	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Silver	0.031	J	0.097	0.0038	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Potassium	2300	B	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Magnesium	720		49	0.18	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Sodium	5500	B	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Nickel	0.69		0.097	0.011	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Lead	0.38		0.097	0.0037	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Antimony	0.034	J B	0.19	0.0025	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Selenium	0.31	J	0.49	0.049	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Thallium	0.0040	J B	0.097	0.0019	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Vanadium	0.33		0.097	0.0077	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Zinc	16		0.49	0.063	mg/Kg		06/18/15 11:45	06/26/15 20:35	1
Manganese	2.6		0.49	0.010	mg/Kg		06/18/15 11:45	06/26/15 20:35	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-091 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	32		2.9	0.28	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Arsenic	1.8		0.098	0.018	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Barium	0.092	J	0.98	0.010	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Beryllium	0.0074	J	0.098	0.0074	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Cadmium	0.036	J	0.098	0.0069	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Calcium	280		49	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Chromium	0.48	B	0.20	0.0060	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Cobalt	0.26		0.049	0.0015	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Copper	1.2		0.20	0.032	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Iron	120	B	4.9	0.35	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Silver	0.012	J	0.098	0.0038	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Potassium	2400	B	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Magnesium	730		49	0.18	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Sodium	5200	B	49	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Nickel	0.62		0.098	0.011	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Lead	0.092	J	0.098	0.0037	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Antimony	0.010	J B	0.20	0.0025	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Selenium	0.25	J	0.49	0.049	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Thallium	ND		0.098	0.0020	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Vanadium	0.12		0.098	0.0077	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Zinc	10		0.49	0.064	mg/Kg		06/18/15 11:45	06/26/15 20:40	1
Manganese	0.91		0.49	0.010	mg/Kg		06/18/15 11:45	06/26/15 20:40	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-091-D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**48**		3.0	0.28	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Arsenic	**2.5**		0.099	0.018	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Barium	**0.29**	**J**	0.99	0.011	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Cadmium	**0.037**	**J**	0.099	0.0069	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Calcium	**440**		50	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Chromium	**0.38**	**B**	0.20	0.0060	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Cobalt	**0.21**		0.050	0.0015	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Copper	**2.0**		0.20	0.033	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Iron	**140**	**B**	5.0	0.35	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Silver	**0.061**	**J**	0.099	0.0039	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Potassium	**1800**	**B**	50	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Magnesium	**860**		50	0.19	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Sodium	**7500**	**B**	50	1.4	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Nickel	**0.41**		0.099	0.011	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Lead	**0.24**		0.099	0.0038	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Antimony	**0.015**	**J B**	0.20	0.0026	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Selenium	**0.23**	**J**	0.50	0.050	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Thallium	ND		0.099	0.0020	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Vanadium	**0.19**		0.099	0.0078	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Zinc	**11**		0.50	0.064	mg/Kg		06/18/15 11:45	06/26/15 20:45	1
Manganese	**1.8**		0.50	0.010	mg/Kg		06/18/15 11:45	06/26/15 20:45	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-091 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	58		2.9	0.27	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Arsenic	2.7		0.095	0.017	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Barium	0.23	J	0.95	0.010	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Cadmium	0.041	J	0.095	0.0067	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Calcium	600		48	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Chromium	0.38	B	0.19	0.0058	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Cobalt	0.22		0.048	0.0014	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Copper	1.9		0.19	0.031	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Iron	150	B	4.8	0.34	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Silver	0.033	J	0.095	0.0037	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Potassium	2200	B	48	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Magnesium	830		48	0.18	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Sodium	7000	B	48	1.3	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Nickel	0.37		0.095	0.011	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Lead	0.20		0.095	0.0036	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Antimony	0.016	J B	0.19	0.0025	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Selenium	0.25	J	0.48	0.048	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Thallium	ND		0.095	0.0019	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Vanadium	0.31		0.095	0.0075	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Zinc	13		0.48	0.062	mg/Kg		06/18/15 11:45	06/26/15 20:50	1
Manganese	2.0		0.48	0.0098	mg/Kg		06/18/15 11:45	06/26/15 20:50	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-092 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	17		2.9	0.28	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Arsenic	3.6		0.098	0.018	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Barium	0.16	J	0.98	0.010	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Cadmium	0.034	J	0.098	0.0069	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Calcium	1300		49	1.3	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Chromium	0.39	B	0.20	0.0060	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Cobalt	0.20		0.049	0.0015	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Copper	2.4		0.20	0.032	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Iron	83		4.9	0.35	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Silver	0.031	J	0.098	0.0038	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Potassium	2500		49	1.3	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Magnesium	780		49	0.18	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Sodium	6300		49	1.3	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Nickel	0.47		0.098	0.011	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Lead	0.13		0.098	0.0037	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Antimony	0.020	J	0.20	0.0025	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Selenium	0.32	J	0.49	0.049	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Thallium	0.0072	J	0.098	0.0020	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Vanadium	0.20		0.098	0.0077	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Zinc	17		0.49	0.064	mg/Kg		06/17/15 13:45	06/27/15 00:45	1
Manganese	1.3		0.49	0.010	mg/Kg		06/17/15 13:45	06/27/15 00:45	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-092 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**23**		2.9	0.28	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Arsenic	**2.0**		0.098	0.018	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Barium	**0.13**	**J**	0.98	0.010	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Cadmium	**0.018**	**J**	0.098	0.0069	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Calcium	**400**		49	1.3	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Chromium	**0.38**	**B**	0.20	0.0060	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Cobalt	**0.13**		0.049	0.0015	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Copper	**1.2**		0.20	0.032	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Iron	**62**		4.9	0.35	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Silver	**0.018**	**J**	0.098	0.0038	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Potassium	**1700**		49	1.3	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Magnesium	**890**		49	0.18	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Sodium	**7900**		49	1.3	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Nickel	**0.31**		0.098	0.011	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Lead	**0.087**	**J**	0.098	0.0037	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Antimony	**0.0088**	**J**	0.20	0.0025	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Selenium	**0.22**	**J**	0.49	0.049	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Thallium	**0.0026**	**J**	0.098	0.0020	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Vanadium	**0.11**		0.098	0.0077	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Zinc	**10**		0.49	0.064	mg/Kg		06/17/15 13:45	06/27/15 00:51	1
Manganese	**1.2**		0.49	0.010	mg/Kg		06/17/15 13:45	06/27/15 00:51	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-092 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**69**		3.0	0.28	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Arsenic	**3.2**		0.099	0.018	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Barium	**0.27**	**J**	0.99	0.011	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Cadmium	**0.055**	**J**	0.099	0.0069	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Calcium	**930**		50	1.3	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Chromium	**0.52**	**B**	0.20	0.0060	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Cobalt	**0.25**		0.050	0.0015	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Copper	**2.3**		0.20	0.033	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Iron	**170**		5.0	0.35	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Silver	**0.037**	**J**	0.099	0.0039	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Potassium	**2300**		50	1.3	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Magnesium	**820**		50	0.19	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Sodium	**6500**		50	1.4	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Nickel	**0.55**		0.099	0.011	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Lead	**0.22**		0.099	0.0038	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Antimony	**0.010**	**J**	0.20	0.0026	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Selenium	**0.34**	**J**	0.50	0.050	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Thallium	**0.0030**	**J**	0.099	0.0020	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Vanadium	**0.33**		0.099	0.0078	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Zinc	**19**		0.50	0.064	mg/Kg		06/17/15 13:45	06/27/15 00:56	1
Manganese	**2.6**		0.50	0.010	mg/Kg		06/17/15 13:45	06/27/15 00:56	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-092 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**38**		3.0	0.28	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Arsenic	**2.6**		0.099	0.018	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Barium	**0.19**	**J**	0.99	0.011	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Cadmium	**0.028**	**J**	0.099	0.0069	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Calcium	**500**		50	1.3	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Chromium	**0.64**	**B**	0.20	0.0060	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Cobalt	**0.18**		0.050	0.0015	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Copper	**1.6**		0.20	0.033	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Iron	**97**		5.0	0.35	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Silver	**0.019**	**J**	0.099	0.0039	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Potassium	**1800**		50	1.3	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Magnesium	**920**		50	0.19	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Sodium	**8300**		50	1.4	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Nickel	**0.53**		0.099	0.011	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Lead	**0.14**		0.099	0.0038	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Antimony	**0.0083**	**J**	0.20	0.0026	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Selenium	**0.24**	**J**	0.50	0.050	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Thallium	ND		0.099	0.0020	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Vanadium	**0.14**		0.099	0.0078	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Zinc	**11**		0.50	0.064	mg/Kg		06/17/15 13:45	06/27/15 01:01	1
Manganese	**2.1**		0.50	0.010	mg/Kg		06/17/15 13:45	06/27/15 01:01	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-092 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	37		2.9	0.28	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Arsenic	3.7		0.097	0.018	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Barium	0.24	J	0.97	0.010	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Cadmium	0.049	J	0.097	0.0068	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Calcium	1400		49	1.3	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Chromium	0.46	B	0.19	0.0059	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Cobalt	0.25		0.049	0.0015	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Copper	2.7		0.19	0.032	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Iron	120		4.9	0.34	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Silver	0.046	J	0.097	0.0038	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Potassium	2600		49	1.3	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Magnesium	720		49	0.18	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Sodium	5500		49	1.3	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Nickel	0.51		0.097	0.011	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Lead	0.22		0.097	0.0037	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Antimony	0.057	J	0.19	0.0025	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Selenium	0.39	J	0.49	0.049	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Thallium	0.0083	J	0.097	0.0019	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Vanadium	0.25		0.097	0.0077	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Zinc	19		0.49	0.063	mg/Kg		06/17/15 13:45	06/27/15 01:24	1
Manganese	2.7		0.49	0.010	mg/Kg		06/17/15 13:45	06/27/15 01:24	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: SRM
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	40		3.0	0.28	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Arsenic	6.5		0.099	0.018	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Barium	5.8		0.99	0.011	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Cadmium	2.2		0.099	0.0069	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Calcium	690		50	1.3	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Chromium	0.41	B	0.20	0.0060	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Cobalt	0.34		0.050	0.0015	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Copper	65		0.20	0.033	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Iron	160		5.0	0.35	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Silver	0.58		0.099	0.0039	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Potassium	5400		50	1.3	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Magnesium	1300		50	0.19	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Sodium	3900		50	1.4	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Nickel	0.92		0.099	0.011	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Lead	0.29		0.099	0.0038	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Antimony	0.12	J	0.20	0.0026	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Selenium	2.0		0.50	0.050	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Thallium	0.017	J	0.099	0.0020	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Vanadium	0.36		0.099	0.0078	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Zinc	1400		0.50	0.064	mg/Kg		06/17/15 13:45	06/27/15 01:55	1
Manganese	17		0.50	0.010	mg/Kg		06/17/15 13:45	06/27/15 01:55	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: SRM
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	33	B	3.0	0.28	mg/Kg		06/23/15 06:55	06/29/15 19:12	1
Arsenic	6.9		0.099	0.018	mg/Kg		06/23/15 06:55	06/29/15 19:12	1
Barium	6.1		0.99	0.011	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Cadmium	2.2		0.099	0.0069	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Calcium	680		50	1.3	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Chromium	0.36		0.20	0.0060	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Cobalt	0.35		0.050	0.0015	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Copper	65		0.20	0.033	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Iron	160	B	5.0	0.35	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Silver	0.57		0.099	0.0039	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Potassium	5500		50	1.3	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Magnesium	1100	B	50	0.19	mg/Kg		06/23/15 06:55	06/29/15 19:12	1
Sodium	3300	B	50	1.4	mg/Kg		06/23/15 06:55	06/29/15 19:12	1
Nickel	0.91		0.099	0.011	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Lead	0.27		0.099	0.0038	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Antimony	0.037	J B	0.20	0.0026	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Selenium	2.2		0.50	0.050	mg/Kg		06/23/15 06:55	06/29/15 19:12	1
Thallium	0.0035	J	0.099	0.0020	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Vanadium	0.42	B	0.099	0.0078	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Zinc	1400		0.50	0.064	mg/Kg		06/23/15 06:55	06/29/15 00:43	1
Manganese	17		0.50	0.010	mg/Kg		06/23/15 06:55	06/29/15 00:43	1

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-088 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 11:24	06/27/15 08:09	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-088 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 11:24	06/27/15 08:14	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-088 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 11:24	06/27/15 08:16	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-088 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 11:24	06/27/15 08:18	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-089 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 11:24	06/27/15 08:20	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-089 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 11:24	06/27/15 08:26	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-089 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 11:24	06/27/15 08:28	5

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44661-1

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-089 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 11:24	06/27/15 08:30	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-089 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 11:24	06/27/15 08:32	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-090 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.049	mg/Kg		06/25/15 09:17	06/25/15 14:10	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-090 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.047	mg/Kg		06/25/15 09:47	06/25/15 14:14	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-090 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.051	mg/Kg		06/25/15 09:17	06/25/15 14:12	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-090 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.051	mg/Kg		06/25/15 09:22	06/26/15 11:34	5

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44661-1

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-090 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.048	mg/Kg		06/25/15 09:22	06/26/15 11:36	5

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44661-1

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-091 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 11:24	06/27/15 08:34	5

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44661-1

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-091 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 11:24	06/27/15 08:35	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-091 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 11:24	06/27/15 08:37	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-091-D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 11:24	06/27/15 08:39	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-091 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 11:24	06/27/15 08:41	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-092 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:22	06/26/15 11:42	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-092 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.13	0.045	mg/Kg		06/25/15 09:22	06/26/15 11:44	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-092 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.054	mg/Kg		06/25/15 09:22	06/26/15 11:46	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-092 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.046	mg/Kg		06/25/15 09:22	06/26/15 11:47	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-092 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.053	mg/Kg		06/25/15 09:22	06/26/15 11:49	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: SRM
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.16	0.055	mg/Kg		06/25/15 09:22	06/26/15 11:55	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: SRM
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.14	0.048	mg/Kg		06/26/15 09:45	06/27/15 08:55	5

General Chemistry

Client Sample ID: AT5-088 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**87**		0.10	0.10	%			06/26/15 05:56	1
Percent Lipids	**0.50**		0.20	0.059	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-088 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/26/15 06:55	1
Percent Lipids	0.75		0.20	0.059	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-088 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/26/15 07:53	1
Percent Lipids	0.62		0.20	0.059	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-088 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/26/15 08:52	1
Percent Lipids	0.57		0.20	0.059	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-089 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	85		0.10	0.10	%			06/25/15 12:55	1
Percent Lipids	0.54		0.20	0.058	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-089 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	85		0.10	0.10	%			06/25/15 14:47	1
Percent Lipids	0.66		0.20	0.059	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-089 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	86		0.10	0.10	%			06/25/15 15:44	1
Percent Lipids	0.53		0.20	0.059	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-089 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/25/15 16:40	1
Percent Lipids	0.62		0.19	0.057	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-089 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	83		0.10	0.10	%			06/25/15 17:37	1
Percent Lipids	0.53		0.20	0.058	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-090 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	87		0.10	0.10	%			06/25/15 18:33	1
Percent Lipids	0.28		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-090 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/25/15 19:29	1
Percent Lipids	**0.29**		0.20	0.058	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-090 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/25/15 20:26	1
Percent Lipids	**0.34**		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

General Chemistry

Client Sample ID: AT5-090 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/25/15 21:22	1
Percent Lipids	**0.40**		0.20	0.059	%		06/20/15 03:30	06/20/15 03:30	1

General Chemistry

Client Sample ID: AT5-090 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	86		0.10	0.10	%			06/25/15 22:19	1
Percent Lipids	0.46		0.20	0.059	%		06/20/15 03:30	06/20/15 03:30	1

General Chemistry

Client Sample ID: AT5-091 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/25/15 23:15	1
Percent Lipids	**0.70**		0.20	0.059	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-091 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/26/15 01:08	1
Percent Lipids	0.62		0.20	0.058	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-091 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**87**		0.10	0.10	%			06/26/15 02:04	1
Percent Lipids	**0.48**		0.20	0.059	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-091-D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**88**		0.10	0.10	%			06/26/15 03:01	1
Percent Lipids	**0.35**		0.20	0.059	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-091 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	86		0.10	0.10	%			06/26/15 03:57	1
Percent Lipids	0.65		0.20	0.058	%		06/25/15 03:45	06/25/15 03:45	1

General Chemistry

Client Sample ID: AT5-092 A-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/26/15 04:53	1
Percent Lipids	**0.50**		0.20	0.058	%		06/20/15 03:30	06/20/15 03:30	1

General Chemistry

Client Sample ID: AT5-092 B-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**90**		0.10	0.10	%			06/26/15 05:50	1
Percent Lipids	**0.33**		0.20	0.059	%		06/20/15 03:30	06/20/15 03:30	1

General Chemistry

Client Sample ID: AT5-092 C-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/26/15 06:46	1
Percent Lipids	**0.47**		0.20	0.059	%		06/20/15 03:30	06/20/15 03:30	1

General Chemistry

Client Sample ID: AT5-092 D-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**89**		0.10	0.10	%			06/26/15 07:43	1
Percent Lipids	**0.33**		0.20	0.059	%		06/20/15 03:30	06/20/15 03:30	1

General Chemistry

Client Sample ID: AT5-092 E-C
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44661-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/26/15 08:39	1
Percent Lipids	**0.51**		0.20	0.059	%		06/20/15 03:30	06/20/15 03:30	1

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44661-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
Acenaphthene	6.7	0.64	ug/Kg	8270D LL
Acenaphthylene	6.7	0.76	ug/Kg	8270D LL
Anthracene	6.7	0.65	ug/Kg	8270D LL
Benzo[a]anthracene	6.7	0.84	ug/Kg	8270D LL
Benzo[a]pyrene	6.7	0.67	ug/Kg	8270D LL
Benzo[b]fluoranthene	6.7	1.0	ug/Kg	8270D LL
Benzo[g,h,i]perylene	6.7	0.66	ug/Kg	8270D LL
Benzo[k]fluoranthene	6.7	1.3	ug/Kg	8270D LL
Bis(2-ethylhexyl) phthalate	67	5.4	ug/Kg	8270D LL
Chrysene	6.7	0.79	ug/Kg	8270D LL
Dibenz(a,h)anthracene	6.7	0.74	ug/Kg	8270D LL
Fluoranthene	6.7	0.71	ug/Kg	8270D LL
Fluorene	6.7	0.88	ug/Kg	8270D LL
Indeno[1,2,3-cd]pyrene	6.7	0.69	ug/Kg	8270D LL
Naphthalene	6.7	0.58	ug/Kg	8270D LL
Phenanthrene	6.7	1.1	ug/Kg	8270D LL
Phenol	6.7	0.79	ug/Kg	8270D LL
Pyrene	6.7	0.67	ug/Kg	8270D LL

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.083	0.0050	ug/Kg	8081B_LL
2,4'-DDE	0.083	0.0077	ug/Kg	8081B_LL
2,4'-DDT	0.083	0.0072	ug/Kg	8081B_LL
4,4'-DDD	0.083	0.011	ug/Kg	8081B_LL
4,4'-DDE	0.083	0.013	ug/Kg	8081B_LL
4,4'-DDT	0.083	0.013	ug/Kg	8081B_LL
Endrin	0.083	0.016	ug/Kg	8081B_LL
Mirex	0.083	0.0077	ug/Kg	8081B_LL

Method: 6020A - Metals (ICP/MS)

Analyte	RL	MDL	Units	Method
Aluminum	3.0	0.28	mg/Kg	6020A
Antimony	0.20	0.0026	mg/Kg	6020A
Arsenic	0.10	0.018	mg/Kg	6020A
Barium	1.0	0.011	mg/Kg	6020A
Beryllium	0.10	0.0075	mg/Kg	6020A
Cadmium	0.10	0.0070	mg/Kg	6020A
Calcium	50	1.3	mg/Kg	6020A
Chromium	0.20	0.0061	mg/Kg	6020A
Cobalt	0.050	0.0015	mg/Kg	6020A
Copper	0.20	0.033	mg/Kg	6020A
Iron	5.0	0.35	mg/Kg	6020A
Lead	0.10	0.0038	mg/Kg	6020A
Magnesium	50	0.19	mg/Kg	6020A
Manganese	0.50	0.010	mg/Kg	6020A
Nickel	0.10	0.011	mg/Kg	6020A
Potassium	50	1.4	mg/Kg	6020A
Selenium	0.50	0.050	mg/Kg	6020A
Silver	0.10	0.0039	mg/Kg	6020A

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44661-1

Method: 6020A - Metals (ICP/MS) (Continued)

Analyte	RL	MDL	Units	Method
Sodium	50	1.4	mg/Kg	6020A
Thallium	0.10	0.0020	mg/Kg	6020A
Vanadium	0.10	0.0079	mg/Kg	6020A
Zinc	0.50	0.065	mg/Kg	6020A

Method: 7471B - Mercury (CVAA)

Analyte	RL	MDL	Units	Method
Mercury	0.033	0.011	mg/Kg	7471B

General Chemistry

Analyte	RL	MDL	Units	Method
Percent Moisture	0.10	0.10	%	2540G
Percent Lipids	0.10	0.030	%	Lipids

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44661-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Tissue **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		2FP	TBP	PHL	FBP	NBZ	TPH
Lab Sample ID	Client Sample ID	(34-103)	(20-113)	(35-103)	(38-103)	(41-108)	(28-109)
180-44661-1	AT5-088 B-C	73	76	70	76	69	71
180-44661-1 MS	AT5-088 B-C	49	57	50	53	49	52
180-44661-1 MSD	AT5-088 B-C	60	57	59	60	55	56
180-44661-2	AT5-088 C-C	58	68	64	69	63	69
180-44661-3	AT5-088 D-C	62	68	64	66	63	63
180-44661-4	AT5-088 E-C	54	61	55	63	57	63
180-44661-5	AT5-089 A-C	54	58	54	59	54	53
180-44661-6	AT5-089 B-C	56	66	55	64	60	61
180-44661-7	AT5-089 C-C	70	74	70	70	74	67
180-44661-8	AT5-089 D-C	64	69	62	65	62	61
180-44661-9	AT5-089 E-C	54	50	51	52	49	47
180-44661-10	AT5-090 A-C	75	71	70	70	69	69
180-44661-11	AT5-090 B-C	52	54	52	53	54	47
180-44661-12	AT5-090 C-C	76	71	74	72	71	65
180-44661-13	AT5-090 D-C	64	60	60	60	58	56
180-44661-14	AT5-090 E-C	77	81	77	87	82	79
180-44661-14 MS	AT5-090 E-C	67	64	66	67	65	61
180-44661-14 MSD	AT5-090 E-C	64	74	65	69	63	66
180-44661-15	AT5-091 A-C	60	76	62	66	65	61
180-44661-16	AT5-091 B-C	52	59	55	55	54	56
180-44661-17	AT5-091 C-C	50	63	53	54	50	56
180-44661-18	AT5-091-D-C	45	57	48	52	48	51
180-44661-19	AT5-091 E-C	49	58	50	53	48	53
180-44661-20	AT5-092 A-C	60	58	62	63	60	55
180-44661-21	AT5-092 B-C	67	75	68	69	66	72
180-44661-22	AT5-092 C-C	65	74	67	73	70	69
180-44661-23	AT5-092 D-C	82	84	81	87	81	85
180-44661-24	AT5-092 E-C	75	73	75	76	74	70
LCS 180-145214/2-B	Lab Control Sample	51	40	48	45	45	41
LCS 180-145514/2-B	Lab Control Sample	90	72	88	84	83	80
LCS 180-146018/2-B	Lab Control Sample	58	52	56	56	51	56
MB 180-145214/1-B	Method Blank	60	37	59	54	54	48
MB 180-145514/1-B	Method Blank	82	55	80	78	75	69
MB 180-146018/1-B	Method Blank	70	57	67	68	66	63

Surrogate Legend

2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
PHL = Phenol-d5 (Surr)
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44661-1

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Tissue **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	TCX1 (45-140)	TCX2 (45-140)	DCB1 (45-140)	DCB2 (45-140)
180-44661-10	AT5-090 A-C	51	59	67	68
180-44661-11	AT5-090 B-C	52	60	68	71
180-44661-12	AT5-090 C-C	52	57	62	66
180-44661-13	AT5-090 D-C	68	72	77	79
180-44661-14	AT5-090 E-C	60	71	75	81
180-44661-14 MS	AT5-090 E-C	55	73	72	75
180-44661-14 MSD	AT5-090 E-C	59	69	74	80
180-44661-20	AT5-092 A-C	56	67	74	76
180-44661-21	AT5-092 B-C	57	70	78	78
180-44661-22	AT5-092 C-C	30 X	36 X	39 X	42 X
180-44661-23	AT5-092 D-C	26 X	30 X	32 X	36 X
180-44661-24	AT5-092 E-C	54	55	60	64
180-44661-25	SRM	62	72	76	85
LCS 180-145348/2-B	Lab Control Sample	60	67	73	74
LCS 180-145516/2-B	Lab Control Sample	82	92	90	93
MB 180-145348/1-B	Method Blank	63	64	69	69
MB 180-145516/1-B	Method Blank	79	80	86	88

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-145214/1-B
Matrix: Tissue
Analysis Batch: 146014

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145214

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40	3.8	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Acenaphthylene	ND		40	4.6	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Anthracene	ND		40	3.9	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Benzo[a]anthracene	ND		40	5.0	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Benzo[b]fluoranthene	ND		40	6.3	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Benzo[k]fluoranthene	ND		40	8.1	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Benzo[g,h,i]perylene	ND		40	4.0	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Benzo[a]pyrene	ND		40	4.0	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Bis(2-ethylhexyl) phthalate	ND		400	32	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Chrysene	ND		40	4.8	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Dibenz(a,h)anthracene	ND		40	4.5	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Fluoranthene	ND		40	4.3	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Fluorene	ND		40	5.3	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Indeno[1,2,3-cd]pyrene	ND		40	4.1	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Naphthalene	ND		40	3.5	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Phenanthrene	ND		40	6.4	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Phenol	ND		40	4.7	ug/Kg		06/17/15 03:25	06/25/15 05:50	1
Pyrene	ND		40	4.0	ug/Kg		06/17/15 03:25	06/25/15 05:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*60*		*34 - 103*	*06/17/15 03:25*	*06/25/15 05:50*	*1*
2,4,6-Tribromophenol (Surr)	*37*		*20 - 113*	*06/17/15 03:25*	*06/25/15 05:50*	*1*
Phenol-d5 (Surr)	*59*		*35 - 103*	*06/17/15 03:25*	*06/25/15 05:50*	*1*
2-Fluorobiphenyl	*54*		*38 - 103*	*06/17/15 03:25*	*06/25/15 05:50*	*1*
Nitrobenzene-d5 (Surr)	*54*		*41 - 108*	*06/17/15 03:25*	*06/25/15 05:50*	*1*
Terphenyl-d14 (Surr)	*48*		*28 - 109*	*06/17/15 03:25*	*06/25/15 05:50*	*1*

Lab Sample ID: LCS 180-145214/2-B
Matrix: Tissue
Analysis Batch: 146014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2000	923		ug/Kg		46	34 - 100
Acenaphthylene	2000	947		ug/Kg		47	34 - 100
Anthracene	2000	1000		ug/Kg		50	35 - 100
Benzo[a]anthracene	2000	999		ug/Kg		50	37 - 100
Benzo[b]fluoranthene	2000	911		ug/Kg		46	31 - 100
Benzo[k]fluoranthene	2000	932		ug/Kg		47	34 - 100
Benzo[g,h,i]perylene	2000	955		ug/Kg		48	29 - 106
Benzo[a]pyrene	2000	997		ug/Kg		50	36 - 100
Bis(2-ethylhexyl) phthalate	2000	1120		ug/Kg		56	32 - 106
Chrysene	2000	953		ug/Kg		48	37 - 100
Dibenz(a,h)anthracene	2000	1000		ug/Kg		50	31 - 106
Fluoranthene	2000	1040		ug/Kg		52	36 - 100
Fluorene	2000	1010		ug/Kg		51	35 - 100
Indeno[1,2,3-cd]pyrene	2000	985		ug/Kg		49	31 - 103
Naphthalene	2000	917		ug/Kg		46	32 - 100
Phenanthrene	2000	965		ug/Kg		48	33 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-145214/2-B
Matrix: Tissue
Analysis Batch: 146014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	2000	1010		ug/Kg		51	34 - 100
Pyrene	2000	936		ug/Kg		47	32 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*51*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*40*		*20 - 113*
Phenol-d5 (Surr)	*48*		*35 - 103*
2-Fluorobiphenyl	*45*		*38 - 103*
Nitrobenzene-d5 (Surr)	*45*		*41 - 108*
Terphenyl-d14 (Surr)	*41*		*28 - 109*

Lab Sample ID: MB 180-145514/1-B
Matrix: Tissue
Analysis Batch: 146152

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145514

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40	3.8	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Acenaphthylene	ND		40	4.6	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Anthracene	ND		40	3.9	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Benzo[a]anthracene	ND		40	5.0	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Benzo[b]fluoranthene	ND		40	6.3	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Benzo[k]fluoranthene	ND		40	8.1	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Benzo[g,h,i]perylene	ND		40	4.0	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Benzo[a]pyrene	ND		40	4.0	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Bis(2-ethylhexyl) phthalate	ND		400	32	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Chrysene	ND		40	4.8	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Dibenz(a,h)anthracene	ND		40	4.5	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Fluoranthene	ND		40	4.3	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Fluorene	ND		40	5.3	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Indeno[1,2,3-cd]pyrene	ND		40	4.1	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Naphthalene	ND		40	3.5	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Phenanthrene	ND		40	6.4	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Phenol	ND		40	4.7	ug/Kg		06/19/15 03:25	06/26/15 00:37	1
Pyrene	ND		40	4.0	ug/Kg		06/19/15 03:25	06/26/15 00:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*82*		*34 - 103*	*06/19/15 03:25*	*06/26/15 00:37*	*1*
2,4,6-Tribromophenol (Surr)	*55*		*20 - 113*	*06/19/15 03:25*	*06/26/15 00:37*	*1*
Phenol-d5 (Surr)	*80*		*35 - 103*	*06/19/15 03:25*	*06/26/15 00:37*	*1*
2-Fluorobiphenyl	*78*		*38 - 103*	*06/19/15 03:25*	*06/26/15 00:37*	*1*
Nitrobenzene-d5 (Surr)	*75*		*41 - 108*	*06/19/15 03:25*	*06/26/15 00:37*	*1*
Terphenyl-d14 (Surr)	*69*		*28 - 109*	*06/19/15 03:25*	*06/26/15 00:37*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-145514/2-B
Matrix: Tissue
Analysis Batch: 146152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145514

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2000	1670		ug/Kg		83	34 - 100
Acenaphthylene	2000	1710		ug/Kg		85	34 - 100
Anthracene	2000	1800		ug/Kg		90	35 - 100
Benzo[a]anthracene	2000	1850		ug/Kg		93	37 - 100
Benzo[b]fluoranthene	2000	1660		ug/Kg		83	31 - 100
Benzo[k]fluoranthene	2000	1740		ug/Kg		87	34 - 100
Benzo[g,h,i]perylene	2000	1660		ug/Kg		83	29 - 106
Benzo[a]pyrene	2000	1810		ug/Kg		91	36 - 100
Bis(2-ethylhexyl) phthalate	2000	1970		ug/Kg		99	32 - 106
Chrysene	2000	1750		ug/Kg		87	37 - 100
Dibenz(a,h)anthracene	2000	1740		ug/Kg		87	31 - 106
Fluoranthene	2000	1820		ug/Kg		91	36 - 100
Fluorene	2000	1830		ug/Kg		92	35 - 100
Indeno[1,2,3-cd]pyrene	2000	1700		ug/Kg		85	31 - 103
Naphthalene	2000	1660		ug/Kg		83	32 - 100
Phenanthrene	2000	1760		ug/Kg		88	33 - 100
Phenol	2000	1820		ug/Kg		91	34 - 100
Pyrene	2000	1690		ug/Kg		84	32 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*90*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*72*		*20 - 113*
Phenol-d5 (Surr)	*88*		*35 - 103*
2-Fluorobiphenyl	*84*		*38 - 103*
Nitrobenzene-d5 (Surr)	*83*		*41 - 108*
Terphenyl-d14 (Surr)	*80*		*28 - 109*

Lab Sample ID: 180-44661-14 MS
Matrix: Tissue
Analysis Batch: 146152

Client Sample ID: AT5-090 E-C
Prep Type: Total/NA
Prep Batch: 145514

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		13900	9530		ug/Kg	☼	69	34 - 100
Acenaphthylene	ND		13900	9880		ug/Kg	☼	71	34 - 100
Anthracene	ND		13900	9730		ug/Kg	☼	70	35 - 100
Benzo[a]anthracene	ND		13900	10600		ug/Kg	☼	76	37 - 100
Benzo[b]fluoranthene	ND		13900	9290		ug/Kg	☼	67	31 - 100
Benzo[k]fluoranthene	ND		13900	9740		ug/Kg	☼	70	34 - 100
Benzo[g,h,i]perylene	ND		13900	9550		ug/Kg	☼	69	29 - 106
Benzo[a]pyrene	ND		13900	9790		ug/Kg	☼	71	36 - 100
Bis(2-ethylhexyl) phthalate	ND		13900	11600		ug/Kg	☼	84	32 - 106
Chrysene	ND		13900	9820		ug/Kg	☼	71	37 - 100
Dibenz(a,h)anthracene	ND		13900	10400		ug/Kg	☼	75	31 - 106
Fluoranthene	ND		13900	9920		ug/Kg	☼	72	36 - 100
Fluorene	ND		13900	10600		ug/Kg	☼	76	35 - 100
Indeno[1,2,3-cd]pyrene	ND		13900	9590		ug/Kg	☼	69	31 - 103
Naphthalene	ND		13900	8980		ug/Kg	☼	65	32 - 100
Phenanthrene	ND		13900	11000		ug/Kg	☼	79	33 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-44661-14 MS
Matrix: Tissue
Analysis Batch: 146152

Client Sample ID: AT5-090 E-C
Prep Type: Total/NA
Prep Batch: 145514

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	ND		13900	9460		ug/Kg	☼	68	34 - 100
Pyrene	ND		13900	9740		ug/Kg	☼	70	32 - 100

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*67*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*64*		*20 - 113*
Phenol-d5 (Surr)	*66*		*35 - 103*
2-Fluorobiphenyl	*67*		*38 - 103*
Nitrobenzene-d5 (Surr)	*65*		*41 - 108*
Terphenyl-d14 (Surr)	*61*		*28 - 109*

Lab Sample ID: 180-44661-14 MSD
Matrix: Tissue
Analysis Batch: 146152

Client Sample ID: AT5-090 E-C
Prep Type: Total/NA
Prep Batch: 145514

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		13600	10000		ug/Kg	☼	74	34 - 100	5	23
Acenaphthylene	ND		13600	9970		ug/Kg	☼	73	34 - 100	1	23
Anthracene	ND		13600	10900		ug/Kg	☼	80	35 - 100	11	20
Benzo[a]anthracene	ND		13600	12100		ug/Kg	☼	89	37 - 100	13	20
Benzo[b]fluoranthene	ND		13600	10300		ug/Kg	☼	76	31 - 100	11	22
Benzo[k]fluoranthene	ND		13600	10200		ug/Kg	☼	75	34 - 100	5	21
Benzo[g,h,i]perylene	ND		13600	10200		ug/Kg	☼	75	29 - 106	6	20
Benzo[a]pyrene	ND		13600	10800		ug/Kg	☼	79	36 - 100	10	21
Bis(2-ethylhexyl) phthalate	ND		13600	13000		ug/Kg	☼	96	32 - 106	12	20
Chrysene	ND		13600	10500		ug/Kg	☼	77	37 - 100	7	20
Dibenz(a,h)anthracene	ND		13600	10800		ug/Kg	☼	79	31 - 106	4	26
Fluoranthene	ND		13600	10700		ug/Kg	☼	78	36 - 100	7	20
Fluorene	ND		13600	10600		ug/Kg	☼	78	35 - 100	0	21
Indeno[1,2,3-cd]pyrene	ND		13600	10900		ug/Kg	☼	80	31 - 103	13	25
Naphthalene	ND		13600	9290		ug/Kg	☼	68	32 - 100	3	20
Phenanthrene	ND		13600	11600		ug/Kg	☼	86	33 - 100	6	20
Phenol	ND		13600	9700		ug/Kg	☼	71	34 - 100	3	20
Pyrene	ND		13600	10800		ug/Kg	☼	79	32 - 100	10	21

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorophenol (Surr)	*64*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*74*		*20 - 113*
Phenol-d5 (Surr)	*65*		*35 - 103*
2-Fluorobiphenyl	*69*		*38 - 103*
Nitrobenzene-d5 (Surr)	*63*		*41 - 108*
Terphenyl-d14 (Surr)	*66*		*28 - 109*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-146018/1-B
Matrix: Tissue
Analysis Batch: 146391

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146018

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40	3.8	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Acenaphthylene	ND		40	4.6	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Anthracene	ND		40	3.9	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Benzo[a]anthracene	ND		40	5.0	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Benzo[b]fluoranthene	ND		40	6.3	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Benzo[k]fluoranthene	ND		40	8.1	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Benzo[g,h,i]perylene	ND		40	4.0	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Benzo[a]pyrene	ND		40	4.0	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Bis(2-ethylhexyl) phthalate	ND		400	32	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Chrysene	ND		40	4.8	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Dibenz(a,h)anthracene	ND		40	4.5	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Fluoranthene	ND		40	4.3	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Fluorene	ND		40	5.3	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Indeno[1,2,3-cd]pyrene	ND		40	4.1	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Naphthalene	ND		40	3.5	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Phenanthrene	ND		40	6.4	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Phenol	ND		40	4.7	ug/Kg		06/25/15 03:30	06/29/15 12:45	1
Pyrene	ND		40	4.0	ug/Kg		06/25/15 03:30	06/29/15 12:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*70*		*34 - 103*	*06/25/15 03:30*	*06/29/15 12:45*	*1*
2,4,6-Tribromophenol (Surr)	*57*		*20 - 113*	*06/25/15 03:30*	*06/29/15 12:45*	*1*
Phenol-d5 (Surr)	*67*		*35 - 103*	*06/25/15 03:30*	*06/29/15 12:45*	*1*
2-Fluorobiphenyl	*68*		*38 - 103*	*06/25/15 03:30*	*06/29/15 12:45*	*1*
Nitrobenzene-d5 (Surr)	*66*		*41 - 108*	*06/25/15 03:30*	*06/29/15 12:45*	*1*
Terphenyl-d14 (Surr)	*63*		*28 - 109*	*06/25/15 03:30*	*06/29/15 12:45*	*1*

Lab Sample ID: LCS 180-146018/2-B
Matrix: Tissue
Analysis Batch: 146391

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146018

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2000	1150		ug/Kg		58	34 - 100
Acenaphthylene	2000	1210		ug/Kg		61	34 - 100
Anthracene	2000	1320		ug/Kg		66	35 - 100
Benzo[a]anthracene	2000	1430		ug/Kg		72	37 - 100
Benzo[b]fluoranthene	2000	1270		ug/Kg		63	31 - 100
Benzo[k]fluoranthene	2000	1380		ug/Kg		69	34 - 100
Benzo[g,h,i]perylene	2000	1330		ug/Kg		67	29 - 106
Benzo[a]pyrene	2000	1470		ug/Kg		74	36 - 100
Bis(2-ethylhexyl) phthalate	2000	1550		ug/Kg		78	32 - 106
Chrysene	2000	1410		ug/Kg		70	37 - 100
Dibenz(a,h)anthracene	2000	1620		ug/Kg		81	31 - 106
Fluoranthene	2000	1470		ug/Kg		74	36 - 100
Fluorene	2000	1320		ug/Kg		66	35 - 100
Indeno[1,2,3-cd]pyrene	2000	1590		ug/Kg		79	31 - 103
Naphthalene	2000	1120		ug/Kg		56	32 - 100
Phenanthrene	2000	1320		ug/Kg		66	33 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-146018/2-B
Matrix: Tissue
Analysis Batch: 146391

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146018

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Phenol			2000	1200		ug/Kg		60	34 - 100		
Pyrene			2000	1210		ug/Kg		60	32 - 100		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*58*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*52*		*20 - 113*
Phenol-d5 (Surr)	*56*		*35 - 103*
2-Fluorobiphenyl	*56*		*38 - 103*
Nitrobenzene-d5 (Surr)	*51*		*41 - 108*
Terphenyl-d14 (Surr)	*56*		*28 - 109*

Lab Sample ID: 180-44661-1 MS
Matrix: Tissue
Analysis Batch: 146391

Client Sample ID: AT5-088 B-C
Prep Type: Total/NA
Prep Batch: 146018

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acenaphthene	ND		15900	8490		ug/Kg	☼	53	34 - 100		
Acenaphthylene	ND		15900	8490		ug/Kg	☼	53	34 - 100		
Anthracene	ND		15900	9770		ug/Kg	☼	61	35 - 100		
Benzo[a]anthracene	ND		15900	10000		ug/Kg	☼	63	37 - 100		
Benzo[b]fluoranthene	ND		15900	9260		ug/Kg	☼	58	31 - 100		
Benzo[k]fluoranthene	ND		15900	8540		ug/Kg	☼	54	34 - 100		
Benzo[g,h,i]perylene	ND		15900	8250		ug/Kg	☼	52	29 - 106		
Benzo[a]pyrene	ND		15900	9470		ug/Kg	☼	60	36 - 100		
Bis(2-ethylhexyl) phthalate	ND		15900	11700	J	ug/Kg	☼	73	32 - 106		
Chrysene	ND		15900	9420		ug/Kg	☼	59	37 - 100		
Dibenz(a,h)anthracene	ND		15900	10300		ug/Kg	☼	65	31 - 106		
Fluoranthene	ND		15900	10100		ug/Kg	☼	64	36 - 100		
Fluorene	ND		15900	9700		ug/Kg	☼	61	35 - 100		
Indeno[1,2,3-cd]pyrene	ND		15900	8930		ug/Kg	☼	56	31 - 103		
Naphthalene	ND		15900	7740		ug/Kg	☼	49	32 - 100		
Phenanthrene	ND		15900	9480		ug/Kg	☼	60	33 - 100		
Phenol	980	J	15900	8820		ug/Kg	☼	49	34 - 100		
Pyrene	ND		15900	8650		ug/Kg	☼	54	32 - 100		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*49*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*57*		*20 - 113*
Phenol-d5 (Surr)	*50*		*35 - 103*
2-Fluorobiphenyl	*53*		*38 - 103*
Nitrobenzene-d5 (Surr)	*49*		*41 - 108*
Terphenyl-d14 (Surr)	*52*		*28 - 109*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-44661-1 MSD
Matrix: Tissue
Analysis Batch: 146391

Client Sample ID: AT5-088 B-C
Prep Type: Total/NA
Prep Batch: 146018

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		15600	8700		ug/Kg	☼	56	34 - 100	2	23
Acenaphthylene	ND		15600	9300		ug/Kg	☼	60	34 - 100	9	23
Anthracene	ND		15600	9390		ug/Kg	☼	60	35 - 100	4	20
Benzo[a]anthracene	ND		15600	11200		ug/Kg	☼	72	37 - 100	11	20
Benzo[b]fluoranthene	ND		15600	9080		ug/Kg	☼	58	31 - 100	2	22
Benzo[k]fluoranthene	ND		15600	9270		ug/Kg	☼	59	34 - 100	8	21
Benzo[g,h,i]perylene	ND		15600	8510		ug/Kg	☼	55	29 - 106	3	20
Benzo[a]pyrene	ND		15600	9590		ug/Kg	☼	61	36 - 100	1	21
Bis(2-ethylhexyl) phthalate	ND		15600	11700	J	ug/Kg	☼	75	32 - 106	1	20
Chrysene	ND		15600	9570		ug/Kg	☼	61	37 - 100	2	20
Dibenz(a,h)anthracene	ND		15600	10200		ug/Kg	☼	66	31 - 106	0	26
Fluoranthene	ND		15600	9770		ug/Kg	☼	63	36 - 100	3	20
Fluorene	ND		15600	9550		ug/Kg	☼	61	35 - 100	2	21
Indeno[1,2,3-cd]pyrene	ND		15600	7820		ug/Kg	☼	50	31 - 103	13	25
Naphthalene	ND		15600	8350		ug/Kg	☼	54	32 - 100	8	20
Phenanthrene	ND		15600	9630		ug/Kg	☼	62	33 - 100	1	20
Phenol	980	J	15600	9160		ug/Kg	☼	52	34 - 100	4	20
Pyrene	ND		15600	8870		ug/Kg	☼	57	32 - 100	3	21

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorophenol (Surr)	*60*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*57*		*20 - 113*
Phenol-d5 (Surr)	*59*		*35 - 103*
2-Fluorobiphenyl	*60*		*38 - 103*
Nitrobenzene-d5 (Surr)	*55*		*41 - 108*
Terphenyl-d14 (Surr)	*56*		*28 - 109*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-145348/1-B
Matrix: Tissue
Analysis Batch: 145682

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145348

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
Endrin	ND		12	2.4	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/18/15 03:30	06/22/15 14:52	1
Mirex	ND		12	1.2	ug/Kg		06/18/15 03:30	06/22/15 14:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*63*		*45 - 140*	*06/18/15 03:30*	*06/22/15 14:52*	*1*
Tetrachloro-m-xylene	*64*		*45 - 140*	*06/18/15 03:30*	*06/22/15 14:52*	*1*
DCB Decachlorobiphenyl (Surr)	*69*		*45 - 140*	*06/18/15 03:30*	*06/22/15 14:52*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 180-145348/1-B
Matrix: Tissue
Analysis Batch: 145682

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145348

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	69		45 - 140	06/18/15 03:30	06/22/15 14:52	1

Lab Sample ID: LCS 180-145348/2-B
Matrix: Tissue
Analysis Batch: 145682

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145348

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	25.0	13.3		ug/Kg		53	50 - 150
4,4'-DDE	25.0	13.6		ug/Kg		54	50 - 150
4,4'-DDT	25.0	11.0	J	ug/Kg		44	30 - 150
Endrin	25.0	14.5		ug/Kg		58	30 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	60		45 - 140
Tetrachloro-m-xylene	67		45 - 140
DCB Decachlorobiphenyl (Surr)	73		45 - 140
DCB Decachlorobiphenyl (Surr)	74		45 - 140

Lab Sample ID: MB 180-145516/1-B
Matrix: Tissue
Analysis Batch: 146064

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145516

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/19/15 05:07	06/25/15 10:13	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/19/15 05:07	06/25/15 10:13	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/19/15 05:07	06/25/15 10:13	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/19/15 05:07	06/25/15 10:13	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/19/15 05:07	06/25/15 10:13	1
Endrin	ND		12	2.4	ug/Kg		06/19/15 05:07	06/25/15 10:13	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/19/15 05:07	06/25/15 10:13	1
Mirex	ND		12	1.2	ug/Kg		06/19/15 05:07	06/25/15 10:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	79		45 - 140	06/19/15 05:07	06/25/15 10:13	1
Tetrachloro-m-xylene	80		45 - 140	06/19/15 05:07	06/25/15 10:13	1
DCB Decachlorobiphenyl (Surr)	86		45 - 140	06/19/15 05:07	06/25/15 10:13	1
DCB Decachlorobiphenyl (Surr)	88		45 - 140	06/19/15 05:07	06/25/15 10:13	1

Lab Sample ID: LCS 180-145516/2-B
Matrix: Tissue
Analysis Batch: 146380

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145516

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	25.0	20.4		ug/Kg		82	50 - 150
4,4'-DDE	25.0	17.5		ug/Kg		70	50 - 150
4,4'-DDT	25.0	17.6		ug/Kg		70	30 - 150
Endrin	25.0	22.2		ug/Kg		89	30 - 150

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-145516/2-B
Matrix: Tissue
Analysis Batch: 146380

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145516

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*82*		*45 - 140*
Tetrachloro-m-xylene	*92*		*45 - 140*
DCB Decachlorobiphenyl (Surr)	*90*		*45 - 140*
DCB Decachlorobiphenyl (Surr)	*93*		*45 - 140*

Lab Sample ID: 180-44661-14 MS
Matrix: Tissue
Analysis Batch: 146064

Client Sample ID: AT5-090 E-C
Prep Type: Total/NA
Prep Batch: 145516

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	ND		23.8	16.4		ug/Kg		69	50 - 150
4,4'-DDE	ND		23.8	16.6		ug/Kg		70	50 - 150
4,4'-DDT	ND		23.8	12.4		ug/Kg		52	30 - 150
Endrin	ND		23.8	17.1		ug/Kg		72	30 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene	*55*		*45 - 140*
Tetrachloro-m-xylene	*73*		*45 - 140*
DCB Decachlorobiphenyl (Surr)	*72*		*45 - 140*
DCB Decachlorobiphenyl (Surr)	*75*		*45 - 140*

Lab Sample ID: 180-44661-14 MSD
Matrix: Tissue
Analysis Batch: 146064

Client Sample ID: AT5-090 E-C
Prep Type: Total/NA
Prep Batch: 145516

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	ND		25.0	17.2		ug/Kg		69	50 - 150	5	20
4,4'-DDE	ND		25.0	17.3		ug/Kg		69	50 - 150	4	20
4,4'-DDT	ND		25.0	12.6		ug/Kg		50	30 - 150	1	37
Endrin	ND		25.0	18.7		ug/Kg		75	30 - 150	9	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*59*		*45 - 140*
Tetrachloro-m-xylene	*69*		*45 - 140*
DCB Decachlorobiphenyl (Surr)	*74*		*45 - 140*
DCB Decachlorobiphenyl (Surr)	*80*		*45 - 140*

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-145319/1-A
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145319

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		3.0	0.28	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Arsenic	ND		0.099	0.018	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Barium	ND		0.99	0.011	mg/Kg		06/17/15 13:34	06/26/15 21:04	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-145319/1-A
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145319

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.099	0.0074	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Cadmium	ND		0.099	0.0069	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Calcium	ND		50	1.3	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Chromium	0.0137	J	0.20	0.0060	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Cobalt	ND		0.050	0.0015	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Copper	ND		0.20	0.033	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Iron	0.405	J	5.0	0.35	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Silver	ND		0.099	0.0039	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Potassium	ND		50	1.3	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Magnesium	ND		50	0.19	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Sodium	ND		50	1.4	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Nickel	ND		0.099	0.011	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Lead	ND		0.099	0.0038	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Antimony	ND		0.20	0.0026	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Selenium	ND		0.50	0.050	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Thallium	ND		0.099	0.0020	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Vanadium	ND		0.099	0.0078	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Zinc	ND		0.50	0.064	mg/Kg		06/17/15 13:34	06/26/15 21:04	1
Manganese	ND		0.50	0.010	mg/Kg		06/17/15 13:34	06/26/15 21:04	1

Lab Sample ID: LCS 180-145319/2-A
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145319

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	190	203		mg/Kg		107	80 - 120
Arsenic	3.81	3.58		mg/Kg		94	80 - 120
Barium	190	179		mg/Kg		94	80 - 120
Beryllium	4.76	4.18		mg/Kg		88	80 - 120
Cadmium	4.76	4.83		mg/Kg		101	80 - 120
Calcium	4760	4340		mg/Kg		91	80 - 120
Chromium	19.0	18.4		mg/Kg		97	80 - 120
Cobalt	47.6	46.4		mg/Kg		98	80 - 120
Copper	23.8	22.5		mg/Kg		95	80 - 120
Iron	95.2	104		mg/Kg		109	80 - 120
Silver	4.76	4.72		mg/Kg		99	80 - 120
Potassium	4760	4020		mg/Kg		85	80 - 120
Magnesium	4760	5450		mg/Kg		114	80 - 120
Sodium	4760	5560		mg/Kg		117	80 - 120
Nickel	47.6	46.5		mg/Kg		98	80 - 120
Lead	1.90	2.08		mg/Kg		109	80 - 120
Antimony	47.6	48.0		mg/Kg		101	80 - 120
Selenium	0.952	0.963		mg/Kg		101	80 - 120
Thallium	4.76	5.03		mg/Kg		106	80 - 120
Vanadium	47.6	45.2		mg/Kg		95	80 - 120
Zinc	47.6	45.8		mg/Kg		96	80 - 120
Manganese	47.6	47.6		mg/Kg		100	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-145323/1-A
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145323

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		3.0	0.28	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Arsenic	ND		0.099	0.018	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Barium	ND		0.99	0.011	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Cadmium	ND		0.099	0.0069	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Calcium	ND		50	1.3	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Chromium	0.0135	J	0.20	0.0060	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Cobalt	ND		0.050	0.0015	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Copper	ND		0.20	0.033	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Iron	ND		5.0	0.35	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Silver	ND		0.099	0.0039	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Potassium	ND		50	1.3	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Magnesium	ND		50	0.19	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Sodium	ND		50	1.4	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Nickel	ND		0.099	0.011	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Lead	ND		0.099	0.0038	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Antimony	ND		0.20	0.0026	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Selenium	ND		0.50	0.050	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Thallium	ND		0.099	0.0020	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Vanadium	ND		0.099	0.0078	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Zinc	ND		0.50	0.064	mg/Kg		06/17/15 13:45	06/27/15 00:30	1
Manganese	ND		0.50	0.010	mg/Kg		06/17/15 13:45	06/27/15 00:30	1

Lab Sample ID: LCS 180-145323/2-A
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145323

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	200	215		mg/Kg		107	80 - 120
Arsenic	4.00	3.70		mg/Kg		92	80 - 120
Barium	200	188		mg/Kg		94	80 - 120
Beryllium	5.00	4.20		mg/Kg		84	80 - 120
Cadmium	5.00	5.13		mg/Kg		103	80 - 120
Calcium	5000	4310		mg/Kg		86	80 - 120
Chromium	20.0	18.5		mg/Kg		92	80 - 120
Cobalt	50.0	47.2		mg/Kg		94	80 - 120
Copper	25.0	22.8		mg/Kg		91	80 - 120
Iron	100	105		mg/Kg		105	80 - 120
Silver	5.00	4.82		mg/Kg		96	80 - 120
Potassium	5000	4060		mg/Kg		81	80 - 120
Magnesium	5000	5700		mg/Kg		114	80 - 120
Sodium	5000	5910		mg/Kg		118	80 - 120
Nickel	50.0	46.8		mg/Kg		94	80 - 120
Lead	2.00	2.16		mg/Kg		108	80 - 120
Antimony	50.0	49.7		mg/Kg		99	80 - 120
Selenium	1.00	1.00		mg/Kg		100	80 - 120
Thallium	5.00	5.19		mg/Kg		104	80 - 120
Vanadium	50.0	46.0		mg/Kg		92	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-145323/2-A
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145323

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	50.0	46.9		mg/Kg		94	80 - 120
Manganese	50.0	47.1		mg/Kg		94	80 - 120

Lab Sample ID: 180-44661-14 MS
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: AT5-090 E-C
Prep Type: Total/NA
Prep Batch: 145323

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	110	F1	194	473	F1	mg/Kg		187	75 - 125
Arsenic	3.6		3.88	7.43		mg/Kg		99	75 - 125
Barium	0.37	J	194	187		mg/Kg		96	75 - 125
Beryllium	ND		4.85	4.53		mg/Kg		93	75 - 125
Cadmium	0.049	J	4.85	4.97		mg/Kg		101	75 - 125
Calcium	560		4850	5430		mg/Kg		100	75 - 125
Chromium	0.63	B	19.4	20.5		mg/Kg		102	75 - 125
Cobalt	0.28		48.5	51.4		mg/Kg		105	75 - 125
Copper	2.8		24.3	26.4		mg/Kg		97	75 - 125
Iron	250	F1	97.1	365		mg/Kg		123	75 - 125
Silver	0.050	J	4.85	4.75		mg/Kg		97	75 - 125
Potassium	2500		4850	6910		mg/Kg		91	75 - 125
Magnesium	800	F1	4850	7150	F1	mg/Kg		131	75 - 125
Sodium	6300	F1	4850	12800	F1	mg/Kg		134	75 - 125
Nickel	0.68		48.5	50.9		mg/Kg		103	75 - 125
Lead	0.47		1.94	2.51		mg/Kg		105	75 - 125
Antimony	0.033	J	48.5	49.2		mg/Kg		101	75 - 125
Selenium	0.39	J	0.971	1.47		mg/Kg		111	75 - 125
Thallium	0.0040	J	4.85	5.01		mg/Kg		103	75 - 125
Vanadium	0.44		48.5	50.5		mg/Kg		103	75 - 125
Zinc	20		48.5	68.5		mg/Kg		99	75 - 125
Manganese	4.1		48.5	57.6		mg/Kg		110	75 - 125

Lab Sample ID: 180-44661-14 MSD
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: AT5-090 E-C
Prep Type: Total/NA
Prep Batch: 145323

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	110	F1	198	497	F1	mg/Kg		195	75 - 125	5	20
Arsenic	3.6		3.96	7.43		mg/Kg		97	75 - 125	0	20
Barium	0.37	J	198	189		mg/Kg		95	75 - 125	1	20
Beryllium	ND		4.95	4.80		mg/Kg		97	75 - 125	6	20
Cadmium	0.049	J	4.95	5.05		mg/Kg		101	75 - 125	2	20
Calcium	560		4950	5500		mg/Kg		100	75 - 125	1	20
Chromium	0.63	B	19.8	21.0		mg/Kg		103	75 - 125	3	20
Cobalt	0.28		49.5	52.3		mg/Kg		105	75 - 125	2	20
Copper	2.8		24.8	27.0		mg/Kg		98	75 - 125	2	20
Iron	250	F1	99.0	379	F1	mg/Kg		135	75 - 125	4	20
Silver	0.050	J	4.95	4.84		mg/Kg		97	75 - 125	2	20
Potassium	2500		4950	7030		mg/Kg		92	75 - 125	2	20
Magnesium	800	F1	4950	7330	F1	mg/Kg		132	75 - 125	3	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-44661-14 MSD
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: AT5-090 E-C
Prep Type: Total/NA
Prep Batch: 145323

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	6300	F1	4950	13100	F1	mg/Kg		138	75 - 125	2	20
Nickel	0.68		49.5	51.1		mg/Kg		102	75 - 125	0	20
Lead	0.47		1.98	2.55		mg/Kg		105	75 - 125	2	20
Antimony	0.033	J	49.5	49.6		mg/Kg		100	75 - 125	1	20
Selenium	0.39	J	0.990	1.37		mg/Kg		99	75 - 125	7	20
Thallium	0.0040	J	4.95	5.15		mg/Kg		104	75 - 125	3	20
Vanadium	0.44		49.5	51.2		mg/Kg		103	75 - 125	2	20
Zinc	20		49.5	68.9		mg/Kg		98	75 - 125	1	20
Manganese	4.1		49.5	59.0		mg/Kg		111	75 - 125	2	20

Lab Sample ID: MB 180-145452/1-A
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145452

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		3.0	0.29	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Arsenic	ND		0.10	0.018	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Barium	ND		1.0	0.011	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Beryllium	ND		0.10	0.0076	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Cadmium	ND		0.10	0.0071	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Calcium	ND		51	1.3	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Chromium	0.0155	J	0.20	0.0062	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Cobalt	ND		0.051	0.0015	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Copper	ND		0.20	0.033	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Iron	1.12	J	5.1	0.36	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Silver	ND		0.10	0.0039	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Potassium	1.43	J	51	1.4	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Magnesium	ND		51	0.19	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Sodium	3.89	J	51	1.4	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Nickel	ND		0.10	0.011	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Lead	ND		0.10	0.0038	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Antimony	0.0178	J	0.20	0.0026	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Selenium	ND		0.51	0.051	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Thallium	0.00313	J	0.10	0.0020	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Vanadium	ND		0.10	0.0080	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Zinc	ND		0.51	0.065	mg/Kg		06/18/15 11:45	06/26/15 18:07	1
Manganese	ND		0.51	0.010	mg/Kg		06/18/15 11:45	06/26/15 18:07	1

Lab Sample ID: LCS 180-145452/2-A
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145452

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	202	209		mg/Kg		104	80 - 120
Arsenic	4.04	3.89		mg/Kg		96	80 - 120
Barium	202	188		mg/Kg		93	80 - 120
Beryllium	5.05	4.28		mg/Kg		85	80 - 120
Cadmium	5.05	4.88		mg/Kg		97	80 - 120
Calcium	5050	4840		mg/Kg		96	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-145452/2-A
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145452

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	20.2	20.2		mg/Kg		100	80 - 120
Cobalt	50.5	51.0		mg/Kg		101	80 - 120
Copper	25.3	24.4		mg/Kg		97	80 - 120
Iron	101	116		mg/Kg		115	80 - 120
Silver	5.05	4.76		mg/Kg		94	80 - 120
Potassium	5050	4560		mg/Kg		90	80 - 120
Magnesium	5050	5480		mg/Kg		108	80 - 120
Sodium	5050	5460		mg/Kg		108	80 - 120
Nickel	50.5	50.6		mg/Kg		100	80 - 120
Lead	2.02	2.10		mg/Kg		104	80 - 120
Antimony	50.5	47.1		mg/Kg		93	80 - 120
Selenium	1.01	1.07		mg/Kg		106	80 - 120
Thallium	5.05	5.10		mg/Kg		101	80 - 120
Vanadium	50.5	50.3		mg/Kg		99	80 - 120
Zinc	50.5	49.3		mg/Kg		98	80 - 120
Manganese	50.5	53.3		mg/Kg		106	80 - 120

Lab Sample ID: 180-44661-1 MS
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: AT5-088 B-C
Prep Type: Total/NA
Prep Batch: 145452

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	81	F1	194	561	F1	mg/Kg		247	75 - 125
Arsenic	2.6		3.88	6.36		mg/Kg		97	75 - 125
Barium	0.24	J	194	180		mg/Kg		93	75 - 125
Beryllium	ND		4.85	4.41		mg/Kg		91	75 - 125
Cadmium	0.033	J	4.85	4.89		mg/Kg		100	75 - 125
Calcium	920		4850	6200		mg/Kg		109	75 - 125
Chromium	0.46	B	19.4	19.7		mg/Kg		99	75 - 125
Cobalt	0.29		48.5	48.8		mg/Kg		100	75 - 125
Copper	1.8		24.3	25.0		mg/Kg		96	75 - 125
Iron	220	B F1	97.1	449	F1	mg/Kg		236	75 - 125
Silver	0.021	J	4.85	4.66		mg/Kg		96	75 - 125
Potassium	2000	B	4850	6400		mg/Kg		90	75 - 125
Magnesium	790	F1	4850	6870		mg/Kg		125	75 - 125
Sodium	6700	B F1	4850	13000	F1	mg/Kg		130	75 - 125
Nickel	0.49		48.5	47.9		mg/Kg		98	75 - 125
Lead	0.18		1.94	2.25		mg/Kg		107	75 - 125
Antimony	0.058	J B	48.5	57.6		mg/Kg		118	75 - 125
Selenium	0.30	J	0.971	1.32		mg/Kg		105	75 - 125
Thallium	0.0061	J B	4.85	4.86		mg/Kg		100	75 - 125
Vanadium	0.28		48.5	48.0		mg/Kg		98	75 - 125
Zinc	13		48.5	61.5		mg/Kg		100	75 - 125
Manganese	2.4		48.5	54.5		mg/Kg		107	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-44661-1 MSD
Matrix: Tissue
Analysis Batch: 146445

Client Sample ID: AT5-088 B-C
Prep Type: Total/NA
Prep Batch: 145452

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	81	F1	194	520	F1	mg/Kg		226	75 - 125	8	20
Arsenic	2.6		3.88	6.36		mg/Kg		97	75 - 125	0	20
Barium	0.24	J	194	176		mg/Kg		91	75 - 125	2	20
Beryllium	ND		4.85	4.55		mg/Kg		94	75 - 125	3	20
Cadmium	0.033	J	4.85	4.68		mg/Kg		96	75 - 125	4	20
Calcium	920		4850	5750		mg/Kg		99	75 - 125	8	20
Chromium	0.46	B	19.4	19.4		mg/Kg		98	75 - 125	2	20
Cobalt	0.29		48.5	48.1		mg/Kg		99	75 - 125	1	20
Copper	1.8		24.3	25.0		mg/Kg		96	75 - 125	0	20
Iron	220	B F1	97.1	414	F1	mg/Kg		200	75 - 125	8	20
Silver	0.021	J	4.85	4.55		mg/Kg		93	75 - 125	2	20
Potassium	2000	B	4850	6490		mg/Kg		92	75 - 125	2	20
Magnesium	790	F1	4850	7190	F1	mg/Kg		132	75 - 125	5	20
Sodium	6700	B F1	4850	13700	F1	mg/Kg		144	75 - 125	5	20
Nickel	0.49		48.5	47.7		mg/Kg		97	75 - 125	0	20
Lead	0.18		1.94	2.21		mg/Kg		105	75 - 125	2	20
Antimony	0.058	J B	48.5	48.4		mg/Kg		100	75 - 125	17	20
Selenium	0.30	J	0.971	1.21		mg/Kg		94	75 - 125	9	20
Thallium	0.0061	J B	4.85	4.82		mg/Kg		99	75 - 125	1	20
Vanadium	0.28		48.5	47.5		mg/Kg		97	75 - 125	1	20
Zinc	13		48.5	61.2		mg/Kg		99	75 - 125	1	20
Manganese	2.4		48.5	53.7		mg/Kg		106	75 - 125	1	20

Lab Sample ID: MB 180-145802/1-A
Matrix: Tissue
Analysis Batch: 146456

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145802

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		1.0	0.011	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Beryllium	ND		0.10	0.0076	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Cadmium	ND		0.10	0.0071	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Calcium	ND		51	1.3	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Chromium	ND		0.20	0.0062	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Cobalt	ND		0.051	0.0015	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Copper	ND		0.20	0.033	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Iron	0.756	J	5.1	0.36	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Silver	ND		0.10	0.0039	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Potassium	ND		51	1.4	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Nickel	ND		0.10	0.011	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Lead	ND		0.10	0.0038	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Antimony	0.00768	J	0.20	0.0026	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Thallium	ND		0.10	0.0020	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Vanadium	0.0196	J	0.10	0.0080	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Zinc	ND		0.51	0.065	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Manganese	ND		0.51	0.010	mg/Kg		06/23/15 06:55	06/29/15 00:29	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-145802/1-A
Matrix: Tissue
Analysis Batch: 146543

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145802

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.828	J	3.0	0.29	mg/Kg		06/23/15 06:55	06/29/15 18:57	1
Arsenic	ND		0.10	0.018	mg/Kg		06/23/15 06:55	06/29/15 18:57	1
Magnesium	1.43	J	51	0.19	mg/Kg		06/23/15 06:55	06/29/15 18:57	1
Sodium	5.83	J	51	1.4	mg/Kg		06/23/15 06:55	06/29/15 18:57	1
Selenium	ND		0.51	0.051	mg/Kg		06/23/15 06:55	06/29/15 18:57	1

Lab Sample ID: LCS 180-145802/2-A
Matrix: Tissue
Analysis Batch: 146456

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145802

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	200	191		mg/Kg		96	80 - 120
Beryllium	5.00	4.30		mg/Kg		86	80 - 120
Cadmium	5.00	5.03		mg/Kg		101	80 - 120
Calcium	5000	4480		mg/Kg		90	80 - 120
Chromium	20.0	19.4		mg/Kg		97	80 - 120
Cobalt	50.0	49.3		mg/Kg		99	80 - 120
Copper	25.0	23.7		mg/Kg		95	80 - 120
Iron	100	108		mg/Kg		108	80 - 120
Silver	5.00	4.78		mg/Kg		96	80 - 120
Potassium	5000	4340		mg/Kg		87	80 - 120
Nickel	50.0	48.6		mg/Kg		97	80 - 120
Lead	2.00	2.09		mg/Kg		104	80 - 120
Antimony	50.0	48.5		mg/Kg		97	80 - 120
Thallium	5.00	5.07		mg/Kg		101	80 - 120
Vanadium	50.0	48.5		mg/Kg		97	80 - 120
Zinc	50.0	48.0		mg/Kg		96	80 - 120
Manganese	50.0	48.4		mg/Kg		97	80 - 120

Lab Sample ID: LCS 180-145802/2-A
Matrix: Tissue
Analysis Batch: 146543

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145802

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	200	212		mg/Kg		106	80 - 120
Arsenic	4.00	3.87		mg/Kg		97	80 - 120
Magnesium	5000	5670		mg/Kg		113	80 - 120
Sodium	5000	5690		mg/Kg		114	80 - 120
Selenium	1.00	0.984		mg/Kg		98	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 180-146068/1-A
Matrix: Tissue
Analysis Batch: 146136

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146068

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/25/15 09:17	06/25/15 13:22	1

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 180-146068/2-A
Matrix: Tissue
Analysis Batch: 146136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146068

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.437		mg/Kg		105	80 - 120

Lab Sample ID: MB 180-146069/1-A
Matrix: Tissue
Analysis Batch: 146254

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146069

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/25/15 09:22	06/26/15 10:26	1

Lab Sample ID: LCS 180-146069/2-A
Matrix: Tissue
Analysis Batch: 146254

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146069

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.421		mg/Kg		101	80 - 120

Lab Sample ID: 180-44661-14 MS
Matrix: Tissue
Analysis Batch: 146254

Client Sample ID: AT5-090 E-C
Prep Type: Total/NA
Prep Batch: 146069

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	H	0.147	0.174	H	mg/Kg		119	75 - 125

Lab Sample ID: 180-44661-14 MSD
Matrix: Tissue
Analysis Batch: 146254

Client Sample ID: AT5-090 E-C
Prep Type: Total/NA
Prep Batch: 146069

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	H	0.164	0.164	H	mg/Kg		100	75 - 125	6	20

Lab Sample ID: MB 180-146100/1-A
Matrix: Tissue
Analysis Batch: 146287

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146100

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/25/15 11:24	06/27/15 06:56	1

Lab Sample ID: LCS 180-146100/2-A
Matrix: Tissue
Analysis Batch: 146287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146100

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.400		mg/Kg		96	80 - 120

Lab Sample ID: 180-44661-1 MS
Matrix: Tissue
Analysis Batch: 146287

Client Sample ID: AT5-088 B-C
Prep Type: Total/NA
Prep Batch: 146100

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	H	0.167	0.189	H	mg/Kg		114	75 - 125

Lab Sample ID: 180-44661-1 MSD
Matrix: Tissue
Analysis Batch: 146287

Client Sample ID: AT5-088 B-C
Prep Type: Total/NA
Prep Batch: 146100

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	H	0.169	0.168	J H	mg/Kg		99	75 - 125	12	20

Lab Sample ID: MB 180-146215/1-A
Matrix: Tissue
Analysis Batch: 146287

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146215

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/26/15 09:45	06/27/15 06:57	1

Lab Sample ID: LCS 180-146215/2-A
Matrix: Tissue
Analysis Batch: 146287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146215

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.404		mg/Kg		97	80 - 120

Method: 2540G - SM 2540G

Lab Sample ID: 180-44661-5 DU
Matrix: Tissue
Analysis Batch: 146119

Client Sample ID: AT5-089 A-C
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	85		84		%		0.8	20

Lab Sample ID: 180-44661-15 DU
Matrix: Tissue
Analysis Batch: 146119

Client Sample ID: AT5-091 A-C
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	86		86		%		0.7	20

Method: Lipids - Percent Lipids

Lab Sample ID: MB 180-145215/1-A
Matrix: Tissue
Analysis Batch: 145502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145215

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/17/15 03:45	06/17/15 03:45	1

Lab Sample ID: LCS 180-145215/2-A
Matrix: Tissue
Analysis Batch: 145502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145215

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Percent Lipids	16.7	14.7		%		88	30 - 150

Method: Lipids - Percent Lipids (Continued)

Lab Sample ID: LCSD 180-145215/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 145502 — **Prep Batch: 145215**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids			16.7	15.3		%		92	30 - 150	4	25

Lab Sample ID: MB 180-145625/1-A — **Client Sample ID: Method Blank**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146216 — **Prep Batch: 145625**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/20/15 03:30	06/20/15 03:30	1

Lab Sample ID: LCS 180-145625/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146216 — **Prep Batch: 145625**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Percent Lipids			18.7	17.6		%		94	30 - 150		

Lab Sample ID: LCSD 180-145625/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146216 — **Prep Batch: 145625**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids			17.0	16.2		%		95	30 - 150	8	25

Lab Sample ID: 180-44661-14 DU — **Client Sample ID: AT5-090 E-C**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146216 — **Prep Batch: 145625**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Lipids	0.46			0.439		%				4	25

Lab Sample ID: MB 180-146019/1-A — **Client Sample ID: Method Blank**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146261 — **Prep Batch: 146019**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/25/15 03:45	06/25/15 03:45	1

Lab Sample ID: LCS 180-146019/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146261 — **Prep Batch: 146019**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Percent Lipids			17.0	15.7		%		92	30 - 150		

Lab Sample ID: LCSD 180-146019/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146261 — **Prep Batch: 146019**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids			16.7	15.1		%		90	30 - 150	4	25

Lab Sample ID: 180-44661-1 DU
Matrix: Tissue
Analysis Batch: 146261

Client Sample ID: AT5-088 B-C
Prep Type: Total/NA
Prep Batch: 146019

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Lipids	0.50			0.578		%				14	25

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-44661-1

CBBT Thimble Shoal

Lot #: H5F190406

Carrie Gamber

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.

Bruce Wagner
Project Manager

June 29, 2015

ANALYTICAL METHODS SUMMARY

H5F190406

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

SAMPLE SUMMARY

H5F190406

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M638H	001	AT5-088 B-C	05/21/15	12:00
M638J	002	AT5-088 C-C	05/21/15	12:00
M638K	003	AT5-088 D-C	05/21/15	12:00
M638L	004	AT5-088 E-C	05/21/15	12:00
M638M	005	AT5-089 A-C	05/21/15	12:00
M638N	006	AT5-089 B-C	05/21/15	12:00
M638P	007	AT5-089 C-C	05/21/15	12:00
M638Q	008	AT5-089 D-C	05/21/15	12:00
M638R	009	AT5-089 E-C	05/21/15	12:00
M638T	010	AT5-090 A-C	05/21/15	12:00
M638V	011	AT5-090 B-C	05/21/15	12:00
M638W	012	AT5-090 C-C	05/21/15	12:00
M638X	013	AT5-090 D-C	05/21/15	12:00
M6380	014	AT5-090 E-C	05/21/15	12:00
M6381	015	AT5-091 A-C	05/21/15	12:00
M6382	016	AT5-091 B-C	05/21/15	12:00
M6383	017	AT5-091 C-C	05/21/15	12:00
M6384	018	AT5-091 D-C	05/21/15	12:00
M6385	019	AT5-091 E-C	05/21/15	12:00
M6386	020	AT5-092 A-C	05/21/15	12:00
M6387	021	AT5-092 B-C	05/21/15	12:00
M6388	022	AT5-092 C-C	05/21/15	12:00
M6389	023	AT5-092 D-C	05/21/15	12:00
M639A	024	AT5-092 E-C	05/21/15	12:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
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The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

All 2378-TCDF results which met all qualitative requirements, were above the minimum level and were reported from the Rtx-5 column are qualified with an "X". This was done to indicate that the Rtx-5 column is not isomer specific for 2378-TCDF.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

PROJECT NARRATIVE
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Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

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Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration

PROJECT NARRATIVE
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W = amount of sample extracted (grams or liters)
S = percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: AT5-088 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 001	**Work Order #....:**	M638H1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170018				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/24/15	1	ND	1.0	0.087	1.0	0.087
1,2,3,7,8-PeCDD	**6/24/15**	**1**	**0.059 Q J**	**5.0**	**0.021**	**0.5**	**0.029**
1,2,3,4,7,8-HxCDD	**6/24/15**	**1**	**0.039 Q J**	**5.0**	**0.014**	**0.1**	**0.0039**
1,2,3,6,7,8-HxCDD	6/24/15	1	ND	5.0	0.016	0.1	0.0016
1,2,3,7,8,9-HxCDD	**6/24/15**	**1**	**0.11 Q J**	**5.0**	**0.014**	**0.1**	**0.011**
1,2,3,4,6,7,8-HpCDD	**6/24/15**	**1**	**0.20 B J**	**5.0**	**0.035**	**0.01**	**0.0020**
OCDD	**6/24/15**	**1**	**8.8 Q B J**	**10**	**0.035**	**0.001**	**0.0088**
2,3,7,8-TCDF	6/24/15	1	ND	1.0	0.016	0.1	0.0016
1,2,3,7,8-PeCDF	6/24/15	1	ND	5.0	0.014	0.05	0.00070
2,3,4,7,8-PeCDF	6/24/15	1	ND	5.0	0.012	0.5	0.0060
1,2,3,4,7,8-HxCDF	6/24/15	1	ND	5.0	0.013	0.1	0.0013
1,2,3,6,7,8-HxCDF	**6/24/15**	**1**	**0.0078 Q J**	**5.0**	**0.012**	**0.1**	**0.00078**
2,3,4,6,7,8-HxCDF	6/24/15	1	ND	5.0	0.012	0.1	0.0012
1,2,3,7,8,9-HxCDF	6/24/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDF	**6/24/15**	**1**	**0.056 Q J**	**5.0**	**0.0095**	**0.01**	**0.00056**
1,2,3,4,7,8,9-HpCDF	6/24/15	1	ND	5.0	0.014	0.01	0.00014
OCDF	**6/24/15**	**1**	**0.029 Q B J**	**10**	**0.0088**	**0.001**	**0.000029**
Total TEQ Concentration							**0.16**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	66	(25 - 164)
13C-1,2,3,7,8-PeCDD	76	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	62	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	68	(23 - 140)
13C-OCDD	60	(17 - 157)
13C-2,3,7,8-TCDF	63	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	60	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	61	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	65	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	64	(26 - 138)
13C-OCDF	53	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-088 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	75	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-088 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 002	**Work Order #....:**	M638J1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170018				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**6/24/15**	**1**	**0.16 Q J**	**0.99**	**0.11**	**1.0**	**0.16**
1,2,3,7,8-PeCDD	**6/24/15**	**1**	**0.086 Q J**	**5.0**	**0.018**	**0.5**	**0.043**
1,2,3,4,7,8-HxCDD	6/24/15	1	ND	5.0	0.012	0.1	0.0012
1,2,3,6,7,8-HxCDD	6/24/15	1	ND	5.0	0.013	0.1	0.0013
1,2,3,7,8,9-HxCDD	**6/24/15**	**1**	**0.13 Q J**	**5.0**	**0.012**	**0.1**	**0.013**
1,2,3,4,6,7,8-HpCDD	**6/24/15**	**1**	**0.52 Q B J**	**5.0**	**0.034**	**0.01**	**0.0052**
OCDD	**6/24/15**	**1**	**9.9 Q B**	**9.9**	**0.025**	**0.001**	**0.0099**
2,3,7,8-TCDF	6/24/15	1	ND	0.99	0.014	0.1	0.0014
1,2,3,7,8-PeCDF	6/24/15	1	ND	5.0	0.013	0.05	0.00065
2,3,4,7,8-PeCDF	6/24/15	1	ND	5.0	0.011	0.5	0.0055
1,2,3,4,7,8-HxCDF	6/24/15	1	ND	5.0	0.015	0.1	0.0015
1,2,3,6,7,8-HxCDF	**6/24/15**	**1**	**0.062 Q J**	**5.0**	**0.013**	**0.1**	**0.0062**
2,3,4,6,7,8-HxCDF	6/24/15	1	ND	5.0	0.015	0.1	0.0015
1,2,3,7,8,9-HxCDF	6/24/15	1	ND	5.0	0.019	0.1	0.0019
1,2,3,4,6,7,8-HpCDF	6/24/15	1	ND	5.0	0.0099	0.01	0.000099
1,2,3,4,7,8,9-HpCDF	**6/24/15**	**1**	**0.024 Q J**	**5.0**	**0.014**	**0.01**	**0.00024**
OCDF	**6/24/15**	**1**	**0.093 Q B J**	**9.9**	**0.0061**	**0.001**	**0.000093**
Total TEQ Concentration							**0.25**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	48	(25 - 164)
13C-1,2,3,7,8-PeCDD	57	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	53	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	60	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	64	(23 - 140)
13C-OCDD	51	(17 - 157)
13C-2,3,7,8-TCDF	50	(24 - 169)
13C-1,2,3,7,8-PeCDF	54	(24 - 185)
13C-2,3,4,7,8-PeCDF	57	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	53	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	56	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	56	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	55	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	56	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	56	(26 - 138)
13C-OCDF	48	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-088 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	61	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-088 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 003	**Work Order #....:**	M638K1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170018				
Initial Wgt/Vol :	8.7 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/24/15	1	ND	1.1	0.10	1.0	0.10
1,2,3,7,8-PeCDD	**6/24/15**	**1**	**0.12 Q J**	**5.7**	**0.024**	**0.5**	**0.060**
1,2,3,4,7,8-HxCDD	6/24/15	1	ND	5.7	0.019	0.1	0.0019
1,2,3,6,7,8-HxCDD	6/24/15	1	ND	5.7	0.019	0.1	0.0019
1,2,3,7,8,9-HxCDD	6/24/15	1	ND	5.7	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDD	**6/24/15**	**1**	**0.13 Q B J**	**5.7**	**0.036**	**0.01**	**0.0013**
OCDD	**6/24/15**	**1**	**6.0 B J**	**11**	**0.023**	**0.001**	**0.0060**
2,3,7,8-TCDF	6/24/15	1	ND	1.1	0.018	0.1	0.0018
1,2,3,7,8-PeCDF	6/24/15	1	ND	5.7	0.020	0.05	0.0010
2,3,4,7,8-PeCDF	6/24/15	1	ND	5.7	0.017	0.5	0.0085
1,2,3,4,7,8-HxCDF	6/24/15	1	ND	5.7	0.022	0.1	0.0022
1,2,3,6,7,8-HxCDF	**6/24/15**	**1**	**0.11 Q J**	**5.7**	**0.020**	**0.1**	**0.011**
2,3,4,6,7,8-HxCDF	6/24/15	1	ND	5.7	0.022	0.1	0.0022
1,2,3,7,8,9-HxCDF	6/24/15	1	ND	5.7	0.028	0.1	0.0028
1,2,3,4,6,7,8-HpCDF	6/24/15	1	ND	5.7	0.010	0.01	0.00010
1,2,3,4,7,8,9-HpCDF	**6/24/15**	**1**	**0.018 Q J**	**5.7**	**0.014**	**0.01**	**0.00018**
OCDF	**6/24/15**	**1**	**0.037 Q B J**	**11**	**0.0056**	**0.001**	**0.000037**
Total TEQ Concentration							**0.20**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	49	(25 - 164)
13C-1,2,3,7,8-PeCDD	56	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	54	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	58	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	60	(23 - 140)
13C-OCDD	51	(17 - 157)
13C-2,3,7,8-TCDF	47	(24 - 169)
13C-1,2,3,7,8-PeCDF	56	(24 - 185)
13C-2,3,4,7,8-PeCDF	58	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	50	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	52	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	54	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	54	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	52	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	52	(26 - 138)
13C-OCDF	46	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-088 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	60	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-088 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 004	**Work Order #....:**	M638L1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170018				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**6/24/15**	**1**	**0.16 Q J**	**1.0**	**0.087**	**1.0**	**0.16**
1,2,3,7,8-PeCDD	6/24/15	1	ND	5.0	0.024	0.5	0.012
1,2,3,4,7,8-HxCDD	6/24/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,6,7,8-HxCDD	6/24/15	1	ND	5.0	0.017	0.1	0.0017
1,2,3,7,8,9-HxCDD	**6/24/15**	**1**	**0.13 Q J**	**5.0**	**0.017**	**0.1**	**0.013**
1,2,3,4,6,7,8-HpCDD	**6/24/15**	**1**	**0.42 Q B J**	**5.0**	**0.037**	**0.01**	**0.0042**
OCDD	**6/24/15**	**1**	**5.5 Q B J**	**10**	**0.031**	**0.001**	**0.0055**
2,3,7,8-TCDF	6/24/15	1	ND	1.0	0.017	0.1	0.0017
1,2,3,7,8-PeCDF	6/24/15	1	ND	5.0	0.014	0.05	0.00070
2,3,4,7,8-PeCDF	6/24/15	1	ND	5.0	0.014	0.5	0.0070
1,2,3,4,7,8-HxCDF	**6/24/15**	**1**	**0.063 Q J**	**5.0**	**0.014**	**0.1**	**0.0063**
1,2,3,6,7,8-HxCDF	**6/24/15**	**1**	**0.050 Q J**	**5.0**	**0.013**	**0.1**	**0.0050**
2,3,4,6,7,8-HxCDF	6/24/15	1	ND	5.0	0.014	0.1	0.0014
1,2,3,7,8,9-HxCDF	6/24/15	1	ND	5.0	0.019	0.1	0.0019
1,2,3,4,6,7,8-HpCDF	6/24/15	1	ND	5.0	0.0093	0.01	0.000093
1,2,3,4,7,8,9-HpCDF	6/24/15	1	ND	5.0	0.014	0.01	0.00014
OCDF	**6/24/15**	**1**	**0.034 Q B J**	**10**	**0.0051**	**0.001**	**0.000034**
Total TEQ Concentration							**0.22**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	65	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	64	(23 - 140)
13C-OCDD	58	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	59	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	63	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	61	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	61	(26 - 138)
13C-OCDF	50	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-088 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-089 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 005	**Work Order #....:**	M638M1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170018				
Initial Wgt/Vol :	9.8 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/24/15	1	ND	1.0	0.069	1.0	0.069
1,2,3,7,8-PeCDD	6/24/15	1	ND	5.1	0.023	0.5	0.012
1,2,3,4,7,8-HxCDD	6/24/15	1	ND	5.1	0.013	0.1	0.0013
1,2,3,6,7,8-HxCDD	6/24/15	1	ND	5.1	0.013	0.1	0.0013
1,2,3,7,8,9-HxCDD	6/24/15	1	ND	5.1	0.012	0.1	0.0012
1,2,3,4,6,7,8-HpCDD	6/24/15	1	ND	5.1	0.019	0.01	0.00019
OCDD	**6/24/15**	**1**	**1.3 B J**	**10**	**0.015**	**0.001**	**0.0013**
2,3,7,8-TCDF	6/24/15	1	ND	1.0	0.020	0.1	0.0020
1,2,3,7,8-PeCDF	6/24/15	1	ND	5.1	0.015	0.05	0.00075
2,3,4,7,8-PeCDF	6/24/15	1	ND	5.1	0.013	0.5	0.0065
1,2,3,4,7,8-HxCDF	6/24/15	1	ND	5.1	0.018	0.1	0.0018
1,2,3,6,7,8-HxCDF	6/24/15	1	ND	5.1	0.015	0.1	0.0015
2,3,4,6,7,8-HxCDF	6/24/15	1	ND	5.1	0.017	0.1	0.0017
1,2,3,7,8,9-HxCDF	6/24/15	1	ND	5.1	0.024	0.1	0.0024
1,2,3,4,6,7,8-HpCDF	6/24/15	1	ND	5.1	0.011	0.01	0.00011
1,2,3,4,7,8,9-HpCDF	6/24/15	1	ND	5.1	0.019	0.01	0.00019
OCDF	**6/24/15**	**1**	**0.067 Q B J**	**10**	**0.0079**	**0.001**	**0.000067**
Total TEQ Concentration							**0.10**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	57	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	60	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	62	(23 - 140)
13C-OCDD	56	(17 - 157)
13C-2,3,7,8-TCDF	58	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	52	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	60	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	58	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	55	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	61	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	55	(26 - 138)
13C-OCDF	46	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-089 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	71	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-089 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 006	**Work Order #....:**	M638N1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170018				
Initial Wgt/Vol :	9.5 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/25/15	1	ND	1.1	0.11	1.0	0.11
1,2,3,7,8-PeCDD	6/25/15	1	ND	5.3	0.035	0.5	0.018
1,2,3,4,7,8-HxCDD	6/25/15	1	ND	5.3	0.015	0.1	0.0015
1,2,3,6,7,8-HxCDD	6/25/15	1	ND	5.3	0.014	0.1	0.0014
1,2,3,7,8,9-HxCDD	6/25/15	1	ND	5.3	0.013	0.1	0.0013
1,2,3,4,6,7,8-HpCDD	**6/25/15**	**1**	**0.25 B J**	**5.3**	**0.026**	**0.01**	**0.0025**
OCDD	**6/25/15**	**1**	**0.90 B J**	**11**	**0.019**	**0.001**	**0.00090**
2,3,7,8-TCDF	6/25/15	1	ND	1.1	0.017	0.1	0.0017
1,2,3,7,8-PeCDF	6/25/15	1	ND	5.3	0.021	0.05	0.0010
2,3,4,7,8-PeCDF	6/25/15	1	ND	5.3	0.020	0.5	0.010
1,2,3,4,7,8-HxCDF	**6/25/15**	**1**	**0.056 Q J**	**5.3**	**0.023**	**0.1**	**0.0056**
1,2,3,6,7,8-HxCDF	6/25/15	1	ND	5.3	0.021	0.1	0.0021
2,3,4,6,7,8-HxCDF	6/25/15	1	ND	5.3	0.021	0.1	0.0021
1,2,3,7,8,9-HxCDF	6/25/15	1	ND	5.3	0.029	0.1	0.0029
1,2,3,4,6,7,8-HpCDF	6/25/15	1	ND	5.3	0.014	0.01	0.00014
1,2,3,4,7,8,9-HpCDF	6/25/15	1	ND	5.3	0.020	0.01	0.00020
OCDF	**6/25/15**	**1**	**0.14 Q B J**	**11**	**0.010**	**0.001**	**0.00014**
Total TEQ Concentration							**0.16**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	50	(25 - 164)
13C-1,2,3,7,8-PeCDD	52	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	55	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	59	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	61	(23 - 140)
13C-OCDD	55	(17 - 157)
13C-2,3,7,8-TCDF	53	(24 - 169)
13C-1,2,3,7,8-PeCDF	56	(24 - 185)
13C-2,3,4,7,8-PeCDF	54	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	54	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	58	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	61	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	57	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	59	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	59	(26 - 138)
13C-OCDF	48	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-089 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	61	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-089 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 007	**Work Order #....:**	M638P1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170018				
Initial Wgt/Vol :	9.4 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID.....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/25/15	1	ND	1.1	0.071	1.0	0.071
1,2,3,7,8-PeCDD	6/25/15	1	ND	5.3	0.014	0.5	0.0070
1,2,3,4,7,8-HxCDD	6/25/15	1	ND	5.3	0.016	0.1	0.0016
1,2,3,6,7,8-HxCDD	6/25/15	1	ND	5.3	0.016	0.1	0.0016
1,2,3,7,8,9-HxCDD	6/25/15	1	ND	5.3	0.015	0.1	0.0015
1,2,3,4,6,7,8-HpCDD	**6/25/15**	**1**	**0.13 B J**	**5.3**	**0.037**	**0.01**	**0.0013**
OCDD	**6/25/15**	**1**	**0.90 Q B J**	**11**	**0.015**	**0.001**	**0.00090**
2,3,7,8-TCDF	6/25/15	1	ND	1.1	0.013	0.1	0.0013
1,2,3,7,8-PeCDF	6/25/15	1	ND	5.3	0.020	0.05	0.0010
2,3,4,7,8-PeCDF	6/25/15	1	ND	5.3	0.015	0.5	0.0075
1,2,3,4,7,8-HxCDF	**6/25/15**	**1**	**0.032 Q J**	**5.3**	**0.020**	**0.1**	**0.0032**
1,2,3,6,7,8-HxCDF	6/25/15	1	ND	5.3	0.018	0.1	0.0018
2,3,4,6,7,8-HxCDF	**6/25/15**	**1**	**0.023 Q J**	**5.3**	**0.020**	**0.1**	**0.0023**
1,2,3,7,8,9-HxCDF	6/25/15	1	ND	5.3	0.026	0.1	0.0026
1,2,3,4,6,7,8-HpCDF	**6/25/15**	**1**	**0.14 Q J**	**5.3**	**0.0094**	**0.01**	**0.0014**
1,2,3,4,7,8,9-HpCDF	6/25/15	1	ND	5.3	0.014	0.01	0.00014
OCDF	**6/25/15**	**1**	**0.070 Q B J**	**11**	**0.0077**	**0.001**	**0.000070**
Total TEQ Concentration							**0.11**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	61	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	59	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	60	(17 - 157)
13C-2,3,7,8-TCDF	65	(24 - 169)
13C-1,2,3,7,8-PeCDF	52	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	67	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	66	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	65	(26 - 138)
13C-OCDF	54	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-089 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	72	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-089 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 008	**Work Order #....:**	M638Q1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170018				
Initial Wgt/Vol :	9.6 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**6/25/15**	**1**	**0.23 J**	**1.0**	**0.077**	**1.0**	**0.23**
1,2,3,7,8-PeCDD	**6/25/15**	**1**	**0.059 Q J**	**5.2**	**0.016**	**0.5**	**0.029**
1,2,3,4,7,8-HxCDD	6/25/15	1	ND	5.2	0.0092	0.1	0.00092
1,2,3,6,7,8-HxCDD	**6/25/15**	**1**	**0.065 Q J**	**5.2**	**0.0092**	**0.1**	**0.0065**
1,2,3,7,8,9-HxCDD	6/25/15	1	ND	5.2	0.0087	0.1	0.00087
1,2,3,4,6,7,8-HpCDD	**6/25/15**	**1**	**0.12 Q B J**	**5.2**	**0.024**	**0.01**	**0.0012**
OCDD	**6/25/15**	**1**	**0.81 Q B J**	**10**	**0.013**	**0.001**	**0.00081**
2,3,7,8-TCDF	6/25/15	1	ND	1.0	0.014	0.1	0.0014
1,2,3,7,8-PeCDF	6/25/15	1	ND	5.2	0.016	0.05	0.00080
2,3,4,7,8-PeCDF	6/25/15	1	ND	5.2	0.016	0.5	0.0080
1,2,3,4,7,8-HxCDF	6/25/15	1	ND	5.2	0.021	0.1	0.0021
1,2,3,6,7,8-HxCDF	**6/25/15**	**1**	**0.064 Q J**	**5.2**	**0.018**	**0.1**	**0.0064**
2,3,4,6,7,8-HxCDF	6/25/15	1	ND	5.2	0.019	0.1	0.0019
1,2,3,7,8,9-HxCDF	6/25/15	1	ND	5.2	0.026	0.1	0.0026
1,2,3,4,6,7,8-HpCDF	**6/25/15**	**1**	**0.017 Q J**	**5.2**	**0.0061**	**0.01**	**0.00017**
1,2,3,4,7,8,9-HpCDF	6/25/15	1	ND	5.2	0.010	0.01	0.00010
OCDF	**6/25/15**	**1**	**0.044 Q B J**	**10**	**0.0075**	**0.001**	**0.000044**
Total TEQ Concentration							**0.29**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	59	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	62	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	67	(23 - 140)
13C-OCDD	63	(17 - 157)
13C-2,3,7,8-TCDF	68	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	59	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	64	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	64	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	71	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	64	(26 - 138)
13C-OCDF	56	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-089 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-089 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 009	**Work Order #....:**	M638R1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/25/15	1	ND	0.99	0.093	1.0	0.093
1,2,3,7,8-PeCDD	**6/25/15**	**1**	**0.17 J**	**5.0**	**0.025**	**0.5**	**0.085**
1,2,3,4,7,8-HxCDD	6/25/15	1	ND	5.0	0.019	0.1	0.0019
1,2,3,6,7,8-HxCDD	**6/25/15**	**1**	**0.080 Q J**	**5.0**	**0.022**	**0.1**	**0.0080**
1,2,3,7,8,9-HxCDD	**6/25/15**	**1**	**0.085 Q B J**	**5.0**	**0.019**	**0.1**	**0.0085**
1,2,3,4,6,7,8-HpCDD	**6/25/15**	**1**	**0.10 Q B J**	**5.0**	**0.024**	**0.01**	**0.0010**
OCDD	**6/25/15**	**1**	**1.2 B J**	**9.9**	**0.018**	**0.001**	**0.0012**
2,3,7,8-TCDF	**6/25/15**	**1**	**0.11 Q J**	**0.99**	**0.016**	**0.1**	**0.011**
1,2,3,7,8-PeCDF	6/25/15	1	ND	5.0	0.018	0.05	0.00090
2,3,4,7,8-PeCDF	6/25/15	1	ND	5.0	0.017	0.5	0.0085
1,2,3,4,7,8-HxCDF	6/25/15	1	ND	5.0	0.020	0.1	0.0020
1,2,3,6,7,8-HxCDF	**6/25/15**	**1**	**0.064 Q J**	**5.0**	**0.017**	**0.1**	**0.0064**
2,3,4,6,7,8-HxCDF	6/25/15	1	ND	5.0	0.019	0.1	0.0019
1,2,3,7,8,9-HxCDF	6/25/15	1	ND	5.0	0.027	0.1	0.0027
1,2,3,4,6,7,8-HpCDF	**6/25/15**	**1**	**0.061 B J**	**5.0**	**0.0078**	**0.01**	**0.00061**
1,2,3,4,7,8,9-HpCDF	6/25/15	1	ND	5.0	0.013	0.01	0.00013
OCDF	**6/25/15**	**1**	**0.40 B J**	**9.9**	**0.0088**	**0.001**	**0.00040**
Total TEQ Concentration							**0.23**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	53	(25 - 164)
13C-1,2,3,7,8-PeCDD	49	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	55	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	52	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	62	(23 - 140)
13C-OCDD	52	(17 - 157)
13C-2,3,7,8-TCDF	52	(24 - 169)
13C-1,2,3,7,8-PeCDF	54	(24 - 185)
13C-2,3,4,7,8-PeCDF	53	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	55	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	57	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	57	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	52	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	59	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	53	(26 - 138)
13C-OCDF	47	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-089 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	61	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-090 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 010	**Work Order #....:**	M638T1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/25/15	1	ND	0.99	0.079	1.0	0.079
1,2,3,7,8-PeCDD	**6/25/15**	**1**	**0.054 Q J**	**5.0**	**0.024**	**0.5**	**0.027**
1,2,3,4,7,8-HxCDD	6/25/15	1	ND	5.0	0.020	0.1	0.0020
1,2,3,6,7,8-HxCDD	**6/25/15**	**1**	**0.096 Q J**	**5.0**	**0.020**	**0.1**	**0.0096**
1,2,3,7,8,9-HxCDD	**6/25/15**	**1**	**0.074 Q B J**	**5.0**	**0.019**	**0.1**	**0.0074**
1,2,3,4,6,7,8-HpCDD	**6/25/15**	**1**	**1.4 B J**	**5.0**	**0.030**	**0.01**	**0.014**
OCDD	**6/25/15**	**1**	**19 B**	**9.9**	**0.025**	**0.001**	**0.019**
2,3,7,8-TCDF	6/25/15	1	ND	0.99	0.019	0.1	0.0019
1,2,3,7,8-PeCDF	6/25/15	1	ND	5.0	0.017	0.05	0.00085
2,3,4,7,8-PeCDF	6/25/15	1	ND	5.0	0.017	0.5	0.0085
1,2,3,4,7,8-HxCDF	**6/25/15**	**1**	**0.077 Q B J**	**5.0**	**0.015**	**0.1**	**0.0077**
1,2,3,6,7,8-HxCDF	6/25/15	1	ND	5.0	0.014	0.1	0.0014
2,3,4,6,7,8-HxCDF	6/25/15	1	ND	5.0	0.016	0.1	0.0016
1,2,3,7,8,9-HxCDF	6/25/15	1	ND	5.0	0.022	0.1	0.0022
1,2,3,4,6,7,8-HpCDF	**6/25/15**	**1**	**0.020 Q B J**	**5.0**	**0.0089**	**0.01**	**0.00020**
1,2,3,4,7,8,9-HpCDF	**6/25/15**	**1**	**0.041 B J**	**5.0**	**0.014**	**0.01**	**0.00041**
OCDF	**6/25/15**	**1**	**0.70 Q B J**	**9.9**	**0.0083**	**0.001**	**0.00070**
Total TEQ Concentration							**0.18**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	63	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	65	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	76	(23 - 140)
13C-OCDD	61	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	65	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	66	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	66	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	62	(26 - 138)
13C-OCDF	57	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-090 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	73	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-090 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 011	**Work Order #....:**	M638V1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10.3 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID.....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/25/15	1	ND	0.97	0.094	1.0	0.094
1,2,3,7,8-PeCDD	6/25/15	1	ND	4.9	0.016	0.5	0.0080
1,2,3,4,7,8-HxCDD	6/25/15	1	ND	4.9	0.014	0.1	0.0014
1,2,3,6,7,8-HxCDD	**6/25/15**	**1**	**0.035 Q J**	**4.9**	**0.016**	**0.1**	**0.0035**
1,2,3,7,8,9-HxCDD	6/25/15	1	ND	4.9	0.014	0.1	0.0014
1,2,3,4,6,7,8-HpCDD	**6/25/15**	**1**	**0.91 B J**	**4.9**	**0.051**	**0.01**	**0.0091**
OCDD	**6/25/15**	**1**	**13 B**	**9.7**	**0.025**	**0.001**	**0.013**
2,3,7,8-TCDF	**6/25/15**	**1**	**0.016 Q J**	**0.97**	**0.015**	**0.1**	**0.0016**
1,2,3,7,8-PeCDF	6/25/15	1	ND	4.9	0.021	0.05	0.0010
2,3,4,7,8-PeCDF	6/25/15	1	ND	4.9	0.018	0.5	0.0090
1,2,3,4,7,8-HxCDF	6/25/15	1	ND	4.9	0.026	0.1	0.0026
1,2,3,6,7,8-HxCDF	**6/25/15**	**1**	**0.11 Q J**	**4.9**	**0.021**	**0.1**	**0.011**
2,3,4,6,7,8-HxCDF	6/25/15	1	ND	4.9	0.023	0.1	0.0023
1,2,3,7,8,9-HxCDF	6/25/15	1	ND	4.9	0.033	0.1	0.0033
1,2,3,4,6,7,8-HpCDF	**6/25/15**	**1**	**0.048 Q B J**	**4.9**	**0.0057**	**0.01**	**0.00048**
1,2,3,4,7,8,9-HpCDF	6/25/15	1	ND	4.9	0.0084	0.01	0.000084
OCDF	**6/25/15**	**1**	**0.25 Q B J**	**9.7**	**0.0058**	**0.001**	**0.00025**
Total TEQ Concentration							**0.16**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	53	(25 - 164)
13C-1,2,3,7,8-PeCDD	53	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	57	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	58	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	60	(23 - 140)
13C-OCDD	52	(17 - 157)
13C-2,3,7,8-TCDF	53	(24 - 169)
13C-1,2,3,7,8-PeCDF	52	(24 - 185)
13C-2,3,4,7,8-PeCDF	55	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	55	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	59	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	60	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	54	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	59	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	60	(26 - 138)
13C-OCDF	49	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-090 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	63	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-090 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 012	**Work Order #....:**	M638W1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/25/15	1	ND	1.0	0.10	1.0	0.10
1,2,3,7,8-PeCDD	6/25/15	1	ND	5.0	0.034	0.5	0.017
1,2,3,4,7,8-HxCDD	6/25/15	1	ND	5.0	0.017	0.1	0.0017
1,2,3,6,7,8-HxCDD	6/25/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,7,8,9-HxCDD	6/25/15	1	ND	5.0	0.016	0.1	0.0016
1,2,3,4,6,7,8-HpCDD	**6/25/15**	**1**	**0.80 Q B J**	**5.0**	**0.027**	**0.01**	**0.0080**
OCDD	**6/25/15**	**1**	**10 B J**	**10**	**0.021**	**0.001**	**0.010**
2,3,7,8-TCDF	6/25/15	1	ND	1.0	0.019	0.1	0.0019
1,2,3,7,8-PeCDF	6/25/15	1	ND	5.0	0.016	0.05	0.00080
2,3,4,7,8-PeCDF	6/25/15	1	ND	5.0	0.015	0.5	0.0075
1,2,3,4,7,8-HxCDF	**6/25/15**	**1**	**0.045 Q B J**	**5.0**	**0.018**	**0.1**	**0.0045**
1,2,3,6,7,8-HxCDF	6/25/15	1	ND	5.0	0.016	0.1	0.0016
2,3,4,6,7,8-HxCDF	6/25/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,7,8,9-HxCDF	6/25/15	1	ND	5.0	0.024	0.1	0.0024
1,2,3,4,6,7,8-HpCDF	6/25/15	1	ND	5.0	0.0064	0.01	0.000064
1,2,3,4,7,8,9-HpCDF	**6/25/15**	**1**	**0.031 Q B J**	**5.0**	**0.0098**	**0.01**	**0.00031**
OCDF	**6/25/15**	**1**	**0.13 Q B J**	**10**	**0.0073**	**0.001**	**0.00013**
Total TEQ Concentration							**0.16**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	60	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	64	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	66	(23 - 140)
13C-OCDD	57	(17 - 157)
13C-2,3,7,8-TCDF	59	(24 - 169)
13C-1,2,3,7,8-PeCDF	60	(24 - 185)
13C-2,3,4,7,8-PeCDF	59	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	62	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	66	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	57	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-090 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	71	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-090 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 013	**Work Order #....:**	M638X1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/25/15	1	ND	1.0	0.096	1.0	0.096
1,2,3,7,8-PeCDD	6/25/15	1	ND	5.0	0.027	0.5	0.014
1,2,3,4,7,8-HxCDD	6/25/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,6,7,8-HxCDD	6/25/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,7,8,9-HxCDD	**6/25/15**	**1**	**0.071 Q B J**	**5.0**	**0.017**	**0.1**	**0.0071**
1,2,3,4,6,7,8-HpCDD	**6/25/15**	**1**	**0.97 Q B J**	**5.0**	**0.033**	**0.01**	**0.0097**
OCDD	**6/25/15**	**1**	**19 B**	**10**	**0.050**	**0.001**	**0.019**
2,3,7,8-TCDF	6/25/15	1	ND	1.0	0.014	0.1	0.0014
1,2,3,7,8-PeCDF	6/25/15	1	ND	5.0	0.019	0.05	0.00095
2,3,4,7,8-PeCDF	6/25/15	1	ND	5.0	0.017	0.5	0.0085
1,2,3,4,7,8-HxCDF	**6/25/15**	**1**	**0.073 Q B J**	**5.0**	**0.015**	**0.1**	**0.0073**
1,2,3,6,7,8-HxCDF	**6/25/15**	**1**	**0.076 Q J**	**5.0**	**0.015**	**0.1**	**0.0076**
2,3,4,6,7,8-HxCDF	6/25/15	1	ND	5.0	0.016	0.1	0.0016
1,2,3,7,8,9-HxCDF	6/25/15	1	ND	5.0	0.021	0.1	0.0021
1,2,3,4,6,7,8-HpCDF	**6/25/15**	**1**	**0.11 Q B J**	**5.0**	**0.0075**	**0.01**	**0.0011**
1,2,3,4,7,8,9-HpCDF	**6/25/15**	**1**	**0.020 Q B J**	**5.0**	**0.011**	**0.01**	**0.00020**
OCDF	**6/25/15**	**1**	**0.19 B J**	**10**	**0.0059**	**0.001**	**0.00019**
Total TEQ Concentration							**0.18**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	71	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	75	(23 - 140)
13C-OCDD	62	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	69	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	66	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	71	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	66	(26 - 138)
13C-OCDF	58	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-090 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-090 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 014	**Work Order #....:**	M63801AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	0.99	0.050	1.0	0.050
1,2,3,7,8-PeCDD	**6/26/15**	**1**	**0.16 J**	**5.0**	**0.023**	**0.5**	**0.080**
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	5.0	0.011	0.1	0.0011
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	5.0	0.012	0.1	0.0012
1,2,3,7,8,9-HxCDD	**6/26/15**	**1**	**0.16 Q B J**	**5.0**	**0.011**	**0.1**	**0.016**
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**1.3 Q B J**	**5.0**	**0.028**	**0.01**	**0.013**
OCDD	**6/26/15**	**1**	**23 B**	**9.9**	**0.011**	**0.001**	**0.023**
2,3,7,8-TCDF	6/26/15	1	ND	0.99	0.0063	0.1	0.00063
1,2,3,7,8-PeCDF	6/26/15	1	ND	5.0	0.0089	0.05	0.00044
2,3,4,7,8-PeCDF	6/26/15	1	ND	5.0	0.0087	0.5	0.0043
1,2,3,4,7,8-HxCDF	**6/26/15**	**1**	**0.077 B J**	**5.0**	**0.011**	**0.1**	**0.0077**
1,2,3,6,7,8-HxCDF	**6/26/15**	**1**	**0.060 J**	**5.0**	**0.010**	**0.1**	**0.0060**
2,3,4,6,7,8-HxCDF	**6/26/15**	**1**	**0.035 Q B J**	**5.0**	**0.011**	**0.1**	**0.0035**
1,2,3,7,8,9-HxCDF	**6/26/15**	**1**	**0.027 Q J**	**5.0**	**0.014**	**0.1**	**0.0027**
1,2,3,4,6,7,8-HpCDF	**6/26/15**	**1**	**0.10 Q B J**	**5.0**	**0.0043**	**0.01**	**0.0010**
1,2,3,4,7,8,9-HpCDF	**6/26/15**	**1**	**0.064 Q B J**	**5.0**	**0.0071**	**0.01**	**0.00064**
OCDF	**6/26/15**	**1**	**0.34 Q B J**	**9.9**	**0.0037**	**0.001**	**0.00034**
Total TEQ Concentration							**0.21**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	65	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	62	(23 - 140)
13C-OCDD	52	(17 - 157)
13C-2,3,7,8-TCDF	63	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	64	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	64	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	64	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	58	(26 - 138)
13C-OCDF	46	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-090 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

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When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-091 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 015	**Work Order #....:**	M63811AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	0.98	0.055	1.0	0.055
1,2,3,7,8-PeCDD	**6/26/15**	**1**	**0.075 Q J**	**4.9**	**0.018**	**0.5**	**0.038**
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	4.9	0.0094	0.1	0.00094
1,2,3,6,7,8-HxCDD	**6/26/15**	**1**	**0.024 Q J**	**4.9**	**0.0099**	**0.1**	**0.0024**
1,2,3,7,8,9-HxCDD	**6/26/15**	**1**	**0.046 B J**	**4.9**	**0.0091**	**0.1**	**0.0046**
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.54 B J**	**4.9**	**0.018**	**0.01**	**0.0054**
OCDD	**6/26/15**	**1**	**7.2 Q B J**	**9.8**	**0.018**	**0.001**	**0.0072**
2,3,7,8-TCDF	**6/26/15**	**1**	**0.029 Q J**	**0.98**	**0.0071**	**0.1**	**0.0029**
1,2,3,7,8-PeCDF	6/26/15	1	ND	4.9	0.0086	0.05	0.00043
2,3,4,7,8-PeCDF	**6/26/15**	**1**	**0.024 Q J**	**4.9**	**0.0079**	**0.5**	**0.012**
1,2,3,4,7,8-HxCDF	6/26/15	1	ND	4.9	0.014	0.1	0.0014
1,2,3,6,7,8-HxCDF	**6/26/15**	**1**	**0.075 Q J**	**4.9**	**0.013**	**0.1**	**0.0075**
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	4.9	0.014	0.1	0.0014
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	4.9	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDF	**6/26/15**	**1**	**0.043 B J**	**4.9**	**0.0046**	**0.01**	**0.00043**
1,2,3,4,7,8,9-HpCDF	6/26/15	1	ND	4.9	0.0081	0.01	0.000081
OCDF	**6/26/15**	**1**	**0.091 Q B J**	**9.8**	**0.0075**	**0.001**	**0.000091**
Total TEQ Concentration							**0.14**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	54	(25 - 164)
13C-1,2,3,7,8-PeCDD	56	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	59	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	57	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	56	(23 - 140)
13C-OCDD	47	(17 - 157)
13C-2,3,7,8-TCDF	51	(24 - 169)
13C-1,2,3,7,8-PeCDF	53	(24 - 185)
13C-2,3,4,7,8-PeCDF	56	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	55	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	55	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	59	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	55	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	58	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	48	(26 - 138)
13C-OCDF	40	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-091 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	65	(35 - 197)

NOTES:

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When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-091 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 016	**Work Order #....:**	M63821AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	1.0	0.050	1.0	0.050
1,2,3,7,8-PeCDD	**6/26/15**	**1**	**0.091 Q J**	**5.0**	**0.014**	**0.5**	**0.046**
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	5.0	0.011	0.1	0.0011
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	5.0	0.011	0.1	0.0011
1,2,3,7,8,9-HxCDD	**6/26/15**	**1**	**0.066 Q B J**	**5.0**	**0.011**	**0.1**	**0.0066**
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.62 Q B J**	**5.0**	**0.021**	**0.01**	**0.0062**
OCDD	**6/26/15**	**1**	**11 B**	**10**	**0.015**	**0.001**	**0.011**
2,3,7,8-TCDF	6/26/15	1	ND	1.0	0.0058	0.1	0.00058
1,2,3,7,8-PeCDF	**6/26/15**	**1**	**0.014 J**	**5.0**	**0.011**	**0.05**	**0.00070**
2,3,4,7,8-PeCDF	**6/26/15**	**1**	**0.031 Q J**	**5.0**	**0.010**	**0.5**	**0.016**
1,2,3,4,7,8-HxCDF	6/26/15	1	ND	5.0	0.0098	0.1	0.00098
1,2,3,6,7,8-HxCDF	**6/26/15**	**1**	**0.065 J**	**5.0**	**0.0089**	**0.1**	**0.0065**
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	5.0	0.0096	0.1	0.00096
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	5.0	0.012	0.1	0.0012
1,2,3,4,6,7,8-HpCDF	**6/26/15**	**1**	**0.020 Q B J**	**5.0**	**0.0053**	**0.01**	**0.00020**
1,2,3,4,7,8,9-HpCDF	6/26/15	1	ND	5.0	0.0083	0.01	0.000083
OCDF	**6/26/15**	**1**	**0.038 Q B J**	**10**	**0.0070**	**0.001**	**0.000038**
Total TEQ Concentration							**0.15**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	64	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	65	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	62	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	59	(23 - 140)
13C-OCDD	47	(17 - 157)
13C-2,3,7,8-TCDF	59	(24 - 169)
13C-1,2,3,7,8-PeCDF	61	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	59	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	58	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	61	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	58	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	61	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	52	(26 - 138)
13C-OCDF	42	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

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TestAmerica Pittsburgh

Client Sample ID: AT5-091 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	73	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-091 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 017	**Work Order #....:**	M63831AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	1.0	0.050	1.0	0.050
1,2,3,7,8-PeCDD	**6/26/15**	**1**	**0.058 J**	**5.0**	**0.014**	**0.5**	**0.029**
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	5.0	0.010	0.1	0.0010
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	5.0	0.0095	0.1	0.00095
1,2,3,7,8,9-HxCDD	**6/26/15**	**1**	**0.044 Q B J**	**5.0**	**0.0092**	**0.1**	**0.0044**
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.47 B J**	**5.0**	**0.018**	**0.01**	**0.0047**
OCDD	**6/26/15**	**1**	**8.1 B J**	**10**	**0.0066**	**0.001**	**0.0081**
2,3,7,8-TCDF	6/26/15	1	ND	1.0	0.0041	0.1	0.00041
1,2,3,7,8-PeCDF	6/26/15	1	ND	5.0	0.0062	0.05	0.00031
2,3,4,7,8-PeCDF	6/26/15	1	ND	5.0	0.0059	0.5	0.0029
1,2,3,4,7,8-HxCDF	6/26/15	1	ND	5.0	0.010	0.1	0.0010
1,2,3,6,7,8-HxCDF	**6/26/15**	**1**	**0.042 Q J**	**5.0**	**0.0098**	**0.1**	**0.0042**
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	5.0	0.010	0.1	0.0010
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	5.0	0.013	0.1	0.0013
1,2,3,4,6,7,8-HpCDF	6/26/15	1	ND	5.0	0.0036	0.01	0.000036
1,2,3,4,7,8,9-HpCDF	6/26/15	1	ND	5.0	0.0056	0.01	0.000056
OCDF	**6/26/15**	**1**	**0.14 Q B J**	**10**	**0.0030**	**0.001**	**0.00014**
Total TEQ Concentration							**0.11**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	66	(25 - 164)
13C-1,2,3,7,8-PeCDD	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	70	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	66	(23 - 140)
13C-OCDD	56	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	68	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	59	(26 - 138)
13C-OCDF	48	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-091 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-091 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 018	**Work Order #....:**	M63841AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	0.98	0.048	1.0	0.048
1,2,3,7,8-PeCDD	6/26/15	1	ND	4.9	0.0088	0.5	0.0044
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	4.9	0.0079	0.1	0.00079
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	4.9	0.0080	0.1	0.00080
1,2,3,7,8,9-HxCDD	6/26/15	1	ND	4.9	0.0075	0.1	0.00075
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.32 Q B J**	**4.9**	**0.0098**	**0.01**	**0.0032**
OCDD	**6/26/15**	**1**	**5.0 B J**	**9.8**	**0.0073**	**0.001**	**0.0050**
2,3,7,8-TCDF	6/26/15	1	ND	0.98	0.0045	0.1	0.00045
1,2,3,7,8-PeCDF	6/26/15	1	ND	4.9	0.0069	0.05	0.00034
2,3,4,7,8-PeCDF	**6/26/15**	**1**	**0.027 Q J**	**4.9**	**0.0060**	**0.5**	**0.014**
1,2,3,4,7,8-HxCDF	6/26/15	1	ND	4.9	0.010	0.1	0.0010
1,2,3,6,7,8-HxCDF	**6/26/15**	**1**	**0.044 Q J**	**4.9**	**0.0091**	**0.1**	**0.0044**
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	4.9	0.010	0.1	0.0010
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	4.9	0.013	0.1	0.0013
1,2,3,4,6,7,8-HpCDF	**6/26/15**	**1**	**0.027 Q B J**	**4.9**	**0.0035**	**0.01**	**0.00027**
1,2,3,4,7,8,9-HpCDF	**6/26/15**	**1**	**0.020 Q B J**	**4.9**	**0.0058**	**0.01**	**0.00020**
OCDF	**6/26/15**	**1**	**0.12 Q B J**	**9.8**	**0.0039**	**0.001**	**0.00012**
Total TEQ Concentration							**0.086**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	69	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	62	(23 - 140)
13C-OCDD	51	(17 - 157)
13C-2,3,7,8-TCDF	68	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	71	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	69	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	66	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	56	(26 - 138)
13C-OCDF	49	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-091 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	84	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update, EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-091 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 019	**Work Order #....:**	M63851AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	0.99	0.069	1.0	0.069
1,2,3,7,8-PeCDD	6/26/15	1	ND	5.0	0.018	0.5	0.0090
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	5.0	0.011	0.1	0.0011
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	5.0	0.011	0.1	0.0011
1,2,3,7,8,9-HxCDD	**6/26/15**	**1**	**0.067 B J**	**5.0**	**0.011**	**0.1**	**0.0067**
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.47 B J**	**5.0**	**0.019**	**0.01**	**0.0047**
OCDD	**6/26/15**	**1**	**6.3 B J**	**9.9**	**0.013**	**0.001**	**0.0063**
2,3,7,8-TCDF	6/26/15	1	ND	0.99	0.0066	0.1	0.00066
1,2,3,7,8-PeCDF	6/26/15	1	ND	5.0	0.0070	0.05	0.00035
2,3,4,7,8-PeCDF	6/26/15	1	ND	5.0	0.0065	0.5	0.0032
1,2,3,4,7,8-HxCDF	**6/26/15**	**1**	**0.093 Q B J**	**5.0**	**0.013**	**0.1**	**0.0093**
1,2,3,6,7,8-HxCDF	**6/26/15**	**1**	**0.068 Q J**	**5.0**	**0.012**	**0.1**	**0.0068**
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	5.0	0.013	0.1	0.0013
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	5.0	0.017	0.1	0.0017
1,2,3,4,6,7,8-HpCDF	**6/26/15**	**1**	**0.063 Q B J**	**5.0**	**0.0034**	**0.01**	**0.00063**
1,2,3,4,7,8,9-HpCDF	6/26/15	1	ND	5.0	0.0052	0.01	0.000052
OCDF	**6/26/15**	**1**	**0.11 Q B J**	**9.9**	**0.0081**	**0.001**	**0.00011**
Total TEQ Concentration							**0.12**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	55	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	60	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	57	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	59	(23 - 140)
13C-OCDD	50	(17 - 157)
13C-2,3,7,8-TCDF	57	(24 - 169)
13C-1,2,3,7,8-PeCDF	61	(24 - 185)
13C-2,3,4,7,8-PeCDF	61	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	59	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	58	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	61	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	57	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	59	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	54	(26 - 138)
13C-OCDF	44	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-091 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	70	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-092 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 020	**Work Order #....:**	M63861AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10.4 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	0.96	0.056	1.0	0.056
1,2,3,7,8-PeCDD	6/26/15	1	ND	4.8	0.015	0.5	0.0075
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	4.8	0.010	0.1	0.0010
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	4.8	0.0097	0.1	0.00097
1,2,3,7,8,9-HxCDD	**6/26/15**	**1**	**0.029 Q B J**	**4.8**	**0.0093**	**0.1**	**0.0029**
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.17 Q B J**	**4.8**	**0.019**	**0.01**	**0.0017**
OCDD	**6/26/15**	**1**	**1.7 B J**	**9.6**	**0.011**	**0.001**	**0.0017**
2,3,7,8-TCDF	**6/26/15**	**1**	**0.069 J**	**0.96**	**0.0078**	**0.1**	**0.0069**
1,2,3,7,8-PeCDF	6/26/15	1	ND	4.8	0.010	0.05	0.00050
2,3,4,7,8-PeCDF	6/26/15	1	ND	4.8	0.0093	0.5	0.0046
1,2,3,4,7,8-HxCDF	6/26/15	1	ND	4.8	0.011	0.1	0.0011
1,2,3,6,7,8-HxCDF	**6/26/15**	**1**	**0.028 Q J**	**4.8**	**0.011**	**0.1**	**0.0028**
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	4.8	0.012	0.1	0.0012
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	4.8	0.015	0.1	0.0015
1,2,3,4,6,7,8-HpCDF	6/26/15	1	ND	4.8	0.0050	0.01	0.000050
1,2,3,4,7,8,9-HpCDF	6/26/15	1	ND	4.8	0.0074	0.01	0.000074
OCDF	**6/26/15**	**1**	**0.18 B Q J**	**9.6**	**0.0036**	**0.001**	**0.00018**
Total TEQ Concentration							**0.091**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	68	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	60	(23 - 140)
13C-OCDD	54	(17 - 157)
13C-2,3,7,8-TCDF	64	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	68	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	64	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	67	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	63	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	58	(26 - 138)
13C-OCDF	49	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

Report Date: 06/26/2015 14:04, 05/01/2013

TestAmerica Pittsburgh

Client Sample ID: AT5-092 A-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-092 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 021	**Work Order #....:**	M63871AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	1.0	0.060	1.0	0.060
1,2,3,7,8-PeCDD	**6/27/15**	**1**	**0.032 Q J**	**5.0**	**0.016**	**0.5**	**0.016**
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.0	0.011	0.1	0.0011
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.0	0.012	0.1	0.0012
1,2,3,7,8,9-HxCDD	**6/27/15**	**1**	**0.044 Q B J**	**5.0**	**0.011**	**0.1**	**0.0044**
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.22 Q B J**	**5.0**	**0.024**	**0.01**	**0.0022**
OCDD	**6/27/15**	**1**	**1.5 Q B J**	**10**	**0.010**	**0.001**	**0.0015**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.011 Q J**	**1.0**	**0.0085**	**0.1**	**0.0011**
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.0	0.011	0.05	0.00055
2,3,4,7,8-PeCDF	6/27/15	1	ND	5.0	0.0093	0.5	0.0046
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	5.0	0.015	0.1	0.0015
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.036 Q J**	**5.0**	**0.014**	**0.1**	**0.0036**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.0	0.015	0.1	0.0015
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	5.0	0.019	0.1	0.0019
1,2,3,4,6,7,8-HpCDF	**6/27/15**	**1**	**0.017 Q B J**	**5.0**	**0.0039**	**0.01**	**0.00017**
1,2,3,4,7,8,9-HpCDF	**6/27/15**	**1**	**0.025 Q B J**	**5.0**	**0.0067**	**0.01**	**0.00025**
OCDF	**6/27/15**	**1**	**0.17 B J**	**10**	**0.0057**	**0.001**	**0.00017**
Total TEQ Concentration							**0.10**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	61	(23 - 140)
13C-OCDD	54	(17 - 157)
13C-2,3,7,8-TCDF	63	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	69	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	65	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	65	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	64	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	64	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	56	(26 - 138)
13C-OCDF	47	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-092 B-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-092 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 022	**Work Order #....:**	M63881AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	0.99	0.046	1.0	0.046
1,2,3,7,8-PeCDD	6/27/15	1	ND	5.0	0.014	0.5	0.0070
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.0	0.0087	0.1	0.00087
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.0	0.0089	0.1	0.00089
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	5.0	0.0083	0.1	0.00083
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.28 B J**	**5.0**	**0.023**	**0.01**	**0.0028**
OCDD	**6/27/15**	**1**	**3.0 B J**	**9.9**	**0.0060**	**0.001**	**0.0030**
2,3,7,8-TCDF	6/27/15	1	ND	0.99	0.011	0.1	0.0011
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.0	0.0083	0.05	0.00042
2,3,4,7,8-PeCDF	6/27/15	1	ND	5.0	0.0082	0.5	0.0041
1,2,3,4,7,8-HxCDF	**6/27/15**	**1**	**0.063 Q B J**	**5.0**	**0.014**	**0.1**	**0.0063**
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.092 J**	**5.0**	**0.013**	**0.1**	**0.0092**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.0	0.014	0.1	0.0014
1,2,3,7,8,9-HxCDF	**6/27/15**	**1**	**0.034 Q J**	**5.0**	**0.019**	**0.1**	**0.0034**
1,2,3,4,6,7,8-HpCDF	**6/27/15**	**1**	**0.13 B J**	**5.0**	**0.0051**	**0.01**	**0.0013**
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	5.0	0.0083	0.01	0.000083
OCDF	**6/27/15**	**1**	**0.047 Q B J**	**9.9**	**0.0056**	**0.001**	**0.000047**
Total TEQ Concentration							**0.089**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	68	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	66	(23 - 140)
13C-OCDD	57	(17 - 157)
13C-2,3,7,8-TCDF	65	(24 - 169)
13C-1,2,3,7,8-PeCDF	69	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	69	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	61	(26 - 138)
13C-OCDF	50	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-092 C-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	78	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-092 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 023	**Work Order #....:**	M63891AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**6/27/15**	**1**	**0.064 Q J**	**1.0**	**0.063**	**1.0**	**0.064**
1,2,3,7,8-PeCDD	**6/27/15**	**1**	**0.042 Q J**	**5.0**	**0.019**	**0.5**	**0.021**
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.0	0.0082	0.1	0.00082
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.0	0.0091	0.1	0.00091
1,2,3,7,8,9-HxCDD	**6/27/15**	**1**	**0.026 Q B J**	**5.0**	**0.0081**	**0.1**	**0.0026**
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.21 Q B J**	**5.0**	**0.022**	**0.01**	**0.0021**
OCDD	**6/27/15**	**1**	**2.2 B J**	**10**	**0.0067**	**0.001**	**0.0022**
2,3,7,8-TCDF	6/27/15	1	ND	1.0	0.012	0.1	0.0012
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.0	0.0092	0.05	0.00046
2,3,4,7,8-PeCDF	6/27/15	1	ND	5.0	0.0088	0.5	0.0044
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	5.0	0.013	0.1	0.0013
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.057 Q J**	**5.0**	**0.012**	**0.1**	**0.0057**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.0	0.014	0.1	0.0014
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDF	**6/27/15**	**1**	**0.051 Q B J**	**5.0**	**0.0044**	**0.01**	**0.00051**
1,2,3,4,7,8,9-HpCDF	**6/27/15**	**1**	**0.039 B J**	**5.0**	**0.0075**	**0.01**	**0.00039**
OCDF	**6/27/15**	**1**	**0.098 Q B J**	**10**	**0.0048**	**0.001**	**0.000098**
Total TEQ Concentration							**0.11**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	63	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	58	(23 - 140)
13C-OCDD	55	(17 - 157)
13C-2,3,7,8-TCDF	63	(24 - 169)
13C-1,2,3,7,8-PeCDF	66	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	64	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	62	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	65	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	60	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	65	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	56	(26 - 138)
13C-OCDF	48	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-092 D-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-092 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190406 - 024	**Work Order #....:**	M639A1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	0.98	0.056	1.0	0.056
1,2,3,7,8-PeCDD	**6/27/15**	**1**	**0.18 J**	**4.9**	**0.017**	**0.5**	**0.090**
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	4.9	0.0068	0.1	0.00068
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	4.9	0.0069	0.1	0.00069
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	4.9	0.0065	0.1	0.00065
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.24 Q B J**	**4.9**	**0.018**	**0.01**	**0.0024**
OCDD	**6/27/15**	**1**	**2.4 B J**	**9.8**	**0.0055**	**0.001**	**0.0024**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.064 J**	**0.98**	**0.014**	**0.1**	**0.0064**
1,2,3,7,8-PeCDF	6/27/15	1	ND	4.9	0.0094	0.05	0.00047
2,3,4,7,8-PeCDF	6/27/15	1	ND	4.9	0.0090	0.5	0.0045
1,2,3,4,7,8-HxCDF	**6/27/15**	**1**	**0.040 Q B J**	**4.9**	**0.014**	**0.1**	**0.0040**
1,2,3,6,7,8-HxCDF	6/27/15	1	ND	4.9	0.013	0.1	0.0013
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	4.9	0.014	0.1	0.0014
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	4.9	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDF	**6/27/15**	**1**	**0.067 Q B J**	**4.9**	**0.0057**	**0.01**	**0.00067**
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	4.9	0.0092	0.01	0.000092
OCDF	**6/27/15**	**1**	**0.19 Q B J**	**9.8**	**0.0052**	**0.001**	**0.00019**
Total TEQ Concentration							**0.17**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	66	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	62	(23 - 140)
13C-OCDD	54	(17 - 157)
13C-2,3,7,8-TCDF	58	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	61	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	62	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	67	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	61	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	66	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	57	(26 - 138)
13C-OCDF	49	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-092 E-C

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	73	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F190000 - 018B	**Work Order #....:**	M63911AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/19/15	**Analysis Date....:**	06/24/15		
Prep Batch # ....:	5170018				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.066	pg/g
1,2,3,7,8-PeCDD	ND		5.0	0.018	pg/g
1,2,3,4,7,8-HxCDD	ND		5.0	0.016	pg/g
1,2,3,6,7,8-HxCDD	ND		5.0	0.016	pg/g
1,2,3,7,8,9-HxCDD	ND		5.0	0.015	pg/g
1,2,3,4,6,7,8-HpCDD	**0.084**	**Q J**	**5.0**	**0.016**	**pg/g**
OCDD	**0.87**	**J**	**10**	**0.019**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.013	pg/g
1,2,3,7,8-PeCDF	ND		5.0	0.0086	pg/g
2,3,4,7,8-PeCDF	ND		5.0	0.0080	pg/g
1,2,3,4,7,8-HxCDF	ND		5.0	0.012	pg/g
1,2,3,6,7,8-HxCDF	ND		5.0	0.011	pg/g
2,3,4,6,7,8-HxCDF	ND		5.0	0.012	pg/g
1,2,3,7,8,9-HxCDF	**0.035**	**Q J**	**5.0**	**0.017**	**pg/g**
1,2,3,4,6,7,8-HpCDF	ND		5.0	0.0081	pg/g
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.012	pg/g
OCDF	**0.031**	**Q J**	**10**	**0.0075**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	72	25 - 164
13C-1,2,3,7,8-PeCDD	78	25 - 181
13C-1,2,3,4,7,8-HxCDD	73	32 - 141
13C-1,2,3,6,7,8-HxCDD	75	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	82	23 - 140
13C-OCDD	70	17 - 157
13C-2,3,7,8-TCDF	72	24 - 169
13C-1,2,3,7,8-PeCDF	77	24 - 185
13C-2,3,4,7,8-PeCDF	81	21 - 178
13C-1,2,3,4,7,8-HxCDF	71	26 - 152
13C-1,2,3,6,7,8-HxCDF	71	26 - 123
13C-2,3,4,6,7,8-HxCDF	72	28 - 136
13C-1,2,3,7,8,9-HxCDF	67	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	76	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	74	26 - 138
13C-OCDF	61	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F190000 - 018B	**Work Order #....:**	M63911AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/19/15	**Analysis Date....:**	06/24/15		
Prep Batch # ....:	5170018				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	84	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190406	**Work Order # ...:**	M63911AC-LCS	**Matrix .....:**	BIOLOGICA
LCS Lot-Sample# :	H5F190000 - 018				
Prep Date .....:	06/19/15	**Analysis Date ..:**	06/24/15		
Prep Batch # ...:	5170018				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**19.7**	**pg/g**	**99**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**109**	**pg/g**	**109**		**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**104**	**pg/g**	**104**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**101**	**pg/g**	**101**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**109**	**pg/g**	**109**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**92.8**	**pg/g**	**93**	**B**	**(70 - 140)**
OCDD	**200**	**190**	**pg/g**	**95**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**19.4**	**pg/g**	**97**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**95.7**	**pg/g**	**96**		**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**105**	**pg/g**	**105**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**98.7**	**pg/g**	**99**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**104**	**pg/g**	**104**		**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**101**	**pg/g**	**101**		**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**100**	**pg/g**	**100**	**B**	**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**95.9**	**pg/g**	**96**		**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**103**	**pg/g**	**103**		**(78 - 138)**
OCDF	**200**	**200**	**pg/g**	**100**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(20 - 175)
13C-1,2,3,7,8-PeCDD	75	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	67	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	74	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	84	(26 - 166)
13C-OCDD	77	(13 - 199)
13C-2,3,7,8-TCDF	67	(22 - 152)
13C-1,2,3,7,8-PeCDF	75	(21 - 192)
13C-2,3,4,7,8-PeCDF	75	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	70	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	67	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	71	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	69	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	73	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	72	(20 - 186)
13C-OCDF	66	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190406	**Work Order # ...:**	M638H1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190406 - 001		M638H1AD-MSD		
Prep Date .....:	06/19/15	**Analysis Date ..:**	06/24/15		
Prep Batch # ...:	5170018				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SAMPLE AMOUNT	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	**ND**	**19.8**	**20.7**	pg/g	105	(67 - 158)		
	ND	**19.8**	**22.1**	pg/g	111	(67 - 158)	6.2	(0 - 25)
1,2,3,7,8-PeCDD	**0.059**	**99.0**	**107**	pg/g	108	(70 - 142)		
	0.059	**99.0**	**107**	pg/g	108	(70 - 142)	0.29	(0 - 25)
1,2,3,4,7,8-HxCDD	**0.039**	**99.0**	**109**	pg/g	110	(70 - 164)		
	0.039	**99.0**	**107**	pg/g	108	(70 - 164)	1.8	(0 - 25)
1,2,3,6,7,8-HxCDD	**ND**	**99.0**	**101**	pg/g	102	(76 - 134)		
	ND	**99.0**	**111**	pg/g	112	(76 - 134)	9.5	(0 - 25)
1,2,3,7,8,9-HxCDD	**0.11**	**99.0**	**107**	pg/g	108	(64 - 162)		
	0.11	**99.0**	**119**	pg/g	120	(64 - 162)	11	(0 - 25)
1,2,3,4,6,7,8-HpCDD	**0.20**	**99.0**	**98.6**	pg/g	99 B	(70 - 140)		
	0.20	**99.0**	**101**	pg/g	102 B	(70 - 140)	2.4	(0 - 25)
OCDD	**8.8**	**198**	**198**	pg/g	95 B	(78 - 144)		
	8.8	**198**	**198**	pg/g	96 B	(78 - 144)	0.21	(0 - 25)
2,3,7,8-TCDF	**ND**	**19.8**	**21.5**	pg/g	109 X	(75 - 158)		
	ND	**19.8**	**20.9**	pg/g	105 X	(75 - 158)	3.0	(0 - 25)
1,2,3,7,8-PeCDF	**ND**	**99.0**	**96.4**	pg/g	97	(80 - 134)		
	ND	**99.0**	**93.6**	pg/g	95	(80 - 134)	2.9	(0 - 25)
2,3,4,7,8-PeCDF	**ND**	**99.0**	**104**	pg/g	105	(68 - 160)		
	ND	**99.0**	**109**	pg/g	110	(68 - 160)	4.7	(0 - 25)
1,2,3,4,7,8-HxCDF	**ND**	**99.0**	**99.8**	pg/g	101	(72 - 134)		
	ND	**99.0**	**101**	pg/g	102	(72 - 134)	1.1	(0 - 25)
1,2,3,6,7,8-HxCDF	**0.0078**	**99.0**	**101**	pg/g	102	(84 - 130)		
	0.0078	**99.0**	**110**	pg/g	111	(84 - 130)	8.2	(0 - 25)
2,3,4,6,7,8-HxCDF	**ND**	**99.0**	**104**	pg/g	105	(70 - 156)		
	ND	**99.0**	**103**	pg/g	104	(70 - 156)	1.6	(0 - 25)
1,2,3,7,8,9-HxCDF	**ND**	**99.0**	**97.9**	pg/g	99 B	(78 - 130)		
	ND	**99.0**	**97.5**	pg/g	98 B	(78 - 130)	0.35	(0 - 25)
1,2,3,4,6,7,8-HpCDF	**0.056**	**99.0**	**99.5**	pg/g	100	(82 - 122)		
	0.056	**99.0**	**94.3**	pg/g	95	(82 - 122)	5.3	(0 - 25)
1,2,3,4,7,8,9-HpCDF	**ND**	**99.0**	**97.7**	pg/g	99	(78 - 138)		
	ND	**99.0**	**101**	pg/g	102	(78 - 138)	2.8	(0 - 25)
OCDF	**0.029**	**198**	**195**	pg/g	98 B	(63 - 170)		
	0.029	**198**	**197**	pg/g	100 B	(63 - 170)	1.1	(0 - 25)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190406	**Work Order # ...:**	M638H1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190406 - 001		M638H1AD-MSD		
Prep Date .....:	06/19/15	**Analysis Date ..:**	06/24/15		
Prep Batch # ...:	5170018				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	63	(25 - 164)
	65	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	58	(32 - 141)
	61	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
	62	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	69	(23 - 140)
	70	(23 - 140)
13C-OCDD	62	(17 - 157)
	62	(17 - 157)
13C-2,3,7,8-TCDF	59	(24 - 169)
	69	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
	66	(24 - 185)
13C-2,3,4,7,8-PeCDF	69	(21 - 178)
	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	57	(26 - 152)
	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	60	(26 - 123)
	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	61	(28 - 136)
	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	62	(29 - 147)
	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	59	(28 - 143)
	70	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	64	(26 - 138)
	68	(26 - 138)
13C-OCDF	55	(17 - 157)
	60	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	73	(35 - 197)
	81	(35 - 197)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190406	**Work Order # ...:**	M638H1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190406 - 001		M638H1AD-MSD		
Prep Date .....:	06/19/15	**Analysis Date ..:**	06/24/15		
Prep Batch # ...:	5170018				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

X See project narrative.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F190000 - 019B	**Work Order #....:**	M63951AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/19/15	**Analysis Date....:**	06/25/15		
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.10	pg/g
1,2,3,7,8-PeCDD	ND		5.0	0.025	pg/g
1,2,3,4,7,8-HxCDD	ND		5.0	0.015	pg/g
1,2,3,6,7,8-HxCDD	ND		5.0	0.015	pg/g
1,2,3,7,8,9-HxCDD	**0.069**	**Q J**	**5.0**	**0.014**	**pg/g**
1,2,3,4,6,7,8-HpCDD	**0.11**	**Q J**	**5.0**	**0.013**	**pg/g**
OCDD	**0.36**	**Q J**	**10**	**0.012**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.013	pg/g
1,2,3,7,8-PeCDF	ND		5.0	0.015	pg/g
2,3,4,7,8-PeCDF	ND		5.0	0.013	pg/g
1,2,3,4,7,8-HxCDF	**0.069**	**J**	**5.0**	**0.011**	**pg/g**
1,2,3,6,7,8-HxCDF	ND		5.0	0.011	pg/g
2,3,4,6,7,8-HxCDF	**0.019**	**Q J**	**5.0**	**0.012**	**pg/g**
1,2,3,7,8,9-HxCDF	ND		5.0	0.015	pg/g
1,2,3,4,6,7,8-HpCDF	**0.020**	**Q J**	**5.0**	**0.0045**	**pg/g**
1,2,3,4,7,8,9-HpCDF	**0.091**	**Q J**	**5.0**	**0.0065**	**pg/g**
OCDF	**0.28**	**Q J**	**10**	**0.0054**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	58	25 - 164
13C-1,2,3,7,8-PeCDD	66	25 - 181
13C-1,2,3,4,7,8-HxCDD	73	32 - 141
13C-1,2,3,6,7,8-HxCDD	74	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	79	23 - 140
13C-OCDD	71	17 - 157
13C-2,3,7,8-TCDF	60	24 - 169
13C-1,2,3,7,8-PeCDF	65	24 - 185
13C-2,3,4,7,8-PeCDF	70	21 - 178
13C-1,2,3,4,7,8-HxCDF	75	26 - 152
13C-1,2,3,6,7,8-HxCDF	70	26 - 123
13C-2,3,4,6,7,8-HxCDF	72	28 - 136
13C-1,2,3,7,8,9-HxCDF	70	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	74	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	74	26 - 138
13C-OCDF	65	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F190000 - 019B	**Work Order #....:**	M63951AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/19/15	**Analysis Date....:**	06/25/15		
Prep Batch # ....:	5170019				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	73	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190406	**Work Order # ...:**	M63951AC-LCS	**Matrix .....:**	BIOLOGICA
LCS Lot-Sample# :	H5F190000 - 019				
Prep Date .....:	06/19/15	**Analysis Date ..:**	06/25/15		
Prep Batch # ...:	5170019				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**21.6**	**pg/g**	**108**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**104**	**pg/g**	**104**		**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**103**	**pg/g**	**103**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**102**	**pg/g**	**102**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**107**	**pg/g**	**107**	**B**	**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**102**	**pg/g**	**102**	**B**	**(70 - 140)**
OCDD	**200**	**199**	**pg/g**	**99**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**20.5**	**pg/g**	**102**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**96.1**	**pg/g**	**96**		**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**103**	**pg/g**	**103**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**103**	**pg/g**	**103**	**B**	**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**98.9**	**pg/g**	**99**		**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**103**	**pg/g**	**103**	**B**	**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**101**	**pg/g**	**101**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**96.4**	**pg/g**	**96**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**104**	**pg/g**	**104**	**B**	**(78 - 138)**
OCDF	**200**	**224**	**pg/g**	**112**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(20 - 175)
13C-1,2,3,7,8-PeCDD	74	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	75	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	75	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	80	(26 - 166)
13C-OCDD	73	(13 - 199)
13C-2,3,7,8-TCDF	65	(22 - 152)
13C-1,2,3,7,8-PeCDF	69	(21 - 192)
13C-2,3,4,7,8-PeCDF	72	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	76	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	76	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	75	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	71	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	79	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	77	(20 - 186)
13C-OCDF	63	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	78	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190406	**Work Order # ...:**	M638X1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190406 - 013		M638X1AD-MSD		
Prep Date .....:	06/19/15	**Analysis Date ..:**	06/25/15		
Prep Batch # ...:	5170019				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SAMPLE AMOUNT	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	**ND**	**20.0**	**20.2**	pg/g	101	(67 - 158)		
	ND	**20.0**	**19.7**	pg/g	98	(67 - 158)	2.8	(0 - 25)
1,2,3,7,8-PeCDD	**ND**	**100**	**104**	pg/g	104	(70 - 142)		
	ND	**100**	**104**	pg/g	104	(70 - 142)	0.71	(0 - 25)
1,2,3,4,7,8-HxCDD	**ND**	**100**	**105**	pg/g	105	(70 - 164)		
	ND	**100**	**105**	pg/g	105	(70 - 164)	0.24	(0 - 25)
1,2,3,6,7,8-HxCDD	**ND**	**100**	**104**	pg/g	104	(76 - 134)		
	ND	**100**	**99.5**	pg/g	99	(76 - 134)	4.0	(0 - 25)
1,2,3,7,8,9-HxCDD	**0.071**	**100**	**107**	pg/g	107 B	(64 - 162)		
	0.071	**100**	**104**	pg/g	104 B	(64 - 162)	2.9	(0 - 25)
1,2,3,4,6,7,8-HpCDD	**0.97**	**100**	**96.8**	pg/g	96 B	(70 - 140)		
	0.97	**100**	**99.2**	pg/g	98 B	(70 - 140)	2.4	(0 - 25)
OCDD	**19**	**200**	**209**	pg/g	95 B	(78 - 144)		
	19	**200**	**207**	pg/g	94 B	(78 - 144)	1.1	(0 - 25)
2,3,7,8-TCDF	**ND**	**20.0**	**21.7**	pg/g	109 X	(75 - 158)		
	ND	**20.0**	**20.6**	pg/g	103 X	(75 - 158)	5.4	(0 - 25)
1,2,3,7,8-PeCDF	**ND**	**100**	**95.5**	pg/g	95	(80 - 134)		
	ND	**100**	**94.4**	pg/g	94	(80 - 134)	1.1	(0 - 25)
2,3,4,7,8-PeCDF	**ND**	**100**	**107**	pg/g	107	(68 - 160)		
	ND	**100**	**101**	pg/g	101	(68 - 160)	5.9	(0 - 25)
1,2,3,4,7,8-HxCDF	**0.073**	**100**	**101**	pg/g	101 B	(72 - 134)		
	0.073	**100**	**98.8**	pg/g	99 B	(72 - 134)	2.1	(0 - 25)
1,2,3,6,7,8-HxCDF	**0.076**	**100**	**104**	pg/g	104	(84 - 130)		
	0.076	**100**	**97.4**	pg/g	97	(84 - 130)	6.4	(0 - 25)
2,3,4,6,7,8-HxCDF	**ND**	**100**	**105**	pg/g	105 B	(70 - 156)		
	ND	**100**	**98.3**	pg/g	98 B	(70 - 156)	6.5	(0 - 25)
1,2,3,7,8,9-HxCDF	**ND**	**100**	**105**	pg/g	105	(78 - 130)		
	ND	**100**	**97.8**	pg/g	98	(78 - 130)	7.6	(0 - 25)
1,2,3,4,6,7,8-HpCDF	**0.11**	**100**	**95.9**	pg/g	96 B	(82 - 122)		
	0.11	**100**	**93.9**	pg/g	94 B	(82 - 122)	2.1	(0 - 25)
1,2,3,4,7,8,9-HpCDF	**0.020**	**100**	**102**	pg/g	102 B	(78 - 138)		
	0.020	**100**	**101**	pg/g	101 B	(78 - 138)	0.91	(0 - 25)
OCDF	**0.19**	**200**	**206**	pg/g	103 B	(63 - 170)		
	0.19	**200**	**201**	pg/g	100 B	(63 - 170)	2.5	(0 - 25)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190406	**Work Order # ...:**	M638X1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190406 - 013		M638X1AD-MSD		
Prep Date .....:	06/19/15	**Analysis Date ..:**	06/25/15		
Prep Batch # ...:	5170019				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	68	(25 - 164)
	57	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
	64	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	79	(23 - 140)
	62	(23 - 140)
13C-OCDD	68	(17 - 157)
	52	(17 - 157)
13C-2,3,7,8-TCDF	63	(24 - 169)
	56	(24 - 169)
13C-1,2,3,7,8-PeCDF	66	(24 - 185)
	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	73	(26 - 152)
	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	70	(26 - 123)
	62	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
	65	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
	59	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	76	(28 - 143)
	68	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	71	(26 - 138)
	55	(26 - 138)
13C-OCDF	62	(17 - 157)
	45	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	(35 - 197)
	66	(35 - 197)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190406	**Work Order # ...:**	M638X1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190406 - 013		M638X1AD-MSD		
Prep Date .....:	06/19/15	**Analysis Date ..:**	06/25/15		
Prep Batch # ...:	5170019				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

X See project narrative.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HST-190406

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-44661-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			Preservation Codes:
City: Knoxville	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-088 B-C (180-44661-1)	5/21/15	12:00 Eastern		Tissue			X	1	CUSTODY SEALS INTACT
AT5-088 B-C (180-44661-1MS)	5/21/15	12:00 Eastern	MS	Tissue			X	1	RECEIVED AT
AT5-088 B-C (180-44661-1MSD)	5/21/15	12:00 Eastern	MSD	Tissue			X	1	RT 0.4, 0.2, 0.2 / CT 0.4, 0.2, 0.2'C
AT5-088 C-C (180-44661-2)	5/21/15	12:00 Eastern		Tissue			X	1	DKD 6-19-15
AT5-088 D-C (180-44661-3)	5/21/15	12:00 Eastern		Tissue			X	1	3 COOLERS FEDEX
AT5-088 E-C (180-44661-4)	5/21/15	12:00 Eastern		Tissue			X	1	568237253968 m
AT5-089 A-C (180-44661-5)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-089 B-C (180-44661-6)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-089 C-C (180-44661-7)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-089 D-C (180-44661-8)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-089 E-C (180-44661-9)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/19/15			6-19-15 09:45	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

HSF190406

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-44661-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-090 A-C (180-44661-10)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-090 B-C (180-44661-11)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-090 C-C (180-44661-12)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-090 D-C (180-44661-13)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-090 D-C (180-44661-13MS)	5/21/15	12:00 Eastern	MS	Tissue			X	1	
AT5-090 D-C (180-44661-13MSD)	5/21/15	12:00 Eastern	MSD	Tissue			X	1	
AT5-090 E-C (180-44661-14)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-091 A-C (180-44661-15)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-091 B-C (180-44661-16)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-091 C-C (180-44661-17)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-091-D-C (180-44661-18)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification Unconfirmed	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/5/15			6-19-15 09:45	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

HSF190406

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc.				Job #: 180-44661-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-091 E-C (180-44661-19)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-092 A-C (180-44661-20)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-092 B-C (180-44661-21)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-092 C-C (180-44661-22)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-092 D-C (180-44661-23)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-092 E-C (180-44661-24)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	6/19/15			6-19-15 09:45	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSF190401e

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SCS7 Correction factor: 0.0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?			✓	☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: _____			✓	☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		✓		☐ **19a** Other

Comments/Actions Taken

Labeling Verified by: _____ **Date:** _____

pH test strip lot number: _____

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: _____ PM Instructions: _____

Sample Receiving Associate: _____ Date: 6-19-15

QA026R29.doc, 041115

Shipping and Receiving Documents

114661

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: **860.287.0745**		**phone: 412.963.2428**
			fax: 412.963.2468

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 5 of 6

180-44661 Chain of Custody

: Gamber

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-088B-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-088C-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-088D-C	1	X	
5/21/2015	1200	X		AT5-088E-C	1	X	
5/21/2015	1200	X		AT5-089A-C	1	X	
5/21/2015	1200	X		AT5-089B-C	1	X	
5/21/2015	1200	X		AT5-089C-C	1	X	
5/21/2015	1200	X		AT5-089D-C	1	X	
5/21/2015	1200	X		AT5-089E-C	1	X	
5/21/2015	1200	X		AT5-090A-C	1	X	
5/21/2015	1200	X		AT5-090B-C	1	X	
5/21/2015	1200	X		AT5-090C-C	1	X	
5/21/2015	1200	X		AT5-090D-C	1	X	
5/21/2015	1200	X		AT5-090E-C	1	X	
5/21/2015	1200	X		AT5-091A-C	1	X	
5/21/2015	1200	X		AT5-091B-C	1	X	
5/21/2015	1200	X		AT5-091C-C	1	X	
5/21/2015	1200	X		AT5-091D-C	1	X	

Sampled by: (Signature)	Date/Time 5/28/15 1600	Relinquished by: (Signature)	Date/Time	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time 5/28/15 1703	Received by Laboratory: (Signature)	Date/Time 5-29-15	

8150

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 6 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-091E-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-092A-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-092B-C	1	X	
5/21/2015	1200	X		AT5-092C-C	1	X	
5/21/2015	1200	X		AT5-092D-C	1	X	
5/21/2015	1200	X		AT5-092E-C	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600			**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1700	Debbie Watson	8:45 5-29-15 8:50	

114661

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: **860.287.0745**		**phone: 412.963.2428**
			fax: 412.963.2468

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 5 of 6

180-44661-01 Chain of Custody

Gamber

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-088B-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-088C-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-088D-C	1	X	
5/21/2015	1200	X		AT5-088E-C	1	X	
5/21/2015	1200	X		AT5-089A-C	1	X	
5/21/2015	1200	X		AT5-089B-C	1	X	
5/21/2015	1200	X		AT5-089C-C	1	X	
5/21/2015	1200	X		AT5-089D-C	1	X	
5/21/2015	1200	X		AT5-089E-C	1	X	
5/21/2015	1200	X		AT5-090A-C	1	X	
5/21/2015	1200	X		AT5-090B-C	1	X	
5/21/2015	1200	X		AT5-090C-C	1	X	
5/21/2015	1200	X		AT5-090D-C	1	X	
5/21/2015	1200	X		AT5-090E-C	1	X	
5/21/2015	1200	X		AT5-091A-C	1	X	
5/21/2015	1200	X		AT5-091B-C	1	X	
5/21/2015	1200	X		AT5-091C-C	1	X	
5/21/2015	1200	X		AT5-091D-C	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600			**Parallel Thimble**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	**Shoal Tunnel Tissue**
	5/28/15 1700		5-29-15	

8150

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 6 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-091E-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-092A-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-092B-C	1	X	
5/21/2015	1200	X		AT5-092C-C	1	X	
5/21/2015	1200	X		AT5-092D-C	1	X	
5/21/2015	1200	X		AT5-092E-C	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600			**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1700			

8:45
5-29-15
8:10

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		**phone: 412.963.2428**
	Phone: **860.287.0745**		**fax: 412.963.2468**
Project Name: Parallel Thimble Shoal Tunnel			**ATTN: Carrie Gamber**
Project#: **15204.01**			
Page 5 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-088B-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-088C-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-088D-C	1	X	
5/21/2015	1200	X		AT5-088E-C	1	X	
5/21/2015	1200	X		AT5-089A-C	1	X	
5/21/2015	1200	X		AT5-089B-C	1	X	
5/21/2015	1200	X		AT5-089C-C	1	X	
5/21/2015	1200	X		AT5-089D-C	1	X	
5/21/2015	1200	X		AT5-089E-C	1	X	
5/21/2015	1200	X		AT5-090A-C	1	X	
5/21/2015	1200	X		AT5-090B-C	1	X	
5/21/2015	1200	X		AT5-090C-C	1	X	
5/21/2015	1200	X		AT5-090D-C	1	X	
5/21/2015	1200	X		AT5-090E-C	1	X	
5/21/2015	1200	X		AT5-091A-C	1	X	
5/21/2015	1200	X		AT5-091B-C	1	X	
5/21/2015	1200	X		AT5-091C-C	1	X	
5/21/2015	1200	X		AT5-091D-C	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600		6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1703		6/1/15 1235	

1235
Mac Gillis

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		**phone: 412.963.2428**
	Phone: **860.287.0745**		**fax: 412.963.2468**
Project Name: Parallel Thimble Shoal Tunnel			**ATTN: Carrie Gamber**
Project#: **15204.01**			
Page 6 of 6			

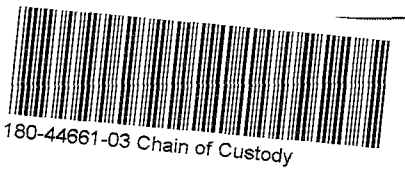
Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-091E-C	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-092A-C	1	X	**Derrick**
5/21/2015	1200	X		AT5-092B-C	1	X	
5/21/2015	1200	X		AT5-092C-C	1	X	
5/21/2015	1200	X		AT5-092D-C	1	X	
5/21/2015	1200	X		AT5-092E-C	1	X	

Sampled by: (Signature)	Date/Time 5/28/15 1600	Relinquished by: (Signature)	Date/Time 6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time 5/28/15 1700	Received by Laboratory: (Signature)	Date/Time 6/1/15 1230	

MAC 6/1/15 1235 6/1/15 MAC

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory:
	Phone: **410.329.5126**		**TestAmerica - Pittsburgh**
225 Schilling Circle	Project Contact:		**301 Alpha Drive**
Hunt Valley, MD 21031	**Morgan Gelinas**		**Pittsburgh, PA 15238**
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 5 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Moisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-088B-C	1	X	X	X		X	X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-088C-C	1	X	X	X		X	X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-088D-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-088E-C	1	X	X	X		X	X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
5/21/2015	1200	X		AT5-089A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-089B-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-089C-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-089D-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-089E-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-090A-C	1	X	X	X	X	X	X	X	X	
5/21/2015	1200	X		AT5-090B-C	1	X	X	X	X	X	X	X	X	
5/21/2015	1200	X		AT5-090C-C	1	X	X	X	X	X	X	X	X	
5/21/2015	1200	X		AT5-090D-C	1	X	X	X	X	X	X	X	X	
5/21/2015	1200	X		AT5-090E-C	1	X	X	X	X	X	X	X	X	
5/21/2015	1200	X		AT5-091A-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-091B-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-091C-C	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-091D-C	1	X	X	X		X	X	X	X	



Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
Karuta Corum	6/10/15 1530		6/13/15 0800	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	

Client:	Project Manager:
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**
	Phone: **410.329.5126**
225 Schilling Circle	Project Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: **860.287.0745**

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 6 of 6

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Moisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-091E-C	1	X	X	X		X	X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-092A-C	1	X	X		X	X	X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-092B-C	1	X	X		X	X	X	X	X	
5/21/2015	1200	X		AT5-092C-C	1	X	X		X	X	X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
5/21/2015	1200	X		AT5-092D-C	1	X	X		X	X	X	X	X	
5/21/2015	1200	X		AT5-092E-C	1	X	X		X	X	X	X	X	

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	**Parallel Thimble**
Sarita Corum	6/10/15 1530		6/12/15 0800	**Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

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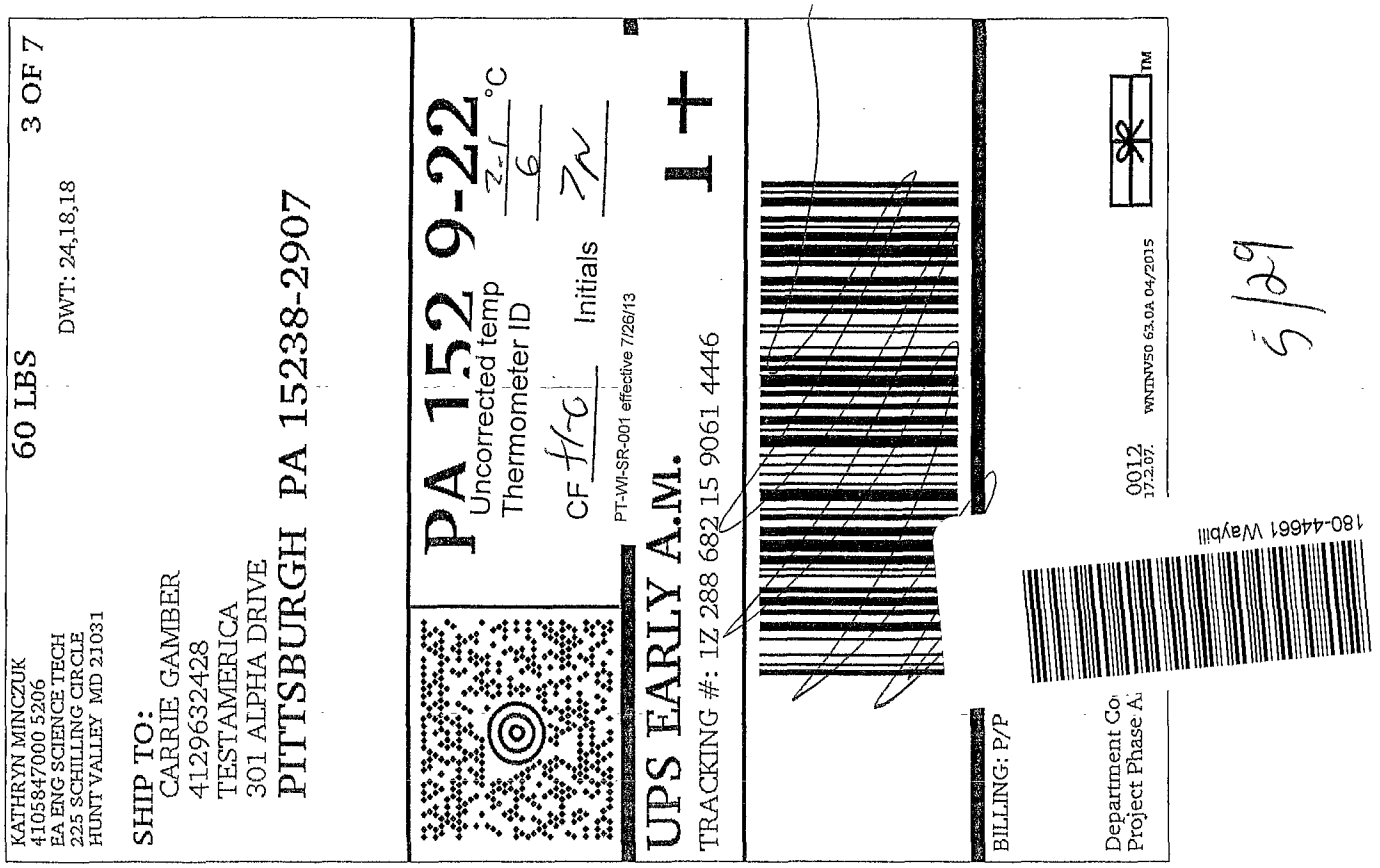

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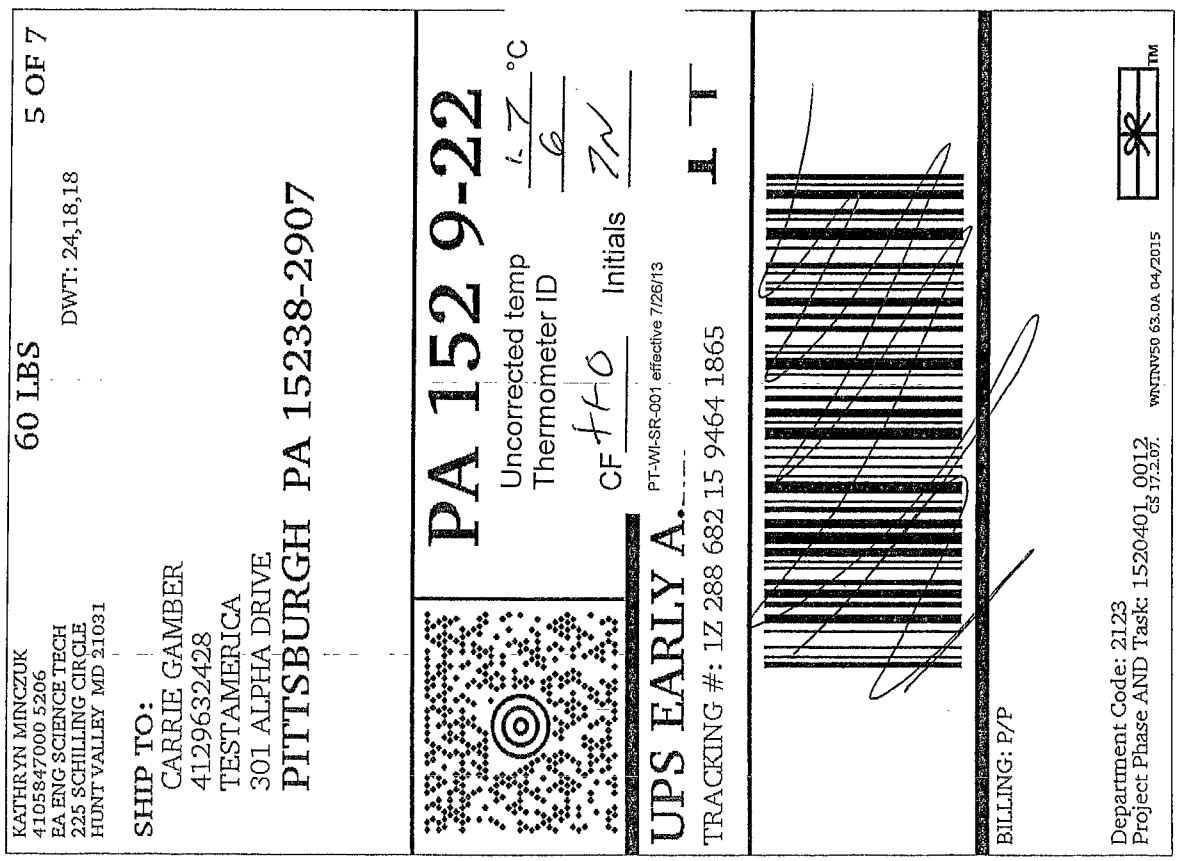

5/29

UPS CampusShip: View/Print Label

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   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

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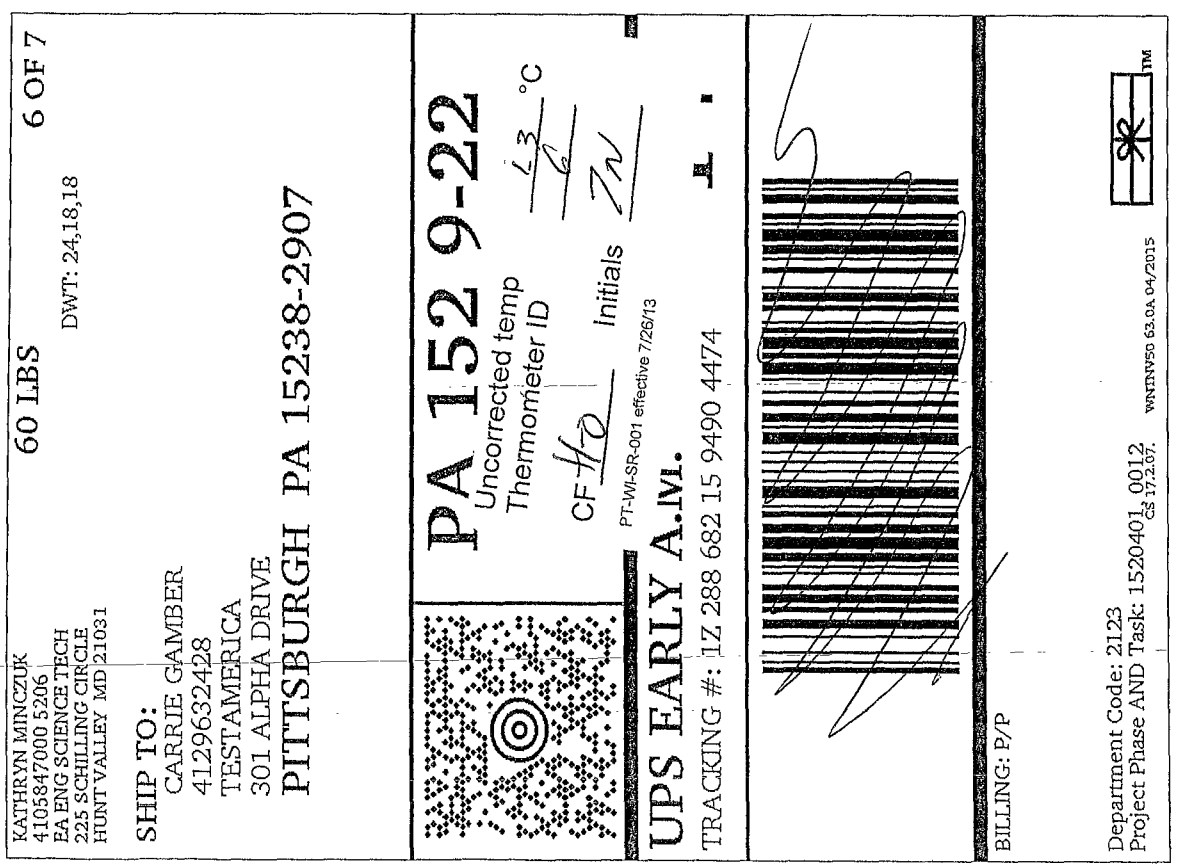

5/29

UPS CampusShip: View/Print Label

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   Your driver will pickup your shipment(s) as usual.

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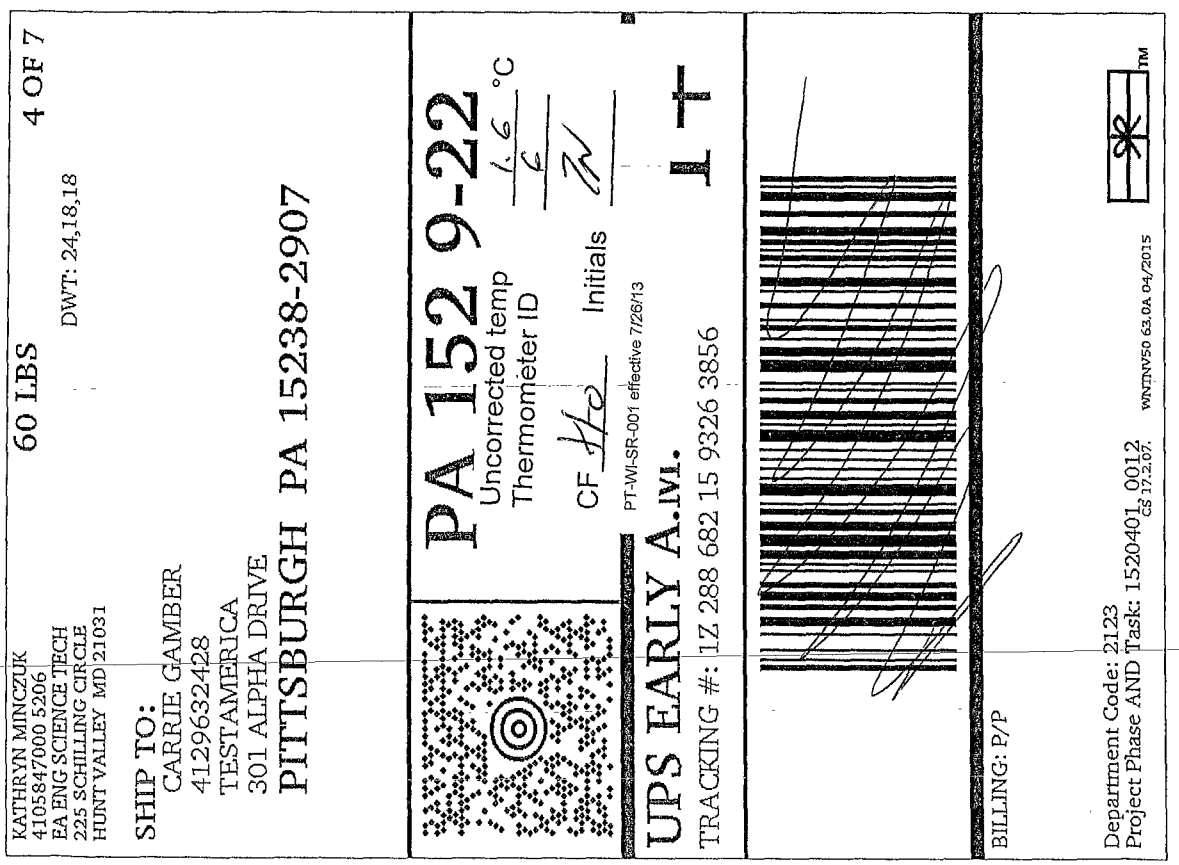

5/29

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   Your driver will pickup your shipment(s) as usual.

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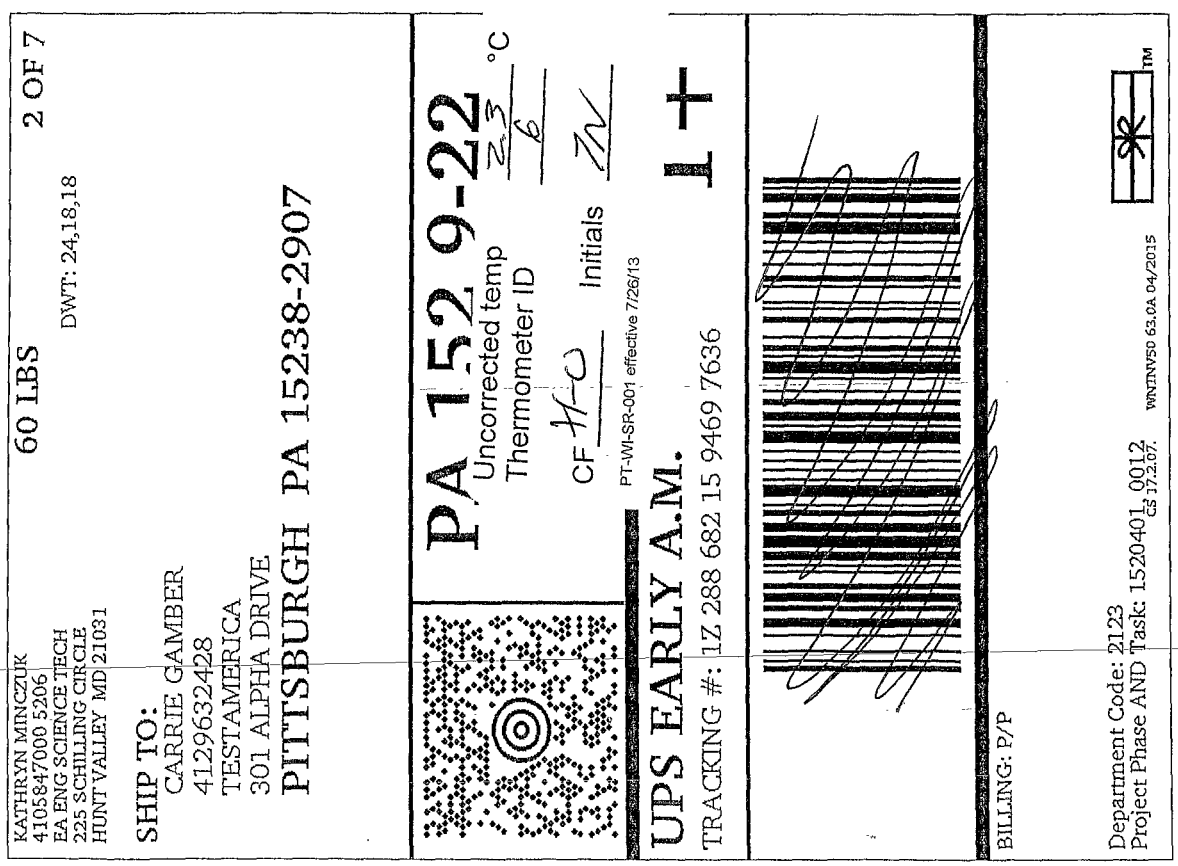


5/29

UPS CampusShip: View/Print Label

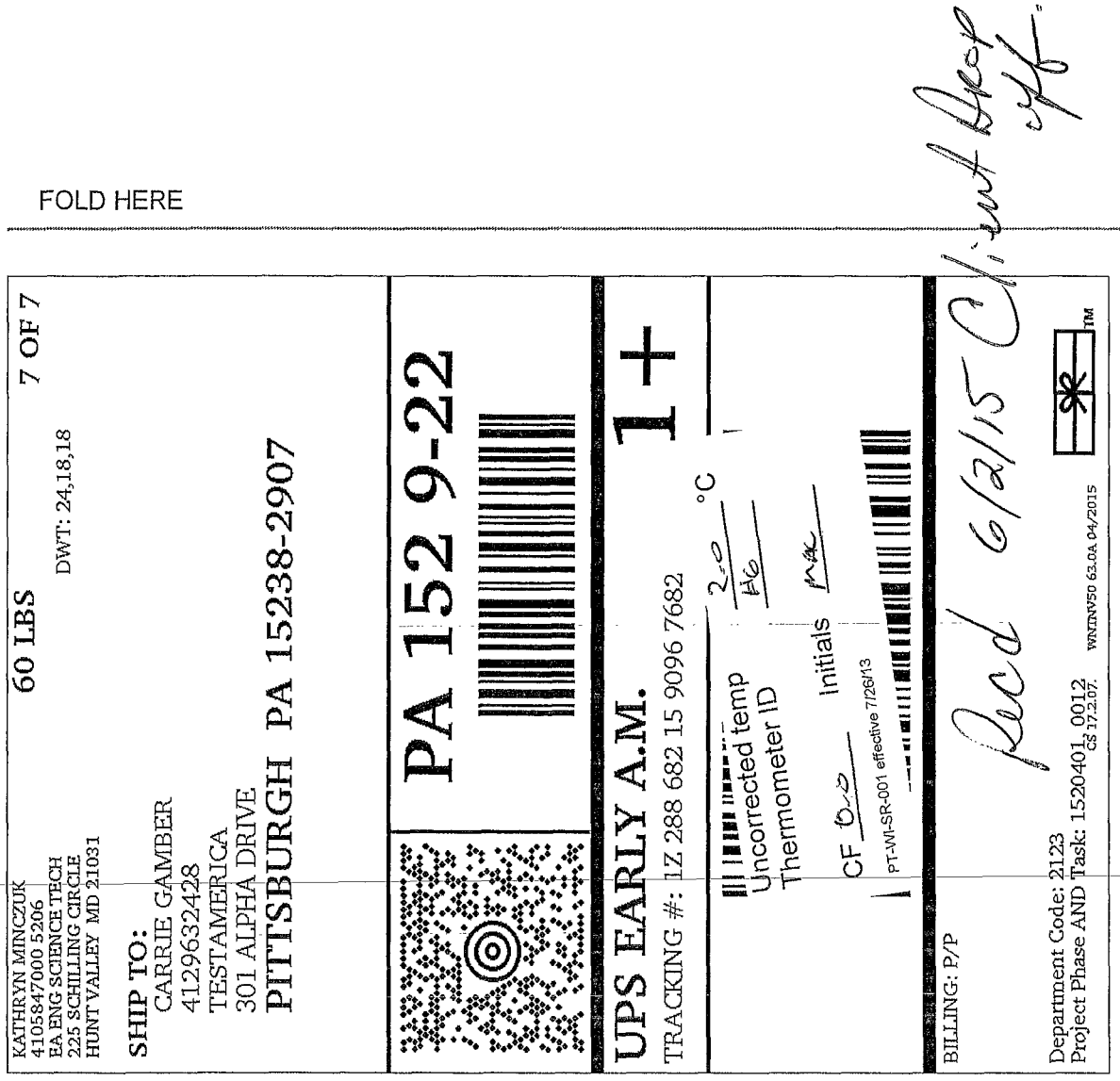
1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE



UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

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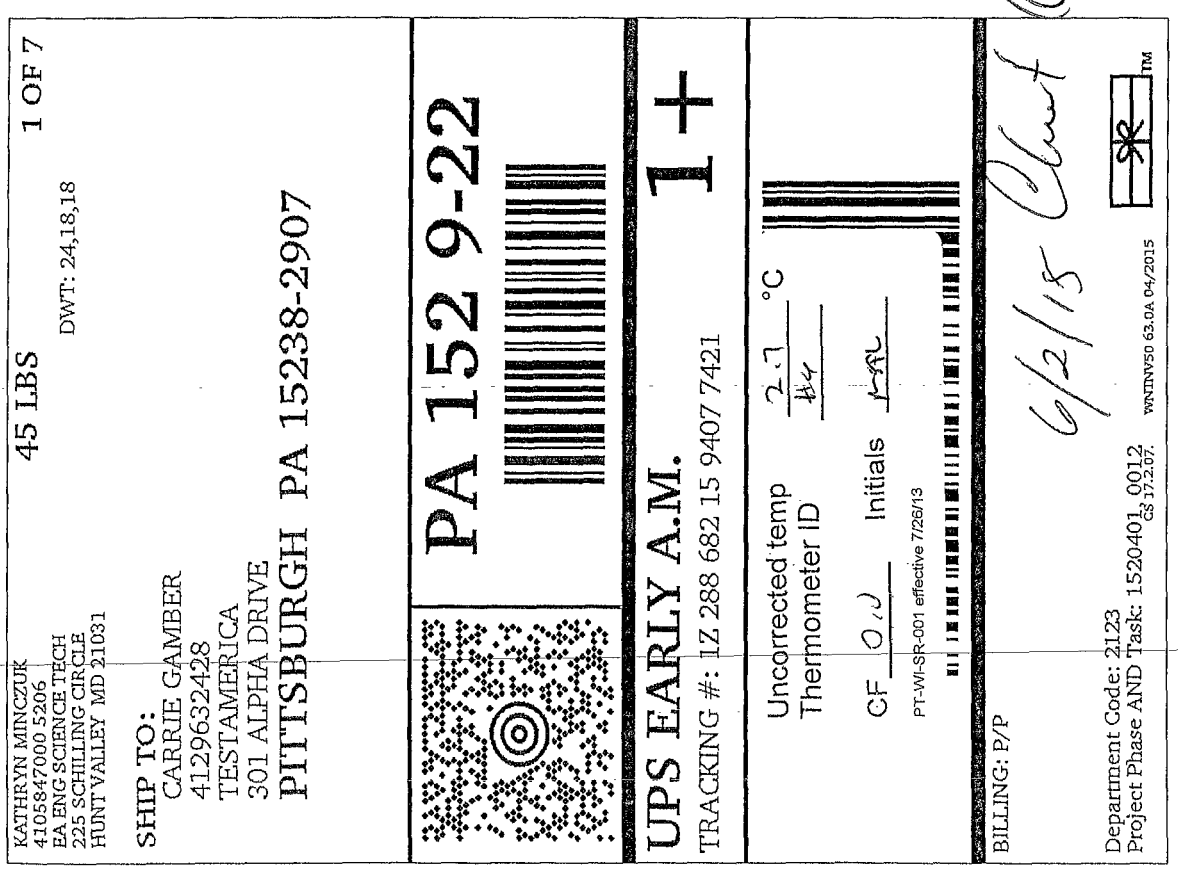
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

FOLD HERE



Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-44661-1

Login Number: 44661

List Source: TestAmerica Pittsburgh

List Number: 1

Creator: Kovitch, Christina M

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

WORM RESULTS

Accession #	Sample ID
AT5-073	Clam Control
AT5-074	Worm Control
AT5-075	TS-1-SED
AT5-076	TS-2ST-SED
AT5-077	TS-2SB-SED
AT5-078	TS-2MT-SED
AT5-079	TS-2NT-SED
AT5-080	TS-2NB-SED
AT5-081	TS-3ST-SED
AT5-082	TS-3SB-SED
AT5-083	TS-3NT-SED
AT5-084	TS-3NB-SED
AT5-085	TS-4ST-SED
AT5-086	TS-4SB-SED
AT5-087	TS-4MT-SED
AT5-088	TS-4NT-SED
AT5-089	TS-4NB-SED
AT5-090	WBREF-T-SED
AT5-091	WBREF-B-SED
AT5-092	OCREF-SED
AT5-093	TS-WAT
AT5-162	CBCON-SED

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-44665-2

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/10/2015 3:23 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/10/2015

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Subcontracted Data 9

Shipping and Receiving Documents 3103

- Client Chain of Custody 3104
- Sample Receipt Checklist 3115

Job Narrative
180-44665-2

Comments
No additional comments.

Receipt
The samples were received on 5/29/2015 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 7 coolers at receipt time were 1.3º C, 1.6º C, 1.7º C, 2.0º C, 2.1º C, 2.3º C and 2.7º C.

Subcontract Work
Method 1613 B Dioxins/Furans + TEQs (EA criteria: This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44665-2

Client Sample ID: AT5-074 A-W — **Lab Sample ID: 180-44665-1**

No Detections.

Client Sample ID: AT5-074 B-W — **Lab Sample ID: 180-44665-2**

No Detections.

Client Sample ID: AT5-074 C-W — **Lab Sample ID: 180-44665-3**

No Detections.

Client Sample ID: PRETESTA-W — **Lab Sample ID: 180-44665-4**

No Detections.

Client Sample ID: PRETESTB-W — **Lab Sample ID: 180-44665-5**

No Detections.

Client Sample ID: PRETESTC-W — **Lab Sample ID: 180-44665-6**

No Detections.

Client Sample ID: AT5-075 A-W — **Lab Sample ID: 180-44665-7**

No Detections.

Client Sample ID: AT5-075 B-W — **Lab Sample ID: 180-44665-8**

No Detections.

Client Sample ID: AT5-075 C-W — **Lab Sample ID: 180-44665-9**

No Detections.

Client Sample ID: AT5-075 D-W — **Lab Sample ID: 180-44665-10**

No Detections.

Client Sample ID: AT5-075 E-W — **Lab Sample ID: 180-44665-11**

No Detections.

Client Sample ID: AT5-076 A-W — **Lab Sample ID: 180-44665-12**

No Detections.

Client Sample ID: AT5-076 B-W — **Lab Sample ID: 180-44665-13**

No Detections.

Client Sample ID: AT5-076 C-W — **Lab Sample ID: 180-44665-14**

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44665-2

Client Sample ID: AT5-076 D-W — **Lab Sample ID: 180-44665-15**

No Detections.

Client Sample ID: AT5-076 E-W — **Lab Sample ID: 180-44665-16**

No Detections.

Client Sample ID: AT5-077 A-W — **Lab Sample ID: 180-44665-17**

No Detections.

Client Sample ID: AT5-077 B-W — **Lab Sample ID: 180-44665-18**

No Detections.

Client Sample ID: AT5-077 C-W — **Lab Sample ID: 180-44665-19**

No Detections.

Client Sample ID: AT5-077 D-W — **Lab Sample ID: 180-44665-20**

No Detections.

Client Sample ID: AT5-077 E-W — **Lab Sample ID: 180-44665-21**

No Detections.

Client Sample ID: AT5-078 A-W — **Lab Sample ID: 180-44665-22**

No Detections.

Client Sample ID: AT5-078 B-W — **Lab Sample ID: 180-44665-23**

No Detections.

Client Sample ID: AT5-078 C-W — **Lab Sample ID: 180-44665-24**

No Detections.

Client Sample ID: AT5-078 D-W — **Lab Sample ID: 180-44665-25**

No Detections.

Client Sample ID: AT5-078 E-W — **Lab Sample ID: 180-44665-26**

No Detections.

Client Sample ID: AT5-079 A-W — **Lab Sample ID: 180-44665-27**

No Detections.

Client Sample ID: AT5-079 B-W — **Lab Sample ID: 180-44665-28**

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44665-2

Client Sample ID: AT5-079 C-W — Lab Sample ID: 180-44665-29

No Detections.

Client Sample ID: AT5-079 D-W — Lab Sample ID: 180-44665-30

No Detections.

Client Sample ID: AT5-079 E-W — Lab Sample ID: 180-44665-31

No Detections.

Client Sample ID: AT5-080 A-W — Lab Sample ID: 180-44665-32

No Detections.

Client Sample ID: AT5-080 B-W — Lab Sample ID: 180-44665-33

No Detections.

Client Sample ID: AT5-080 C-W — Lab Sample ID: 180-44665-34

No Detections.

Client Sample ID: AT5-080 D-W — Lab Sample ID: 180-44665-35

No Detections.

Client Sample ID: AT5-080 E-W — Lab Sample ID: 180-44665-36

No Detections.

This Detection Summary does not include radiochemical test results.

Certification Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44665-2

Laboratory: TestAmerica Pittsburgh

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-16
California	State Program	9	2891	03-31-16
Connecticut	State Program	1	PH-0688	09-30-16
Florida	NELAP	4	E871008	06-30-16
Illinois	NELAP	5	002602	06-30-16
Kansas	NELAP	7	E-10350	07-31-15
Louisiana	NELAP	6	04041	06-30-16
New Hampshire	NELAP	1	203011	04-04-16
New Jersey	NELAP	2	PA005	09-30-15
New York	NELAP	2	11182	03-31-16
North Carolina (WW/SW)	State Program	4	434	12-31-15
Pennsylvania	NELAP	3	02-00416	04-30-16
South Carolina	State Program	4	89014	06-30-15 *
Texas	NELAP	6	T104704528	03-31-16
US Fish & Wildlife	Federal		LE94312A-1	11-30-15
USDA	Federal		P-Soil-01	05-23-16
Utah	NELAP	8	STLP	05-31-16
Virginia	NELAP	3	460189	09-14-15
West Virginia DEP	State Program	3	142	01-31-16
Wisconsin	State Program	5	998027800	08-31-15

* Certification renewal pending - certification considered valid.

Sample Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44665-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-44665-1	AT5-074 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-2	AT5-074 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-3	AT5-074 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-4	PRETESTA-W	Tissue	04/22/15 12:00	05/29/15 08:50
180-44665-5	PRETESTB-W	Tissue	04/22/15 12:00	05/29/15 08:50
180-44665-6	PRETESTC-W	Tissue	04/22/15 12:00	05/29/15 08:50
180-44665-7	AT5-075 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-8	AT5-075 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-9	AT5-075 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-10	AT5-075 D-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-11	AT5-075 E-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-12	AT5-076 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-13	AT5-076 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-14	AT5-076 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-15	AT5-076 D-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-16	AT5-076 E-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-17	AT5-077 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-18	AT5-077 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-19	AT5-077 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-20	AT5-077 D-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-21	AT5-077 E-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-22	AT5-078 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-23	AT5-078 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-24	AT5-078 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-25	AT5-078 D-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-26	AT5-078 E-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-27	AT5-079 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-28	AT5-079 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-29	AT5-079 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-30	AT5-079 D-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-31	AT5-079 E-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-32	AT5-080 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-33	AT5-080 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-34	AT5-080 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-35	AT5-080 D-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44665-36	AT5-080 E-W	Tissue	05/21/15 12:00	05/29/15 08:50

H5F190410 Analytical Report 1

Sample Receipt Documentation 107

Trace Level Organics 113
Raw Sample Data 114
Standards Data 1660
Initial Calibration 140516iepa.pdf 1661
Continuing Calibration 150629s2.pdf 1918
Continuing Calibration 150630s2.pdf 1999
Continuing Calibration 150630s3.pdf 2078
Continuing Calibration 150706s1.pdf 2160
Continuing Calibration 150706s2.pdf 2240
Continuing Calibration 150707s1.pdf 2320
Continuing Calibration 150707s2.pdf 2400
Continuing Calibration 150708s1.pdf 2479
Raw QC Data 2559
Miscellaneous Data 3067

Sample Receipt Documentation 3087

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-44665-2

CBBT Thimble Shoal

Lot #: H5F190410

Carrie Gamber

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.

Bruce Wagner
Project Manager

July 9, 2015

ANALYTICAL METHODS SUMMARY

H5F190410

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

SAMPLE SUMMARY

H5F190410

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M64CQ	001	AT5-074 A-W	05/21/15	12:00
M64CR	002	AT5-074 B-W	05/21/15	12:00
M64CT	003	AT5-074 C-W	05/21/15	12:00
M64CV	004	PRETEST A-W	04/22/15	12:00
M64CW	005	PRETEST B-W	04/22/15	12:00
M64CX	006	PRETEST C-W	04/22/15	12:00
M64C0	007	AT5-075 A-W	05/21/15	12:00
M64C1	008	AT5-075 B-W	05/21/15	12:00
M64C2	009	AT5-075 C-W	05/21/15	12:00
M64C3	010	AT5-075 D-W	05/21/15	12:00
M64C4	011	AT5-075 E-W	05/21/15	12:00
M64C5	012	AT5-076 A-W	05/21/15	12:00
M64C6	013	AT5-076 B-W	05/21/15	12:00
M64C7	014	AT5-076 C-W	05/21/15	12:00
M64C8	015	AT5-076 D-W	05/21/15	12:00
M64C9	016	AT5-076 E-W	05/21/15	12:00
M64DA	017	AT5-077 A-W	05/21/15	12:00
M64DC	018	AT5-077 B-W	05/21/15	12:00
M64DD	019	AT5-077 C-W	05/21/15	12:00
M64DE	020	AT5-077 D-W	05/21/15	12:00
M64DF	021	AT5-077 E-W	05/21/15	12:00
M64DG	022	AT5-078 A-W	05/21/15	12:00
M64DH	023	AT5-078 B-W	05/21/15	12:00
M64DJ	024	AT5-078 C-W	05/21/15	12:00
M64DK	025	AT5-078 D-W	05/21/15	12:00
M64DL	026	AT5-078 E-W	05/21/15	12:00
M64DM	027	AT5-079 A-W	05/21/15	12:00
M64DN	028	AT5-079 B-W	05/21/15	12:00
M64DP	029	AT5-079 C-W	05/21/15	12:00
M64DQ	030	AT5-079 D-W	05/21/15	12:00
M64DR	031	AT5-079 E-W	05/21/15	12:00
M64DT	032	AT5-080 A-W	05/21/15	12:00
M64DV	033	AT5-080 B-W	05/21/15	12:00
M64DW	034	AT5-080 C-W	05/21/15	12:00
M64DX	035	AT5-080 D-W	05/21/15	12:00
M64D0	036	AT5-080 E-W	05/21/15	12:00

(Continued on next page)

SAMPLE SUMMARY

H5F190410

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H5F190410

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

All 2378-TCDF results which met all qualitative requirements and were reported from the Rtx-5 column are qualified with an "X". This was done to indicate that the Rtx-5 column is not isomer specific for 2378-TCDF.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

PROJECT NARRATIVE
H5F190410

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

PROJECT NARRATIVE
H5F190410

Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration

PROJECT NARRATIVE
H5F190410

W = amount of sample extracted (grams or liters)
S = percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: AT5-074 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 001	**Work Order #....:**	M64CQ1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/23/15			**Dilution Factor:**	1
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	9.6 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**6/30/15**	**1**	**0.16 J**	**1.0**	**0.050**	**1.0**	**0.16**
1,2,3,7,8-PeCDD	**6/30/15**	**1**	**0.10 Q B J**	**5.2**	**0.017**	**0.5**	**0.050**
1,2,3,4,7,8-HxCDD	**6/30/15**	**1**	**0.083 Q J**	**5.2**	**0.016**	**0.1**	**0.0083**
1,2,3,6,7,8-HxCDD	**6/30/15**	**1**	**0.059 Q J**	**5.2**	**0.017**	**0.1**	**0.0059**
1,2,3,7,8,9-HxCDD	**6/30/15**	**1**	**0.069 Q J**	**5.2**	**0.016**	**0.1**	**0.0069**
1,2,3,4,6,7,8-HpCDD	**6/30/15**	**1**	**1.1 Q J**	**5.2**	**0.016**	**0.01**	**0.011**
OCDD	**6/30/15**	**1**	**13 B**	**10**	**0.0096**	**0.001**	**0.013**
2,3,7,8-TCDF	**6/30/15**	**1**	**0.75 J**	**1.0**	**0.023**	**0.1**	**0.075**
1,2,3,7,8-PeCDF	**6/30/15**	**1**	**0.13 Q B J**	**5.2**	**0.027**	**0.05**	**0.0065**
2,3,4,7,8-PeCDF	**6/30/15**	**1**	**0.24 J**	**5.2**	**0.025**	**0.5**	**0.12**
1,2,3,4,7,8-HxCDF	6/30/15	1	ND	5.2	0.016	0.1	0.0016
1,2,3,6,7,8-HxCDF	**6/30/15**	**1**	**0.50 Q B J**	**5.2**	**0.014**	**0.1**	**0.050**
2,3,4,6,7,8-HxCDF	6/30/15	1	ND	5.2	0.016	0.1	0.0016
1,2,3,7,8,9-HxCDF	6/30/15	1	ND	5.2	0.020	0.1	0.0020
1,2,3,4,6,7,8-HpCDF	**6/30/15**	**1**	**0.36 Q B J**	**5.2**	**0.0062**	**0.01**	**0.0036**
1,2,3,4,7,8,9-HpCDF	6/30/15	1	ND	5.2	0.0099	0.01	0.000099
OCDF	**6/30/15**	**1**	**0.21 B Q J**	**10**	**0.010**	**0.001**	**0.00021**
Total TEQ Concentration							**0.52**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	55	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	76	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	70	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	67	(23 - 140)
13C-OCDD	40	(17 - 157)
13C-2,3,7,8-TCDF	71	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	73	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	69	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	66	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	58	(26 - 138)
13C-OCDF	35	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-074 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	86	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-074 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 002	**Work Order #....:**	M64CR1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/23/15			**Dilution Factor:**	1
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	9.6 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**6/30/15**	**1**	**0.046 Q J**	**1.0**	**0.050**	**1.0**	**0.046**
1,2,3,7,8-PeCDD	**6/30/15**	**1**	**0.034 Q B J**	**5.2**	**0.017**	**0.5**	**0.017**
1,2,3,4,7,8-HxCDD	**6/30/15**	**1**	**0.050 Q J**	**5.2**	**0.014**	**0.1**	**0.0050**
1,2,3,6,7,8-HxCDD	**6/30/15**	**1**	**0.097 Q J**	**5.2**	**0.015**	**0.1**	**0.0097**
1,2,3,7,8,9-HxCDD	**6/30/15**	**1**	**0.10 Q J**	**5.2**	**0.014**	**0.1**	**0.010**
1,2,3,4,6,7,8-HpCDD	**6/30/15**	**1**	**0.94 J**	**5.2**	**0.019**	**0.01**	**0.0094**
OCDD	**6/30/15**	**1**	**14 B**	**10**	**0.023**	**0.001**	**0.014**
2,3,7,8-TCDF	**6/30/15**	**1**	**0.45 J**	**1.0**	**0.017**	**0.1**	**0.045**
1,2,3,7,8-PeCDF	**6/30/15**	**1**	**0.053 Q B J**	**5.2**	**0.016**	**0.05**	**0.0026**
2,3,4,7,8-PeCDF	**6/30/15**	**1**	**0.16 Q J**	**5.2**	**0.016**	**0.5**	**0.080**
1,2,3,4,7,8-HxCDF	**6/30/15**	**1**	**0.064 J**	**5.2**	**0.0093**	**0.1**	**0.0064**
1,2,3,6,7,8-HxCDF	**6/30/15**	**1**	**0.42 Q B J**	**5.2**	**0.0094**	**0.1**	**0.042**
2,3,4,6,7,8-HxCDF	**6/30/15**	**1**	**0.062 Q B J**	**5.2**	**0.010**	**0.1**	**0.0062**
1,2,3,7,8,9-HxCDF	6/30/15	1	ND	5.2	0.013	0.1	0.0013
1,2,3,4,6,7,8-HpCDF	**6/30/15**	**1**	**0.13 Q B J**	**5.2**	**0.0099**	**0.01**	**0.0013**
1,2,3,4,7,8,9-HpCDF	**6/30/15**	**1**	**0.016 Q J**	**5.2**	**0.015**	**0.01**	**0.00016**
OCDF	**6/30/15**	**1**	**0.41 Q B J**	**10**	**0.012**	**0.001**	**0.00041**
Total TEQ Concentration							**0.30**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	65	(25 - 164)
13C-1,2,3,7,8-PeCDD	56	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	65	(23 - 140)
13C-OCDD	36	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	70	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	65	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	58	(26 - 138)
13C-OCDF	35	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-074 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	79	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-074 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 003	**Work Order #....:**	M64CT1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/23/15			**Dilution Factor:**	1
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	9.7 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/30/15	1	ND	1.0	0.056	1.0	0.056
1,2,3,7,8-PeCDD	**6/30/15**	**1**	**0.20 B J**	**5.2**	**0.021**	**0.5**	**0.10**
1,2,3,4,7,8-HxCDD	**6/30/15**	**1**	**0.14 J**	**5.2**	**0.018**	**0.1**	**0.014**
1,2,3,6,7,8-HxCDD	**6/30/15**	**1**	**0.23 Q J**	**5.2**	**0.019**	**0.1**	**0.023**
1,2,3,7,8,9-HxCDD	**6/30/15**	**1**	**0.23 J**	**5.2**	**0.018**	**0.1**	**0.023**
1,2,3,4,6,7,8-HpCDD	**6/30/15**	**1**	**6.0**	**5.2**	**0.026**	**0.01**	**0.060**
OCDD	**6/30/15**	**1**	**66 B**	**10**	**0.034**	**0.001**	**0.066**
2,3,7,8-TCDF	**6/30/15**	**1**	**0.71 J**	**1.0**	**0.013**	**0.1**	**0.071**
1,2,3,7,8-PeCDF	6/30/15	1	ND	5.2	0.023	0.05	0.0012
2,3,4,7,8-PeCDF	**6/30/15**	**1**	**0.12 Q J**	**5.2**	**0.024**	**0.5**	**0.060**
1,2,3,4,7,8-HxCDF	**6/30/15**	**1**	**0.12 Q J**	**5.2**	**0.012**	**0.1**	**0.012**
1,2,3,6,7,8-HxCDF	**6/30/15**	**1**	**0.58 Q B J**	**5.2**	**0.011**	**0.1**	**0.058**
2,3,4,6,7,8-HxCDF	**6/30/15**	**1**	**0.12 B J**	**5.2**	**0.012**	**0.1**	**0.012**
1,2,3,7,8,9-HxCDF	6/30/15	1	ND	5.2	0.016	0.1	0.0016
1,2,3,4,6,7,8-HpCDF	**6/30/15**	**1**	**0.55 B J**	**5.2**	**0.0065**	**0.01**	**0.0055**
1,2,3,4,7,8,9-HpCDF	6/30/15	1	ND	5.2	0.014	0.01	0.00014
OCDF	**6/30/15**	**1**	**0.18 Q B J**	**10**	**0.019**	**0.001**	**0.00018**
Total TEQ Concentration							**0.56**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	57	(25 - 164)
13C-1,2,3,7,8-PeCDD	48	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	63	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	66	(23 - 140)
13C-OCDD	35	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	59	(24 - 185)
13C-2,3,4,7,8-PeCDF	57	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	69	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	60	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	77	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	48	(26 - 138)
13C-OCDF	22	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-074 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	78	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: PRETEST A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 004	**Work Order #....:**	M64CV1AA	**Matrix.....:**	TA
Date Sampled....:	04/22/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/23/15			**Dilution Factor:**	1
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	9.6 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/30/15	1	ND	1.0	0.051	1.0	0.051
1,2,3,7,8-PeCDD	**6/30/15**	**1**	**0.060 Q B J**	**5.2**	**0.017**	**0.5**	**0.030**
1,2,3,4,7,8-HxCDD	**6/30/15**	**1**	**0.025 Q J**	**5.2**	**0.0092**	**0.1**	**0.0025**
1,2,3,6,7,8-HxCDD	6/30/15	1	ND	5.2	0.0091	0.1	0.00091
1,2,3,7,8,9-HxCDD	**6/30/15**	**1**	**0.067 Q J**	**5.2**	**0.0087**	**0.1**	**0.0067**
1,2,3,4,6,7,8-HpCDD	**6/30/15**	**1**	**0.88 Q J**	**5.2**	**0.017**	**0.01**	**0.0088**
OCDD	**6/30/15**	**1**	**5.5 B J**	**10**	**0.015**	**0.001**	**0.0055**
2,3,7,8-TCDF	**6/30/15**	**1**	**0.60 J**	**1.0**	**0.020**	**0.1**	**0.060**
1,2,3,7,8-PeCDF	**6/30/15**	**1**	**0.089 B J**	**5.2**	**0.019**	**0.05**	**0.0044**
2,3,4,7,8-PeCDF	**6/30/15**	**1**	**0.092 J**	**5.2**	**0.019**	**0.5**	**0.046**
1,2,3,4,7,8-HxCDF	**6/30/15**	**1**	**0.12 Q J**	**5.2**	**0.010**	**0.1**	**0.012**
1,2,3,6,7,8-HxCDF	**6/30/15**	**1**	**0.34 Q B J**	**5.2**	**0.010**	**0.1**	**0.034**
2,3,4,6,7,8-HxCDF	6/30/15	1	ND	5.2	0.011	0.1	0.0011
1,2,3,7,8,9-HxCDF	6/30/15	1	ND	5.2	0.015	0.1	0.0015
1,2,3,4,6,7,8-HpCDF	**6/30/15**	**1**	**0.31 Q B J**	**5.2**	**0.0055**	**0.01**	**0.0031**
1,2,3,4,7,8,9-HpCDF	6/30/15	1	ND	5.2	0.0085	0.01	0.000085
OCDF	**6/30/15**	**1**	**0.29 Q B J**	**10**	**0.0094**	**0.001**	**0.00029**
Total TEQ Concentration							**0.27**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	60	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	64	(23 - 140)
13C-OCDD	38	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	66	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	66	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	61	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	62	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	56	(26 - 138)
13C-OCDF	34	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: PRETEST A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	82	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: PRETEST B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 005	**Work Order #....:**	M64CW1AA	**Matrix.....:**	TA
Date Sampled....:	04/22/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/23/15			**Dilution Factor:**	1
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	9.8 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/30/15	1	ND	1.0	0.055	1.0	0.055
1,2,3,7,8-PeCDD	**6/30/15**	**1**	**0.097 Q B J**	**5.1**	**0.016**	**0.5**	**0.048**
1,2,3,4,7,8-HxCDD	**6/30/15**	**1**	**0.088 J**	**5.1**	**0.013**	**0.1**	**0.0088**
1,2,3,6,7,8-HxCDD	**6/30/15**	**1**	**0.11 Q J**	**5.1**	**0.013**	**0.1**	**0.011**
1,2,3,7,8,9-HxCDD	**6/30/15**	**1**	**0.099 Q J**	**5.1**	**0.012**	**0.1**	**0.0099**
1,2,3,4,6,7,8-HpCDD	**6/30/15**	**1**	**1.2 J**	**5.1**	**0.018**	**0.01**	**0.012**
OCDD	**6/30/15**	**1**	**6.2 B J**	**10**	**0.0086**	**0.001**	**0.0062**
2,3,7,8-TCDF	**6/30/15**	**1**	**0.90 Q J**	**1.0**	**0.027**	**0.1**	**0.090**
1,2,3,7,8-PeCDF	**6/30/15**	**1**	**0.090 Q B J**	**5.1**	**0.024**	**0.05**	**0.0045**
2,3,4,7,8-PeCDF	**6/30/15**	**1**	**0.30 J**	**5.1**	**0.023**	**0.5**	**0.15**
1,2,3,4,7,8-HxCDF	**6/30/15**	**1**	**0.20 Q J**	**5.1**	**0.011**	**0.1**	**0.020**
1,2,3,6,7,8-HxCDF	**6/30/15**	**1**	**0.51 Q B J**	**5.1**	**0.010**	**0.1**	**0.051**
2,3,4,6,7,8-HxCDF	**6/30/15**	**1**	**0.088 Q B J**	**5.1**	**0.011**	**0.1**	**0.0088**
1,2,3,7,8,9-HxCDF	6/30/15	1	ND	5.1	0.013	0.1	0.0013
1,2,3,4,6,7,8-HpCDF	**6/30/15**	**1**	**0.38 Q B J**	**5.1**	**0.0089**	**0.01**	**0.0038**
1,2,3,4,7,8,9-HpCDF	6/30/15	1	ND	5.1	0.014	0.01	0.00014
OCDF	**6/30/15**	**1**	**0.48 B Q J**	**10**	**0.0042**	**0.001**	**0.00048**
Total TEQ Concentration							**0.48**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	57	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	61	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	63	(23 - 140)
13C-OCDD	38	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	60	(24 - 185)
13C-2,3,4,7,8-PeCDF	61	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	61	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	57	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	63	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	58	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	57	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	50	(26 - 138)
13C-OCDF	33	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: PRETEST B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	75	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: PRETEST C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 006	**Work Order #....:**	M64CX1AA	**Matrix.....:**	TA
Date Sampled....:	04/22/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/24/15			**Dilution Factor:**	1
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	9.7 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**7/8/15**	**1**	**0.10 Q J**	**1.0**	**0.066**	**1.0**	**0.10**
1,2,3,7,8-PeCDD	**7/8/15**	**1**	**0.11 Q B J**	**5.2**	**0.025**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDD	**7/8/15**	**1**	**0.088 B J**	**5.2**	**0.013**	**0.1**	**0.0088**
1,2,3,6,7,8-HxCDD	**7/8/15**	**1**	**0.13 Q J**	**5.2**	**0.014**	**0.1**	**0.013**
1,2,3,7,8,9-HxCDD	**7/8/15**	**1**	**0.051 Q B J**	**5.2**	**0.013**	**0.1**	**0.0051**
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.81 Q B J**	**5.2**	**0.019**	**0.01**	**0.0081**
OCDD	**7/8/15**	**1**	**4.6 B J**	**10**	**0.014**	**0.001**	**0.0046**
2,3,7,8-TCDF	**7/8/15**	**1**	**0.68 Q J**	**1.0**	**0.033**	**0.1**	**0.068**
1,2,3,7,8-PeCDF	**7/8/15**	**1**	**0.068 Q B J**	**5.2**	**0.023**	**0.05**	**0.0034**
2,3,4,7,8-PeCDF	**7/8/15**	**1**	**0.17 Q B J**	**5.2**	**0.021**	**0.5**	**0.085**
1,2,3,4,7,8-HxCDF	**7/8/15**	**1**	**0.21 Q J**	**5.2**	**0.012**	**0.1**	**0.021**
1,2,3,6,7,8-HxCDF	**7/8/15**	**1**	**0.76 Q B J**	**5.2**	**0.011**	**0.1**	**0.076**
2,3,4,6,7,8-HxCDF	**7/8/15**	**1**	**0.11 B J**	**5.2**	**0.012**	**0.1**	**0.011**
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.2	0.015	0.1	0.0015
1,2,3,4,6,7,8-HpCDF	**7/8/15**	**1**	**0.37 B J**	**5.2**	**0.0089**	**0.01**	**0.0037**
1,2,3,4,7,8,9-HpCDF	**7/8/15**	**1**	**0.048 B J**	**5.2**	**0.013**	**0.01**	**0.00048**
OCDF	**7/8/15**	**1**	**0.42 Q B J**	**10**	**0.0031**	**0.001**	**0.00042**
Total TEQ Concentration							**0.47**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	70	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	76	(23 - 140)
13C-OCDD	68	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	69	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	72	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	66	(26 - 138)
13C-OCDF	56	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: PRETEST C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	86	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-075 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 007	**Work Order #....:**	M64C01AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/23/15			**Dilution Factor:**	1
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	9.7 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/30/15	1	ND	1.0	0.052	1.0	0.052
1,2,3,7,8-PeCDD	**6/30/15**	**1**	**0.082 Q B J**	**5.2**	**0.012**	**0.5**	**0.041**
1,2,3,4,7,8-HxCDD	**6/30/15**	**1**	**0.034 Q J**	**5.2**	**0.012**	**0.1**	**0.0034**
1,2,3,6,7,8-HxCDD	**6/30/15**	**1**	**0.12 Q J**	**5.2**	**0.013**	**0.1**	**0.012**
1,2,3,7,8,9-HxCDD	**6/30/15**	**1**	**0.099 J**	**5.2**	**0.012**	**0.1**	**0.0099**
1,2,3,4,6,7,8-HpCDD	**6/30/15**	**1**	**0.66 J**	**5.2**	**0.0095**	**0.01**	**0.0066**
OCDD	**6/30/15**	**1**	**4.0 B J**	**10**	**0.0091**	**0.001**	**0.0040**
2,3,7,8-TCDF	**6/30/15**	**1**	**0.20 Q J**	**1.0**	**0.012**	**0.1**	**0.020**
1,2,3,7,8-PeCDF	**6/30/15**	**1**	**0.043 B J**	**5.2**	**0.013**	**0.05**	**0.0022**
2,3,4,7,8-PeCDF	**6/30/15**	**1**	**0.14 J**	**5.2**	**0.014**	**0.5**	**0.070**
1,2,3,4,7,8-HxCDF	**6/30/15**	**1**	**0.055 Q J**	**5.2**	**0.011**	**0.1**	**0.0055**
1,2,3,6,7,8-HxCDF	**6/30/15**	**1**	**0.41 Q B J**	**5.2**	**0.010**	**0.1**	**0.041**
2,3,4,6,7,8-HxCDF	**6/30/15**	**1**	**0.084 Q B J**	**5.2**	**0.011**	**0.1**	**0.0084**
1,2,3,7,8,9-HxCDF	6/30/15	1	ND	5.2	0.014	0.1	0.0014
1,2,3,4,6,7,8-HpCDF	**6/30/15**	**1**	**0.075 Q B J**	**5.2**	**0.0050**	**0.01**	**0.00075**
1,2,3,4,7,8,9-HpCDF	**6/30/15**	**1**	**0.021 Q J**	**5.2**	**0.0077**	**0.01**	**0.00021**
OCDF	**6/30/15**	**1**	**0.087 Q B J**	**10**	**0.0051**	**0.001**	**0.000087**
Total TEQ Concentration							**0.28**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	57	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	63	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	65	(23 - 140)
13C-OCDD	40	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	65	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	62	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	64	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	61	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	61	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	57	(26 - 138)
13C-OCDF	37	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-075 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	75	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-075 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 008	**Work Order #....:**	M64C11AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/23/15			**Dilution Factor:**	1
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	9.7 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**6/30/15**	**1**	**0.033 Q J**	**1.0**	**0.048**	**1.0**	**0.033**
1,2,3,7,8-PeCDD	**6/30/15**	**1**	**0.19 Q B J**	**5.2**	**0.016**	**0.5**	**0.095**
1,2,3,4,7,8-HxCDD	6/30/15	1	ND	5.2	0.0094	0.1	0.00094
1,2,3,6,7,8-HxCDD	**6/30/15**	**1**	**0.20 Q J**	**5.2**	**0.0094**	**0.1**	**0.020**
1,2,3,7,8,9-HxCDD	**6/30/15**	**1**	**0.14 J**	**5.2**	**0.0089**	**0.1**	**0.014**
1,2,3,4,6,7,8-HpCDD	**6/30/15**	**1**	**1.9 J**	**5.2**	**0.012**	**0.01**	**0.019**
OCDD	**6/30/15**	**1**	**15 B**	**10**	**0.011**	**0.001**	**0.015**
2,3,7,8-TCDF	**6/30/15**	**1**	**1.0 Q J**	**1.0**	**0.024**	**0.1**	**0.10**
1,2,3,7,8-PeCDF	**6/30/15**	**1**	**0.17 B J**	**5.2**	**0.018**	**0.05**	**0.0085**
2,3,4,7,8-PeCDF	**6/30/15**	**1**	**0.20 Q J**	**5.2**	**0.016**	**0.5**	**0.10**
1,2,3,4,7,8-HxCDF	**6/30/15**	**1**	**0.051 Q J**	**5.2**	**0.0096**	**0.1**	**0.0051**
1,2,3,6,7,8-HxCDF	**6/30/15**	**1**	**0.46 Q B J**	**5.2**	**0.0094**	**0.1**	**0.046**
2,3,4,6,7,8-HxCDF	**6/30/15**	**1**	**0.059 Q B J**	**5.2**	**0.0097**	**0.1**	**0.0059**
1,2,3,7,8,9-HxCDF	6/30/15	1	ND	5.2	0.013	0.1	0.0013
1,2,3,4,6,7,8-HpCDF	**6/30/15**	**1**	**0.46 B J**	**5.2**	**0.0039**	**0.01**	**0.0046**
1,2,3,4,7,8,9-HpCDF	**6/30/15**	**1**	**0.010 Q J**	**5.2**	**0.0057**	**0.01**	**0.00010**
OCDF	**6/30/15**	**1**	**0.87 B J**	**10**	**0.0059**	**0.001**	**0.00087**
Total TEQ Concentration							**0.47**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	58	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	67	(23 - 140)
13C-OCDD	45	(17 - 157)
13C-2,3,7,8-TCDF	63	(24 - 169)
13C-1,2,3,7,8-PeCDF	60	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	64	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	63	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	59	(26 - 138)
13C-OCDF	41	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-075 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	79	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-075 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 009	**Work Order #....:**	M64C21AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/23/15			**Dilution Factor:**	1
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/30/15	1	ND	1.0	0.047	1.0	0.047
1,2,3,7,8-PeCDD	**6/30/15**	**1**	**0.063 Q B J**	**5.0**	**0.018**	**0.5**	**0.032**
1,2,3,4,7,8-HxCDD	6/30/15	1	ND	5.0	0.0094	0.1	0.00094
1,2,3,6,7,8-HxCDD	**6/30/15**	**1**	**0.091 Q J**	**5.0**	**0.0096**	**0.1**	**0.0091**
1,2,3,7,8,9-HxCDD	**6/30/15**	**1**	**0.068 J**	**5.0**	**0.0090**	**0.1**	**0.0068**
1,2,3,4,6,7,8-HpCDD	**6/30/15**	**1**	**0.46 Q J**	**5.0**	**0.012**	**0.01**	**0.0046**
OCDD	**6/30/15**	**1**	**4.0 B J**	**10**	**0.011**	**0.001**	**0.0040**
2,3,7,8-TCDF	**6/30/15**	**1**	**0.13 Q J**	**1.0**	**0.014**	**0.1**	**0.013**
1,2,3,7,8-PeCDF	6/30/15	1	ND	5.0	0.014	0.05	0.00070
2,3,4,7,8-PeCDF	**6/30/15**	**1**	**0.054 Q J**	**5.0**	**0.014**	**0.5**	**0.027**
1,2,3,4,7,8-HxCDF	**6/30/15**	**1**	**0.028 Q J**	**5.0**	**0.012**	**0.1**	**0.0028**
1,2,3,6,7,8-HxCDF	**6/30/15**	**1**	**0.33 Q B J**	**5.0**	**0.011**	**0.1**	**0.033**
2,3,4,6,7,8-HxCDF	6/30/15	1	ND	5.0	0.012	0.1	0.0012
1,2,3,7,8,9-HxCDF	6/30/15	1	ND	5.0	0.016	0.1	0.0016
1,2,3,4,6,7,8-HpCDF	**6/30/15**	**1**	**0.14 Q B J**	**5.0**	**0.0059**	**0.01**	**0.0014**
1,2,3,4,7,8,9-HpCDF	6/30/15	1	ND	5.0	0.0088	0.01	0.000088
OCDF	**6/30/15**	**1**	**0.16 Q B J**	**10**	**0.0051**	**0.001**	**0.00016**
Total TEQ Concentration							**0.18**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	57	(25 - 164)
13C-1,2,3,7,8-PeCDD	56	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	65	(23 - 140)
13C-OCDD	35	(17 - 157)
13C-2,3,7,8-TCDF	59	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	63	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	59	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	61	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	58	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	58	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	53	(26 - 138)
13C-OCDF	32	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-075 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-075 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 010	**Work Order #....:**	M64C31AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/23/15			**Dilution Factor:**	1
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	9.6 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/30/15	1	ND	1.0	0.057	1.0	0.057
1,2,3,7,8-PeCDD	6/30/15	1	ND	5.2	0.017	0.5	0.0085
1,2,3,4,7,8-HxCDD	**6/30/15**	**1**	**0.082 Q J**	**5.2**	**0.015**	**0.1**	**0.0082**
1,2,3,6,7,8-HxCDD	**6/30/15**	**1**	**0.18 Q J**	**5.2**	**0.015**	**0.1**	**0.018**
1,2,3,7,8,9-HxCDD	**6/30/15**	**1**	**0.15 J**	**5.2**	**0.014**	**0.1**	**0.015**
1,2,3,4,6,7,8-HpCDD	**6/30/15**	**1**	**1.5 J**	**5.2**	**0.013**	**0.01**	**0.015**
OCDD	**6/30/15**	**1**	**9.4 B J**	**10**	**0.011**	**0.001**	**0.0094**
2,3,7,8-TCDF	**6/30/15**	**1**	**0.80 J**	**1.0**	**0.019**	**0.1**	**0.080**
1,2,3,7,8-PeCDF	6/30/15	1	ND	5.2	0.022	0.05	0.0011
2,3,4,7,8-PeCDF	**6/30/15**	**1**	**0.14 Q J**	**5.2**	**0.019**	**0.5**	**0.070**
1,2,3,4,7,8-HxCDF	**6/30/15**	**1**	**0.068 Q J**	**5.2**	**0.011**	**0.1**	**0.0068**
1,2,3,6,7,8-HxCDF	**6/30/15**	**1**	**0.72 Q B J**	**5.2**	**0.011**	**0.1**	**0.072**
2,3,4,6,7,8-HxCDF	6/30/15	1	ND	5.2	0.011	0.1	0.0011
1,2,3,7,8,9-HxCDF	6/30/15	1	ND	5.2	0.015	0.1	0.0015
1,2,3,4,6,7,8-HpCDF	**6/30/15**	**1**	**0.67 B J**	**5.2**	**0.0068**	**0.01**	**0.0067**
1,2,3,4,7,8,9-HpCDF	**6/30/15**	**1**	**0.047 Q J**	**5.2**	**0.011**	**0.01**	**0.00047**
OCDF	**6/30/15**	**1**	**0.34 Q B J**	**10**	**0.0053**	**0.001**	**0.00034**
Total TEQ Concentration							**0.37**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	72	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	71	(23 - 140)
13C-OCDD	47	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	70	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	73	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	70	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	64	(26 - 138)
13C-OCDF	42	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-075 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	85	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-075 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 011	Work Order #....:	M64C41AA	Matrix.....:	TA
Date Sampled....:	05/21/15	Date Received....:	06/19/15	Units....:	pg/g
Prep Date....:	06/23/15			Dilution Factor:	1
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	9.7 g	Instrument ID....:	D2A	Method....:	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/30/15	1	ND	1.0	0.047	1.0	0.047
1,2,3,7,8-PeCDD	**6/30/15**	**1**	**0.14 B J**	**5.2**	**0.017**	**0.5**	**0.070**
1,2,3,4,7,8-HxCDD	6/30/15	1	ND	5.2	0.014	0.1	0.0014
1,2,3,6,7,8-HxCDD	**6/30/15**	**1**	**0.11 Q J**	**5.2**	**0.015**	**0.1**	**0.011**
1,2,3,7,8,9-HxCDD	**6/30/15**	**1**	**0.093 Q J**	**5.2**	**0.013**	**0.1**	**0.0093**
1,2,3,4,6,7,8-HpCDD	**6/30/15**	**1**	**1.4 J**	**5.2**	**0.011**	**0.01**	**0.014**
OCDD	**6/30/15**	**1**	**13 B**	**10**	**0.0073**	**0.001**	**0.013**
2,3,7,8-TCDF	**6/30/15**	**1**	**0.52 J**	**1.0**	**0.016**	**0.1**	**0.052**
1,2,3,7,8-PeCDF	**6/30/15**	**1**	**0.075 B J**	**5.2**	**0.016**	**0.05**	**0.0038**
2,3,4,7,8-PeCDF	**6/30/15**	**1**	**0.095 Q J**	**5.2**	**0.017**	**0.5**	**0.048**
1,2,3,4,7,8-HxCDF	**6/30/15**	**1**	**0.078 Q J**	**5.2**	**0.0096**	**0.1**	**0.0078**
1,2,3,6,7,8-HxCDF	**6/30/15**	**1**	**0.48 Q B J**	**5.2**	**0.0088**	**0.1**	**0.048**
2,3,4,6,7,8-HxCDF	**6/30/15**	**1**	**0.085 Q B J**	**5.2**	**0.0099**	**0.1**	**0.0085**
1,2,3,7,8,9-HxCDF	6/30/15	1	ND	5.2	0.012	0.1	0.0012
1,2,3,4,6,7,8-HpCDF	**6/30/15**	**1**	**0.21 Q B J**	**5.2**	**0.0039**	**0.01**	**0.0021**
1,2,3,4,7,8,9-HpCDF	**6/30/15**	**1**	**0.026 Q J**	**5.2**	**0.0061**	**0.01**	**0.00026**
OCDF	**6/30/15**	**1**	**0.18 Q B J**	**10**	**0.0053**	**0.001**	**0.00018**
Total TEQ Concentration							**0.34**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	53	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	66	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	62	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	66	(23 - 140)
13C-OCDD	43	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	60	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	65	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	63	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	63	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	58	(26 - 138)
13C-OCDF	40	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-075 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	79	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-076 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 012	**Work Order #....:**	M64C51AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/23/15			**Dilution Factor:**	1
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	9.4 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**6/30/15**	**1**	**0.087 Q J**	**1.1**	**0.057**	**1.0**	**0.087**
1,2,3,7,8-PeCDD	**6/30/15**	**1**	**0.097 Q B J**	**5.3**	**0.019**	**0.5**	**0.048**
1,2,3,4,7,8-HxCDD	6/30/15	1	ND	5.3	0.0093	0.1	0.00093
1,2,3,6,7,8-HxCDD	**6/30/15**	**1**	**0.064 Q J**	**5.3**	**0.0097**	**0.1**	**0.0064**
1,2,3,7,8,9-HxCDD	**6/30/15**	**1**	**0.077 Q J**	**5.3**	**0.0089**	**0.1**	**0.0077**
1,2,3,4,6,7,8-HpCDD	**6/30/15**	**1**	**0.62 J**	**5.3**	**0.011**	**0.01**	**0.0062**
OCDD	**6/30/15**	**1**	**6.9 B J**	**11**	**0.011**	**0.001**	**0.0069**
2,3,7,8-TCDF	**6/30/15**	**1**	**0.46 Q J**	**1.1**	**0.011**	**0.1**	**0.046**
1,2,3,7,8-PeCDF	6/30/15	1	ND	5.3	0.017	0.05	0.00085
2,3,4,7,8-PeCDF	**6/30/15**	**1**	**0.14 J**	**5.3**	**0.015**	**0.5**	**0.070**
1,2,3,4,7,8-HxCDF	**6/30/15**	**1**	**0.073 Q J**	**5.3**	**0.011**	**0.1**	**0.0073**
1,2,3,6,7,8-HxCDF	**6/30/15**	**1**	**0.43 Q B J**	**5.3**	**0.0098**	**0.1**	**0.043**
2,3,4,6,7,8-HxCDF	**6/30/15**	**1**	**0.063 B J**	**5.3**	**0.011**	**0.1**	**0.0063**
1,2,3,7,8,9-HxCDF	6/30/15	1	ND	5.3	0.014	0.1	0.0014
1,2,3,4,6,7,8-HpCDF	**6/30/15**	**1**	**0.19 Q B J**	**5.3**	**0.0042**	**0.01**	**0.0019**
1,2,3,4,7,8,9-HpCDF	**6/30/15**	**1**	**0.0096 Q J**	**5.3**	**0.0061**	**0.01**	**0.000096**
OCDF	**6/30/15**	**1**	**0.16 Q B J**	**11**	**0.0041**	**0.001**	**0.00016**
Total TEQ Concentration							**0.34**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	60	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	65	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	69	(23 - 140)
13C-OCDD	44	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	64	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	64	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	62	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	63	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	61	(26 - 138)
13C-OCDF	40	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-076 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-076 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 013	**Work Order #....:**	M64C61AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/23/15			**Dilution Factor:**	1
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	9.5 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/1/15	1	ND	1.1	0.050	1.0	0.050
1,2,3,7,8-PeCDD	**7/1/15**	**1**	**0.094 Q B J**	**5.3**	**0.015**	**0.5**	**0.047**
1,2,3,4,7,8-HxCDD	7/1/15	1	ND	5.3	0.010	0.1	0.0010
1,2,3,6,7,8-HxCDD	**7/1/15**	**1**	**0.039 Q J**	**5.3**	**0.010**	**0.1**	**0.0039**
1,2,3,7,8,9-HxCDD	**7/1/15**	**1**	**0.067 Q J**	**5.3**	**0.0095**	**0.1**	**0.0067**
1,2,3,4,6,7,8-HpCDD	**7/1/15**	**1**	**0.69 Q J**	**5.3**	**0.013**	**0.01**	**0.0069**
OCDD	**7/1/15**	**1**	**5.4 B J**	**11**	**0.020**	**0.001**	**0.0054**
2,3,7,8-TCDF	**7/1/15**	**1**	**0.56 Q J**	**1.1**	**0.011**	**0.1**	**0.056**
1,2,3,7,8-PeCDF	**7/1/15**	**1**	**0.053 Q B J**	**5.3**	**0.020**	**0.05**	**0.0026**
2,3,4,7,8-PeCDF	**7/1/15**	**1**	**0.17 J**	**5.3**	**0.017**	**0.5**	**0.085**
1,2,3,4,7,8-HxCDF	**7/1/15**	**1**	**0.078 J**	**5.3**	**0.012**	**0.1**	**0.0078**
1,2,3,6,7,8-HxCDF	**7/1/15**	**1**	**0.35 Q B J**	**5.3**	**0.012**	**0.1**	**0.035**
2,3,4,6,7,8-HxCDF	**7/1/15**	**1**	**0.065 B J**	**5.3**	**0.013**	**0.1**	**0.0065**
1,2,3,7,8,9-HxCDF	7/1/15	1	ND	5.3	0.016	0.1	0.0016
1,2,3,4,6,7,8-HpCDF	**7/1/15**	**1**	**0.33 B J**	**5.3**	**0.0083**	**0.01**	**0.0033**
1,2,3,4,7,8,9-HpCDF	**7/1/15**	**1**	**0.074 Q J**	**5.3**	**0.011**	**0.01**	**0.00074**
OCDF	**7/1/15**	**1**	**0.25 Q B J**	**11**	**0.0066**	**0.001**	**0.00025**
Total TEQ Concentration							**0.32**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	69	(25 - 164)
13C-1,2,3,7,8-PeCDD	64	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	71	(23 - 140)
13C-OCDD	54	(17 - 157)
13C-2,3,7,8-TCDF	71	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	65	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	64	(26 - 138)
13C-OCDF	49	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-076 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	86	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-076 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 014	**Work Order #....:**	M64C71AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/23/15			**Dilution Factor:**	1
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	9.6 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/1/15	1	ND	1.0	0.066	1.0	0.066
1,2,3,7,8-PeCDD	7/1/15	1	ND	5.2	0.017	0.5	0.0085
1,2,3,4,7,8-HxCDD	7/1/15	1	ND	5.2	0.014	0.1	0.0014
1,2,3,6,7,8-HxCDD	**7/1/15**	**1**	**0.092 Q J**	**5.2**	**0.015**	**0.1**	**0.0092**
1,2,3,7,8,9-HxCDD	**7/1/15**	**1**	**0.067 Q J**	**5.2**	**0.014**	**0.1**	**0.0067**
1,2,3,4,6,7,8-HpCDD	**7/1/15**	**1**	**0.62 Q J**	**5.2**	**0.014**	**0.01**	**0.0062**
OCDD	**7/1/15**	**1**	**5.3 B J**	**10**	**0.067**	**0.001**	**0.0053**
2,3,7,8-TCDF	**7/1/15**	**1**	**0.43 Q J**	**1.0**	**0.014**	**0.1**	**0.043**
1,2,3,7,8-PeCDF	**7/1/15**	**1**	**0.027 Q B J**	**5.2**	**0.020**	**0.05**	**0.0014**
2,3,4,7,8-PeCDF	**7/1/15**	**1**	**0.11 Q J**	**5.2**	**0.018**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDF	7/1/15	1	ND	5.2	0.012	0.1	0.0012
1,2,3,6,7,8-HxCDF	**7/1/15**	**1**	**0.40 Q B J**	**5.2**	**0.012**	**0.1**	**0.040**
2,3,4,6,7,8-HxCDF	**7/1/15**	**1**	**0.026 Q B J**	**5.2**	**0.012**	**0.1**	**0.0026**
1,2,3,7,8,9-HxCDF	7/1/15	1	ND	5.2	0.015	0.1	0.0015
1,2,3,4,6,7,8-HpCDF	**7/1/15**	**1**	**0.22 Q B J**	**5.2**	**0.0069**	**0.01**	**0.0022**
1,2,3,4,7,8,9-HpCDF	7/1/15	1	ND	5.2	0.010	0.01	0.00010
OCDF	**7/1/15**	**1**	**0.26 B J**	**10**	**0.021**	**0.001**	**0.00026**

Total TEQ Concentration **0.25**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	59	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	74	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	59	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	72	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	73	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	73	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	66	(26 - 138)
13C-OCDF	52	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-076 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	82	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-076 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 015	**Work Order #....:**	M64C81AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/24/15			**Dilution Factor:**	1
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	8 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	1.2	0.090	1.0	0.090
1,2,3,7,8-PeCDD	**7/7/15**	**1**	**0.061 Q B J**	**6.2**	**0.029**	**0.5**	**0.030**
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	6.2	0.014	0.1	0.0014
1,2,3,6,7,8-HxCDD	**7/7/15**	**1**	**0.12 J**	**6.2**	**0.014**	**0.1**	**0.012**
1,2,3,7,8,9-HxCDD	**7/7/15**	**1**	**0.097 Q B J**	**6.2**	**0.013**	**0.1**	**0.0097**
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.61 B J**	**6.2**	**0.026**	**0.01**	**0.0061**
OCDD	**7/7/15**	**1**	**3.7 B J**	**12**	**0.012**	**0.001**	**0.0037**
2,3,7,8-TCDF	**7/7/15**	**1**	**0.35 Q J**	**1.2**	**0.024**	**0.1**	**0.035**
1,2,3,7,8-PeCDF	7/7/15	1	ND	6.2	0.020	0.05	0.0010
2,3,4,7,8-PeCDF	**7/7/15**	**1**	**0.13 Q B J**	**6.2**	**0.018**	**0.5**	**0.065**
1,2,3,4,7,8-HxCDF	**7/7/15**	**1**	**0.15 Q J**	**6.2**	**0.020**	**0.1**	**0.015**
1,2,3,6,7,8-HxCDF	**7/7/15**	**1**	**0.57 Q B J**	**6.2**	**0.019**	**0.1**	**0.057**
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	6.2	0.021	0.1	0.0021
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	6.2	0.026	0.1	0.0026
1,2,3,4,6,7,8-HpCDF	**7/7/15**	**1**	**0.22 B J**	**6.2**	**0.0068**	**0.01**	**0.0022**
1,2,3,4,7,8,9-HpCDF	**7/7/15**	**1**	**0.069 B J**	**6.2**	**0.010**	**0.01**	**0.00069**
OCDF	**7/7/15**	**1**	**0.21 B J**	**12**	**0.0080**	**0.001**	**0.00021**
Total TEQ Concentration							**0.33**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	69	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	70	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	76	(23 - 140)
13C-OCDD	65	(17 - 157)
13C-2,3,7,8-TCDF	69	(24 - 169)
13C-1,2,3,7,8-PeCDF	69	(24 - 185)
13C-2,3,4,7,8-PeCDF	71	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	69	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	70	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	58	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-076 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	85	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-076 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 016	**Work Order #....:**	M64C91AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/24/15			**Dilution Factor:**	1
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	8.7 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	1.1	0.070	1.0	0.070
1,2,3,7,8-PeCDD	**7/8/15**	**1**	**0.49 Q B J**	**5.7**	**0.022**	**0.5**	**0.24**
1,2,3,4,7,8-HxCDD	**7/8/15**	**1**	**0.66 B J**	**5.7**	**0.018**	**0.1**	**0.066**
1,2,3,6,7,8-HxCDD	**7/8/15**	**1**	**0.61 Q J**	**5.7**	**0.017**	**0.1**	**0.061**
1,2,3,7,8,9-HxCDD	**7/8/15**	**1**	**0.80 Q B J**	**5.7**	**0.017**	**0.1**	**0.080**
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**1.7 B J**	**5.7**	**0.025**	**0.01**	**0.017**
OCDD	**7/8/15**	**1**	**9.3 B J**	**11**	**0.017**	**0.001**	**0.0093**
2,3,7,8-TCDF	**7/8/15**	**1**	**0.33 Q J**	**1.1**	**0.017**	**0.1**	**0.033**
1,2,3,7,8-PeCDF	**7/8/15**	**1**	**0.30 Q B J**	**5.7**	**0.028**	**0.05**	**0.015**
2,3,4,7,8-PeCDF	**7/8/15**	**1**	**0.39 B J**	**5.7**	**0.027**	**0.5**	**0.20**
1,2,3,4,7,8-HxCDF	**7/8/15**	**1**	**0.68 Q J**	**5.7**	**0.016**	**0.1**	**0.068**
1,2,3,6,7,8-HxCDF	**7/8/15**	**1**	**0.94 Q B J**	**5.7**	**0.015**	**0.1**	**0.094**
2,3,4,6,7,8-HxCDF	**7/8/15**	**1**	**0.86 Q B J**	**5.7**	**0.016**	**0.1**	**0.086**
1,2,3,7,8,9-HxCDF	**7/8/15**	**1**	**0.74 B J**	**5.7**	**0.020**	**0.1**	**0.074**
1,2,3,4,6,7,8-HpCDF	**7/8/15**	**1**	**1.3 B J**	**5.7**	**0.0082**	**0.01**	**0.013**
1,2,3,4,7,8,9-HpCDF	**7/8/15**	**1**	**1.1 B J**	**5.7**	**0.012**	**0.01**	**0.011**
OCDF	**7/8/15**	**1**	**2.5 Q B J**	**11**	**0.0062**	**0.001**	**0.0025**
Total TEQ Concentration							**1.1**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	70	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	72	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	77	(23 - 140)
13C-OCDD	67	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	68	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	70	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	65	(26 - 138)
13C-OCDF	57	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-076 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	84	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-077 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 017	**Work Order #....:**	M64DA1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/24/15			**Dilution Factor:**	1
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	7.5 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	1.3	0.088	1.0	0.088
1,2,3,7,8-PeCDD	**7/8/15**	**1**	**0.15 Q B J**	**6.7**	**0.027**	**0.5**	**0.075**
1,2,3,4,7,8-HxCDD	**7/8/15**	**1**	**0.12 Q B J**	**6.7**	**0.015**	**0.1**	**0.012**
1,2,3,6,7,8-HxCDD	**7/8/15**	**1**	**0.13 Q J**	**6.7**	**0.016**	**0.1**	**0.013**
1,2,3,7,8,9-HxCDD	**7/8/15**	**1**	**0.16 Q B J**	**6.7**	**0.014**	**0.1**	**0.016**
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.67 B J**	**6.7**	**0.017**	**0.01**	**0.0067**
OCDD	**7/8/15**	**1**	**2.5 B J**	**13**	**0.014**	**0.001**	**0.0025**
2,3,7,8-TCDF	**7/8/15**	**1**	**0.34 Q J**	**1.3**	**0.030**	**0.1**	**0.034**
1,2,3,7,8-PeCDF	**7/8/15**	**1**	**0.097 Q B J**	**6.7**	**0.026**	**0.05**	**0.0048**
2,3,4,7,8-PeCDF	**7/8/15**	**1**	**0.17 B J**	**6.7**	**0.024**	**0.5**	**0.085**
1,2,3,4,7,8-HxCDF	**7/8/15**	**1**	**0.20 Q J**	**6.7**	**0.019**	**0.1**	**0.020**
1,2,3,6,7,8-HxCDF	**7/8/15**	**1**	**0.71 Q B J**	**6.7**	**0.018**	**0.1**	**0.071**
2,3,4,6,7,8-HxCDF	**7/8/15**	**1**	**0.12 Q B J**	**6.7**	**0.019**	**0.1**	**0.012**
1,2,3,7,8,9-HxCDF	**7/8/15**	**1**	**0.11 B J**	**6.7**	**0.023**	**0.1**	**0.011**
1,2,3,4,6,7,8-HpCDF	**7/8/15**	**1**	**0.33 Q B J**	**6.7**	**0.0088**	**0.01**	**0.0033**
1,2,3,4,7,8,9-HpCDF	**7/8/15**	**1**	**0.19 B J**	**6.7**	**0.013**	**0.01**	**0.0019**
OCDF	**7/8/15**	**1**	**0.54 Q B J**	**13**	**0.0055**	**0.001**	**0.00054**
Total TEQ Concentration							**0.46**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	80	(23 - 140)
13C-OCDD	71	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	66	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	74	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	72	(26 - 138)
13C-OCDF	63	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-077 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-077 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 018	**Work Order #....:**	M64DC1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/24/15			**Dilution Factor:**	1
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	9.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	1.1	0.077	1.0	0.077
1,2,3,7,8-PeCDD	**7/8/15**	**1**	**0.17 Q B J**	**5.5**	**0.023**	**0.5**	**0.085**
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	5.5	0.018	0.1	0.0018
1,2,3,6,7,8-HxCDD	**7/8/15**	**1**	**0.070 Q J**	**5.5**	**0.019**	**0.1**	**0.0070**
1,2,3,7,8,9-HxCDD	**7/8/15**	**1**	**0.12 Q B J**	**5.5**	**0.018**	**0.1**	**0.012**
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.51 Q B J**	**5.5**	**0.025**	**0.01**	**0.0051**
OCDD	**7/8/15**	**1**	**2.6 B J**	**11**	**0.013**	**0.001**	**0.0026**
2,3,7,8-TCDF	**7/8/15**	**1**	**0.59 J**	**1.1**	**0.022**	**0.1**	**0.059**
1,2,3,7,8-PeCDF	**7/8/15**	**1**	**0.047 Q B J**	**5.5**	**0.028**	**0.05**	**0.0024**
2,3,4,7,8-PeCDF	7/8/15	1	ND	5.5	0.027	0.5	0.014
1,2,3,4,7,8-HxCDF	**7/8/15**	**1**	**0.15 Q J**	**5.5**	**0.017**	**0.1**	**0.015**
1,2,3,6,7,8-HxCDF	**7/8/15**	**1**	**0.77 Q B J**	**5.5**	**0.017**	**0.1**	**0.077**
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.5	0.018	0.1	0.0018
1,2,3,7,8,9-HxCDF	**7/8/15**	**1**	**0.11 Q B J**	**5.5**	**0.024**	**0.1**	**0.011**
1,2,3,4,6,7,8-HpCDF	**7/8/15**	**1**	**0.24 Q B J**	**5.5**	**0.010**	**0.01**	**0.0024**
1,2,3,4,7,8,9-HpCDF	**7/8/15**	**1**	**0.098 Q B J**	**5.5**	**0.015**	**0.01**	**0.00098**
OCDF	**7/8/15**	**1**	**0.35 B J**	**11**	**0.012**	**0.001**	**0.00035**
Total TEQ Concentration							**0.37**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	63	(25 - 164)
13C-1,2,3,7,8-PeCDD	64	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	75	(23 - 140)
13C-OCDD	68	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	69	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	64	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	69	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	68	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	63	(26 - 138)
13C-OCDF	54	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-077 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	75	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-077 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 019	**Work Order #....:**	M64DD1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/24/15			**Dilution Factor:**	1
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	8.8 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**7/8/15**	**1**	**0.10 Q J**	**1.1**	**0.083**	**1.0**	**0.10**
1,2,3,7,8-PeCDD	**7/8/15**	**1**	**0.091 Q B J**	**5.7**	**0.031**	**0.5**	**0.046**
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	5.7	0.017	0.1	0.0017
1,2,3,6,7,8-HxCDD	**7/8/15**	**1**	**0.074 Q J**	**5.7**	**0.017**	**0.1**	**0.0074**
1,2,3,7,8,9-HxCDD	**7/8/15**	**1**	**0.070 Q B J**	**5.7**	**0.016**	**0.1**	**0.0070**
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.58 B J**	**5.7**	**0.025**	**0.01**	**0.0058**
OCDD	**7/8/15**	**1**	**3.4 B J**	**11**	**0.012**	**0.001**	**0.0034**
2,3,7,8-TCDF	**7/8/15**	**1**	**0.22 Q J**	**1.1**	**0.035**	**0.1**	**0.022**
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.7	0.036	0.05	0.0018
2,3,4,7,8-PeCDF	7/8/15	1	ND	5.7	0.034	0.5	0.017
1,2,3,4,7,8-HxCDF	**7/8/15**	**1**	**0.26 Q J**	**5.7**	**0.014**	**0.1**	**0.026**
1,2,3,6,7,8-HxCDF	**7/8/15**	**1**	**1.2 Q B J**	**5.7**	**0.013**	**0.1**	**0.12**
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.7	0.013	0.1	0.0013
1,2,3,7,8,9-HxCDF	**7/8/15**	**1**	**0.043 Q B J**	**5.7**	**0.018**	**0.1**	**0.0043**
1,2,3,4,6,7,8-HpCDF	**7/8/15**	**1**	**0.17 Q B J**	**5.7**	**0.013**	**0.01**	**0.0017**
1,2,3,4,7,8,9-HpCDF	**7/8/15**	**1**	**0.045 Q B J**	**5.7**	**0.019**	**0.01**	**0.00045**
OCDF	**7/8/15**	**1**	**0.35 Q B J**	**11**	**0.0061**	**0.001**	**0.00035**
Total TEQ Concentration							**0.37**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	63	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	66	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	76	(23 - 140)
13C-OCDD	65	(17 - 157)
13C-2,3,7,8-TCDF	63	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	66	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	68	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	63	(26 - 138)
13C-OCDF	53	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-077 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-077 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 020	**Work Order #....:**	M64DE1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5177012				
Initial Wgt/Vol :	8.7 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/6/15	1	ND	1.1	0.13	1.0	0.13
1,2,3,7,8-PeCDD	7/6/15	1	ND	5.7	0.032	0.5	0.016
1,2,3,4,7,8-HxCDD	7/6/15	1	ND	5.7	0.031	0.1	0.0031
1,2,3,6,7,8-HxCDD	7/6/15	1	ND	5.7	0.030	0.1	0.0030
1,2,3,7,8,9-HxCDD	7/6/15	1	ND	5.7	0.029	0.1	0.0029
1,2,3,4,6,7,8-HpCDD	**7/6/15**	**1**	**0.34 Q B J**	**5.7**	**0.064**	**0.01**	**0.0034**
OCDD	**7/6/15**	**1**	**4.2 B J**	**11**	**0.015**	**0.001**	**0.0042**
2,3,7,8-TCDF	7/6/15	1	ND	1.1	0.053	0.1	0.0053
1,2,3,7,8-PeCDF	7/6/15	1	ND	5.7	0.039	0.05	0.0019
2,3,4,7,8-PeCDF	7/6/15	1	ND	5.7	0.040	0.5	0.020
1,2,3,4,7,8-HxCDF	7/6/15	1	ND	5.7	0.043	0.1	0.0043
1,2,3,6,7,8-HxCDF	**7/6/15**	**1**	**0.30 Q J**	**5.7**	**0.041**	**0.1**	**0.030**
2,3,4,6,7,8-HxCDF	7/6/15	1	ND	5.7	0.045	0.1	0.0045
1,2,3,7,8,9-HxCDF	7/6/15	1	ND	5.7	0.060	0.1	0.0060
1,2,3,4,6,7,8-HpCDF	**7/6/15**	**1**	**0.091 Q B J**	**5.7**	**0.018**	**0.01**	**0.00091**
1,2,3,4,7,8,9-HpCDF	7/6/15	1	ND	5.7	0.026	0.01	0.00026
OCDF	**7/6/15**	**1**	**0.14 Q B J**	**11**	**0.015**	**0.001**	**0.00014**
Total TEQ Concentration							**0.24**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	66	(25 - 164)
13C-1,2,3,7,8-PeCDD	73	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	71	(23 - 140)
13C-OCDD	65	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	72	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	69	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	66	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	65	(26 - 138)
13C-OCDF	54	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-077 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	77	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-077 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 021	**Work Order #....:**	M64DF1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/24/15			**Dilution Factor:**	1
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	1.0	0.073	1.0	0.073
1,2,3,7,8-PeCDD	**7/8/15**	**1**	**0.17 Q B J**	**5.0**	**0.021**	**0.5**	**0.085**
1,2,3,4,7,8-HxCDD	**7/8/15**	**1**	**0.031 B J**	**5.0**	**0.011**	**0.1**	**0.0031**
1,2,3,6,7,8-HxCDD	**7/8/15**	**1**	**0.055 Q J**	**5.0**	**0.010**	**0.1**	**0.0055**
1,2,3,7,8,9-HxCDD	**7/8/15**	**1**	**0.058 Q B J**	**5.0**	**0.010**	**0.1**	**0.0058**
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.78 B J**	**5.0**	**0.021**	**0.01**	**0.0078**
OCDD	**7/8/15**	**1**	**5.4 B J**	**10**	**0.0077**	**0.001**	**0.0054**
2,3,7,8-TCDF	**7/8/15**	**1**	**0.24 Q J**	**1.0**	**0.019**	**0.1**	**0.024**
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.0	0.021	0.05	0.0010
2,3,4,7,8-PeCDF	**7/8/15**	**1**	**0.097 Q B J**	**5.0**	**0.020**	**0.5**	**0.048**
1,2,3,4,7,8-HxCDF	**7/8/15**	**1**	**0.15 Q J**	**5.0**	**0.014**	**0.1**	**0.015**
1,2,3,6,7,8-HxCDF	**7/8/15**	**1**	**0.76 Q B J**	**5.0**	**0.014**	**0.1**	**0.076**
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.0	0.014	0.1	0.0014
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDF	**7/8/15**	**1**	**0.13 Q B J**	**5.0**	**0.010**	**0.01**	**0.0013**
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	5.0	0.016	0.01	0.00016
OCDF	**7/8/15**	**1**	**0.17 B J**	**10**	**0.0040**	**0.001**	**0.00017**
Total TEQ Concentration							**0.35**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	63	(25 - 164)
13C-1,2,3,7,8-PeCDD	63	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	73	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	73	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	78	(23 - 140)
13C-OCDD	71	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	72	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	70	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	74	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	74	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	69	(26 - 138)
13C-OCDF	56	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-077 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-078 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 022	Work Order #....:	M64DG1AA	Matrix.....:	TA
Date Sampled....:	05/21/15	Date Received....:	06/19/15	Units....:	pg/g
Prep Date....:	06/24/15			Dilution Factor:	1
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	10.4 g	Instrument ID....:	D2A	Method....:	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	0.96	0.069	1.0	0.069
1,2,3,7,8-PeCDD	**7/8/15**	**1**	**0.17 Q B J**	**4.8**	**0.021**	**0.5**	**0.085**
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	4.8	0.016	0.1	0.0016
1,2,3,6,7,8-HxCDD	**7/8/15**	**1**	**0.083 Q J**	**4.8**	**0.016**	**0.1**	**0.0083**
1,2,3,7,8,9-HxCDD	7/8/15	1	ND	4.8	0.015	0.1	0.0015
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.73 Q B J**	**4.8**	**0.020**	**0.01**	**0.0073**
OCDD	**7/8/15**	**1**	**4.1 B J**	**9.6**	**0.011**	**0.001**	**0.0041**
2,3,7,8-TCDF	**7/8/15**	**1**	**0.55 J**	**0.96**	**0.023**	**0.1**	**0.055**
1,2,3,7,8-PeCDF	7/8/15	1	ND	4.8	0.022	0.05	0.0011
2,3,4,7,8-PeCDF	**7/8/15**	**1**	**0.14 Q B J**	**4.8**	**0.021**	**0.5**	**0.070**
1,2,3,4,7,8-HxCDF	7/8/15	1	ND	4.8	0.016	0.1	0.0016
1,2,3,6,7,8-HxCDF	**7/8/15**	**1**	**0.85 Q B J**	**4.8**	**0.015**	**0.1**	**0.085**
2,3,4,6,7,8-HxCDF	**7/8/15**	**1**	**0.088 B J**	**4.8**	**0.017**	**0.1**	**0.0088**
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	4.8	0.022	0.1	0.0022
1,2,3,4,6,7,8-HpCDF	**7/8/15**	**1**	**0.31 Q B J**	**4.8**	**0.011**	**0.01**	**0.0031**
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	4.8	0.017	0.01	0.00017
OCDF	**7/8/15**	**1**	**0.23 B J**	**9.6**	**0.0059**	**0.001**	**0.00023**
Total TEQ Concentration							**0.40**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	68	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	70	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	77	(23 - 140)
13C-OCDD	68	(17 - 157)
13C-2,3,7,8-TCDF	65	(24 - 169)
13C-1,2,3,7,8-PeCDF	66	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	72	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	69	(26 - 138)
13C-OCDF	58	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-078 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	84	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-078 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 023	**Work Order #....:**	M64DH1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/24/15			**Dilution Factor:**	1
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	0.98	0.066	1.0	0.066
1,2,3,7,8-PeCDD	**7/8/15**	**1**	**0.076 Q B J**	**4.9**	**0.021**	**0.5**	**0.038**
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	4.9	0.016	0.1	0.0016
1,2,3,6,7,8-HxCDD	**7/8/15**	**1**	**0.089 Q J**	**4.9**	**0.017**	**0.1**	**0.0089**
1,2,3,7,8,9-HxCDD	**7/8/15**	**1**	**0.069 Q B J**	**4.9**	**0.015**	**0.1**	**0.0069**
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.70 Q B J**	**4.9**	**0.022**	**0.01**	**0.0070**
OCDD	**7/8/15**	**1**	**4.2 B J**	**9.8**	**0.029**	**0.001**	**0.0042**
2,3,7,8-TCDF	**7/8/15**	**1**	**0.29 Q J**	**0.98**	**0.024**	**0.1**	**0.029**
1,2,3,7,8-PeCDF	7/8/15	1	ND	4.9	0.024	0.05	0.0012
2,3,4,7,8-PeCDF	**7/8/15**	**1**	**0.095 Q B J**	**4.9**	**0.022**	**0.5**	**0.048**
1,2,3,4,7,8-HxCDF	**7/8/15**	**1**	**0.14 J**	**4.9**	**0.015**	**0.1**	**0.014**
1,2,3,6,7,8-HxCDF	**7/8/15**	**1**	**0.51 Q B J**	**4.9**	**0.015**	**0.1**	**0.051**
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	4.9	0.016	0.1	0.0016
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	4.9	0.020	0.1	0.0020
1,2,3,4,6,7,8-HpCDF	**7/8/15**	**1**	**0.28 B J**	**4.9**	**0.0078**	**0.01**	**0.0028**
1,2,3,4,7,8,9-HpCDF	**7/8/15**	**1**	**0.039 Q B J**	**4.9**	**0.012**	**0.01**	**0.00039**
OCDF	**7/8/15**	**1**	**0.37 Q B J**	**9.8**	**0.020**	**0.001**	**0.00037**
Total TEQ Concentration							**0.28**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	68	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	73	(23 - 140)
13C-OCDD	65	(17 - 157)
13C-2,3,7,8-TCDF	65	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	70	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	67	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	72	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	70	(26 - 138)
13C-OCDF	58	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-078 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	84	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-078 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 024	**Work Order #....:**	M64DJ1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/24/15			**Dilution Factor:**	1
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	9.8 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**7/8/15**	**1**	**0.11 Q J**	**1.0**	**0.062**	**1.0**	**0.11**
1,2,3,7,8-PeCDD	**7/8/15**	**1**	**0.095 Q B J**	**5.1**	**0.027**	**0.5**	**0.048**
1,2,3,4,7,8-HxCDD	**7/8/15**	**1**	**0.081 Q B J**	**5.1**	**0.013**	**0.1**	**0.0081**
1,2,3,6,7,8-HxCDD	**7/8/15**	**1**	**0.069 Q J**	**5.1**	**0.013**	**0.1**	**0.0069**
1,2,3,7,8,9-HxCDD	**7/8/15**	**1**	**0.058 Q B J**	**5.1**	**0.012**	**0.1**	**0.0058**
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.86 B J**	**5.1**	**0.016**	**0.01**	**0.0086**
OCDD	**7/8/15**	**1**	**5.3 B J**	**10**	**0.012**	**0.001**	**0.0053**
2,3,7,8-TCDF	**7/8/15**	**1**	**0.44 Q J**	**1.0**	**0.026**	**0.1**	**0.044**
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.1	0.022	0.05	0.0011
2,3,4,7,8-PeCDF	**7/8/15**	**1**	**0.12 Q B J**	**5.1**	**0.022**	**0.5**	**0.060**
1,2,3,4,7,8-HxCDF	**7/8/15**	**1**	**0.18 J**	**5.1**	**0.011**	**0.1**	**0.018**
1,2,3,6,7,8-HxCDF	**7/8/15**	**1**	**0.56 B J**	**5.1**	**0.011**	**0.1**	**0.056**
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.1	0.012	0.1	0.0012
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.1	0.015	0.1	0.0015
1,2,3,4,6,7,8-HpCDF	**7/8/15**	**1**	**0.26 Q B J**	**5.1**	**0.0074**	**0.01**	**0.0026**
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	5.1	0.012	0.01	0.00012
OCDF	**7/8/15**	**1**	**0.26 B J**	**10**	**0.0050**	**0.001**	**0.00026**
Total TEQ Concentration							**0.38**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	65	(25 - 164)
13C-1,2,3,7,8-PeCDD	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	80	(23 - 140)
13C-OCDD	70	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	66	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	73	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	63	(26 - 138)
13C-OCDF	52	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-078 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-078 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 025	**Work Order #....:**	M64DK1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/24/15			**Dilution Factor:**	1
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	9.9 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	1.0	0.074	1.0	0.074
1,2,3,7,8-PeCDD	**7/8/15**	**1**	**0.10 Q B J**	**5.1**	**0.024**	**0.5**	**0.050**
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	5.1	0.014	0.1	0.0014
1,2,3,6,7,8-HxCDD	**7/8/15**	**1**	**0.076 Q J**	**5.1**	**0.013**	**0.1**	**0.0076**
1,2,3,7,8,9-HxCDD	7/8/15	1	ND	5.1	0.013	0.1	0.0013
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.70 B J**	**5.1**	**0.022**	**0.01**	**0.0070**
OCDD	**7/8/15**	**1**	**3.4 B J**	**10**	**0.0092**	**0.001**	**0.0034**
2,3,7,8-TCDF	**7/8/15**	**1**	**0.34 Q J**	**1.0**	**0.021**	**0.1**	**0.034**
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.1	0.024	0.05	0.0012
2,3,4,7,8-PeCDF	7/8/15	1	ND	5.1	0.023	0.5	0.012
1,2,3,4,7,8-HxCDF	**7/8/15**	**1**	**0.20 Q J**	**5.1**	**0.015**	**0.1**	**0.020**
1,2,3,6,7,8-HxCDF	**7/8/15**	**1**	**0.59 Q B J**	**5.1**	**0.015**	**0.1**	**0.059**
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.1	0.015	0.1	0.0015
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.1	0.020	0.1	0.0020
1,2,3,4,6,7,8-HpCDF	**7/8/15**	**1**	**0.26 Q B J**	**5.1**	**0.0093**	**0.01**	**0.0026**
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	5.1	0.014	0.01	0.00014
OCDF	**7/8/15**	**1**	**0.23 Q B J**	**10**	**0.0055**	**0.001**	**0.00023**
Total TEQ Concentration							**0.28**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	69	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	72	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	72	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	75	(23 - 140)
13C-OCDD	65	(17 - 157)
13C-2,3,7,8-TCDF	68	(24 - 169)
13C-1,2,3,7,8-PeCDF	66	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	69	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	70	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	55	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-078 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	85	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-078 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 026	**Work Order #....:**	M64DL1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/24/15			**Dilution Factor:**	1
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	9.7 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kenneya L. Reynolds				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/8/15	1	ND	1.0	0.063	1.0	0.063
1,2,3,7,8-PeCDD	**7/8/15**	**1**	**0.071 Q B J**	**5.2**	**0.023**	**0.5**	**0.035**
1,2,3,4,7,8-HxCDD	7/8/15	1	ND	5.2	0.011	0.1	0.0011
1,2,3,6,7,8-HxCDD	**7/8/15**	**1**	**0.083 J**	**5.2**	**0.010**	**0.1**	**0.0083**
1,2,3,7,8,9-HxCDD	**7/8/15**	**1**	**0.058 Q B J**	**5.2**	**0.010**	**0.1**	**0.0058**
1,2,3,4,6,7,8-HpCDD	**7/8/15**	**1**	**0.57 Q B J**	**5.2**	**0.015**	**0.01**	**0.0057**
OCDD	**7/8/15**	**1**	**3.1 B J**	**10**	**0.011**	**0.001**	**0.0031**
2,3,7,8-TCDF	**7/8/15**	**1**	**0.26 Q J**	**1.0**	**0.019**	**0.1**	**0.026**
1,2,3,7,8-PeCDF	7/8/15	1	ND	5.2	0.023	0.05	0.0012
2,3,4,7,8-PeCDF	**7/8/15**	**1**	**0.13 B J**	**5.2**	**0.020**	**0.5**	**0.065**
1,2,3,4,7,8-HxCDF	**7/8/15**	**1**	**0.058 Q J**	**5.2**	**0.013**	**0.1**	**0.0058**
1,2,3,6,7,8-HxCDF	**7/8/15**	**1**	**0.45 Q B J**	**5.2**	**0.012**	**0.1**	**0.045**
2,3,4,6,7,8-HxCDF	7/8/15	1	ND	5.2	0.013	0.1	0.0013
1,2,3,7,8,9-HxCDF	7/8/15	1	ND	5.2	0.016	0.1	0.0016
1,2,3,4,6,7,8-HpCDF	**7/8/15**	**1**	**0.22 Q B J**	**5.2**	**0.0077**	**0.01**	**0.0022**
1,2,3,4,7,8,9-HpCDF	7/8/15	1	ND	5.2	0.013	0.01	0.00013
OCDF	**7/8/15**	**1**	**0.27 Q B J**	**10**	**0.0043**	**0.001**	**0.00027**
Total TEQ Concentration							**0.27**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	66	(25 - 164)
13C-1,2,3,7,8-PeCDD	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	73	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	72	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	80	(23 - 140)
13C-OCDD	70	(17 - 157)
13C-2,3,7,8-TCDF	59	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	69	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	73	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	76	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	63	(26 - 138)
13C-OCDF	50	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-078 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	81	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-079 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 027	**Work Order #....:**	M64DM1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5177012				
Initial Wgt/Vol :	9 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	1.1	0.098	1.0	0.098
1,2,3,7,8-PeCDD	**7/7/15**	**1**	**0.11 Q J**	**5.6**	**0.028**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDD	**7/7/15**	**1**	**0.095 B J**	**5.6**	**0.019**	**0.1**	**0.0095**
1,2,3,6,7,8-HxCDD	**7/7/15**	**1**	**0.11 Q J**	**5.6**	**0.019**	**0.1**	**0.011**
1,2,3,7,8,9-HxCDD	7/7/15	1	ND	5.6	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.77 Q B J**	**5.6**	**0.045**	**0.01**	**0.0077**
OCDD	**7/7/15**	**1**	**4.0 B J**	**11**	**0.018**	**0.001**	**0.0040**
2,3,7,8-TCDF	**7/7/15**	**1**	**0.63 Q J**	**1.1**	**0.049**	**0.1**	**0.063**
1,2,3,7,8-PeCDF	**7/7/15**	**1**	**0.14 Q J**	**5.6**	**0.041**	**0.05**	**0.0070**
2,3,4,7,8-PeCDF	**7/7/15**	**1**	**0.15 J**	**5.6**	**0.037**	**0.5**	**0.075**
1,2,3,4,7,8-HxCDF	**7/7/15**	**1**	**0.17 Q J**	**5.6**	**0.028**	**0.1**	**0.017**
1,2,3,6,7,8-HxCDF	**7/7/15**	**1**	**0.55 Q J**	**5.6**	**0.025**	**0.1**	**0.055**
2,3,4,6,7,8-HxCDF	**7/7/15**	**1**	**0.18 Q J**	**5.6**	**0.027**	**0.1**	**0.018**
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.6	0.036	0.1	0.0036
1,2,3,4,6,7,8-HpCDF	**7/7/15**	**1**	**0.16 Q B J**	**5.6**	**0.011**	**0.01**	**0.0016**
1,2,3,4,7,8,9-HpCDF	**7/7/15**	**1**	**0.080 Q B J**	**5.6**	**0.017**	**0.01**	**0.00080**
OCDF	**7/7/15**	**1**	**0.37 Q B J**	**11**	**0.0072**	**0.001**	**0.00037**
Total TEQ Concentration							**0.43**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	58	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	70	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	68	(23 - 140)
13C-OCDD	61	(17 - 157)
13C-2,3,7,8-TCDF	57	(24 - 169)
13C-1,2,3,7,8-PeCDF	61	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	64	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	67	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	64	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	60	(26 - 138)
13C-OCDF	53	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-079 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	66	(35 - 197)

NOTES:

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When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-079 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 028	**Work Order #....:**	M64DN1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5177012				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	0.99	0.085	1.0	0.085
1,2,3,7,8-PeCDD	7/7/15	1	ND	5.0	0.020	0.5	0.010
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	5.0	0.022	0.1	0.0022
1,2,3,6,7,8-HxCDD	7/7/15	1	ND	5.0	0.021	0.1	0.0021
1,2,3,7,8,9-HxCDD	**7/7/15**	**1**	**0.091 Q B J**	**5.0**	**0.020**	**0.1**	**0.0091**
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.68 Q B J**	**5.0**	**0.049**	**0.01**	**0.0068**
OCDD	**7/7/15**	**1**	**4.0 B J**	**9.9**	**0.024**	**0.001**	**0.0040**
2,3,7,8-TCDF	**7/7/15**	**1**	**0.53 Q J**	**0.99**	**0.047**	**0.1**	**0.053**
1,2,3,7,8-PeCDF	7/7/15	1	ND	5.0	0.035	0.05	0.0018
2,3,4,7,8-PeCDF	**7/7/15**	**1**	**0.17 J**	**5.0**	**0.036**	**0.5**	**0.085**
1,2,3,4,7,8-HxCDF	**7/7/15**	**1**	**0.046 Q J**	**5.0**	**0.026**	**0.1**	**0.0046**
1,2,3,6,7,8-HxCDF	**7/7/15**	**1**	**0.47 Q J**	**5.0**	**0.027**	**0.1**	**0.047**
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	5.0	0.028	0.1	0.0028
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.0	0.034	0.1	0.0034
1,2,3,4,6,7,8-HpCDF	**7/7/15**	**1**	**0.28 B J**	**5.0**	**0.013**	**0.01**	**0.0028**
1,2,3,4,7,8,9-HpCDF	7/7/15	1	ND	5.0	0.018	0.01	0.00018
OCDF	**7/7/15**	**1**	**0.28 B J**	**9.9**	**0.0050**	**0.001**	**0.00028**
Total TEQ Concentration							**0.32**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	66	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	72	(23 - 140)
13C-OCDD	65	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	68	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	69	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	70	(26 - 138)
13C-OCDF	60	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-079 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-079 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 029	**Work Order #....:**	M64DP1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5177012				
Initial Wgt/Vol :	9.2 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	1.1	0.094	1.0	0.094
1,2,3,7,8-PeCDD	**7/7/15**	**1**	**0.11 Q J**	**5.4**	**0.019**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	5.4	0.016	0.1	0.0016
1,2,3,6,7,8-HxCDD	**7/7/15**	**1**	**0.074 Q J**	**5.4**	**0.017**	**0.1**	**0.0074**
1,2,3,7,8,9-HxCDD	**7/7/15**	**1**	**0.069 Q B J**	**5.4**	**0.015**	**0.1**	**0.0069**
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.56 B J**	**5.4**	**0.035**	**0.01**	**0.0056**
OCDD	**7/7/15**	**1**	**2.7 Q B J**	**11**	**0.033**	**0.001**	**0.0027**
2,3,7,8-TCDF	**7/7/15**	**1**	**0.40 J**	**1.1**	**0.038**	**0.1**	**0.040**
1,2,3,7,8-PeCDF	7/7/15	1	ND	5.4	0.034	0.05	0.0017
2,3,4,7,8-PeCDF	**7/7/15**	**1**	**0.087 Q J**	**5.4**	**0.027**	**0.5**	**0.043**
1,2,3,4,7,8-HxCDF	**7/7/15**	**1**	**0.12 Q J**	**5.4**	**0.018**	**0.1**	**0.012**
1,2,3,6,7,8-HxCDF	**7/7/15**	**1**	**0.38 Q J**	**5.4**	**0.017**	**0.1**	**0.038**
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	5.4	0.019	0.1	0.0019
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.4	0.024	0.1	0.0024
1,2,3,4,6,7,8-HpCDF	**7/7/15**	**1**	**0.19 B J**	**5.4**	**0.010**	**0.01**	**0.0019**
1,2,3,4,7,8,9-HpCDF	**7/7/15**	**1**	**0.057 B J**	**5.4**	**0.014**	**0.01**	**0.00057**
OCDF	**7/7/15**	**1**	**0.17 B J**	**11**	**0.018**	**0.001**	**0.00017**
Total TEQ Concentration							**0.32**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	63	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	71	(23 - 140)
13C-OCDD	62	(17 - 157)
13C-2,3,7,8-TCDF	59	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	64	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	65	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	66	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	64	(26 - 138)
13C-OCDF	55	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-079 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	71	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-079 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 030	**Work Order #....:**	M64DQ1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5177012				
Initial Wgt/Vol :	9 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	1.1	0.093	1.0	0.093
1,2,3,7,8-PeCDD	**7/7/15**	**1**	**0.058 Q J**	**5.6**	**0.028**	**0.5**	**0.029**
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	5.6	0.020	0.1	0.0020
1,2,3,6,7,8-HxCDD	7/7/15	1	ND	5.6	0.019	0.1	0.0019
1,2,3,7,8,9-HxCDD	7/7/15	1	ND	5.6	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.72 B J**	**5.6**	**0.041**	**0.01**	**0.0072**
OCDD	**7/7/15**	**1**	**4.0 B J**	**11**	**0.017**	**0.001**	**0.0040**
2,3,7,8-TCDF	**7/7/15**	**1**	**0.78 J**	**1.1**	**0.047**	**0.1**	**0.078**
1,2,3,7,8-PeCDF	7/7/15	1	ND	5.6	0.037	0.05	0.0018
2,3,4,7,8-PeCDF	**7/7/15**	**1**	**0.057 Q J**	**5.6**	**0.036**	**0.5**	**0.028**
1,2,3,4,7,8-HxCDF	7/7/15	1	ND	5.6	0.025	0.1	0.0025
1,2,3,6,7,8-HxCDF	**7/7/15**	**1**	**0.51 Q J**	**5.6**	**0.023**	**0.1**	**0.051**
2,3,4,6,7,8-HxCDF	**7/7/15**	**1**	**0.030 Q J**	**5.6**	**0.023**	**0.1**	**0.0030**
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.6	0.030	0.1	0.0030
1,2,3,4,6,7,8-HpCDF	**7/7/15**	**1**	**0.15 Q B J**	**5.6**	**0.0096**	**0.01**	**0.0015**
1,2,3,4,7,8,9-HpCDF	7/7/15	1	ND	5.6	0.014	0.01	0.00014
OCDF	**7/7/15**	**1**	**0.18 Q B J**	**11**	**0.0059**	**0.001**	**0.00018**
Total TEQ Concentration							**0.31**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	73	(23 - 140)
13C-OCDD	66	(17 - 157)
13C-2,3,7,8-TCDF	64	(24 - 169)
13C-1,2,3,7,8-PeCDF	69	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	68	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	66	(26 - 138)
13C-OCDF	59	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-079 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-079 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 031	**Work Order #....:**	M64DR1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5177012				
Initial Wgt/Vol :	9.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	1.1	0.072	1.0	0.072
1,2,3,7,8-PeCDD	7/7/15	1	ND	5.5	0.023	0.5	0.012
1,2,3,4,7,8-HxCDD	**7/7/15**	**1**	**0.091 B J**	**5.5**	**0.018**	**0.1**	**0.0091**
1,2,3,6,7,8-HxCDD	**7/7/15**	**1**	**0.054 Q J**	**5.5**	**0.018**	**0.1**	**0.0054**
1,2,3,7,8,9-HxCDD	7/7/15	1	ND	5.5	0.017	0.1	0.0017
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.72 B J**	**5.5**	**0.038**	**0.01**	**0.0072**
OCDD	**7/7/15**	**1**	**4.1 B J**	**11**	**0.020**	**0.001**	**0.0041**
2,3,7,8-TCDF	**7/7/15**	**1**	**0.36 J**	**1.1**	**0.038**	**0.1**	**0.036**
1,2,3,7,8-PeCDF	7/7/15	1	ND	5.5	0.033	0.05	0.0016
2,3,4,7,8-PeCDF	7/7/15	1	ND	5.5	0.031	0.5	0.016
1,2,3,4,7,8-HxCDF	7/7/15	1	ND	5.5	0.029	0.1	0.0029
1,2,3,6,7,8-HxCDF	**7/7/15**	**1**	**0.54 J**	**5.5**	**0.024**	**0.1**	**0.054**
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	5.5	0.026	0.1	0.0026
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.5	0.035	0.1	0.0035
1,2,3,4,6,7,8-HpCDF	**7/7/15**	**1**	**0.22 Q B J**	**5.5**	**0.0089**	**0.01**	**0.0022**
1,2,3,4,7,8,9-HpCDF	**7/7/15**	**1**	**0.069 Q B J**	**5.5**	**0.013**	**0.01**	**0.00069**
OCDF	**7/7/15**	**1**	**0.20 Q B J**	**11**	**0.012**	**0.001**	**0.00020**
Total TEQ Concentration							**0.23**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	71	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	65	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	71	(24 - 185)
13C-2,3,4,7,8-PeCDF	70	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	63	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	69	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	68	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	69	(26 - 138)
13C-OCDF	61	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-079 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	(35 - 197)

NOTES:

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When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-080 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 032	**Work Order #....:**	M64DT1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5177012				
Initial Wgt/Vol :	9.4 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	1.1	0.089	1.0	0.089
1,2,3,7,8-PeCDD	**7/7/15**	**1**	**0.093 Q J**	**5.3**	**0.032**	**0.5**	**0.046**
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	5.3	0.021	0.1	0.0021
1,2,3,6,7,8-HxCDD	**7/7/15**	**1**	**0.14 J**	**5.3**	**0.022**	**0.1**	**0.014**
1,2,3,7,8,9-HxCDD	7/7/15	1	ND	5.3	0.020	0.1	0.0020
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.69 B J**	**5.3**	**0.044**	**0.01**	**0.0069**
OCDD	**7/7/15**	**1**	**2.6 B J**	**11**	**0.055**	**0.001**	**0.0026**
2,3,7,8-TCDF	**7/7/15**	**1**	**0.59 J**	**1.1**	**0.048**	**0.1**	**0.059**
1,2,3,7,8-PeCDF	7/7/15	1	ND	5.3	0.052	0.05	0.0026
2,3,4,7,8-PeCDF	7/7/15	1	ND	5.3	0.047	0.5	0.024
1,2,3,4,7,8-HxCDF	**7/7/15**	**1**	**0.26 Q J**	**5.3**	**0.030**	**0.1**	**0.026**
1,2,3,6,7,8-HxCDF	**7/7/15**	**1**	**0.94 Q J**	**5.3**	**0.029**	**0.1**	**0.094**
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	5.3	0.032	0.1	0.0032
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.3	0.042	0.1	0.0042
1,2,3,4,6,7,8-HpCDF	**7/7/15**	**1**	**0.14 Q B J**	**5.3**	**0.010**	**0.01**	**0.0014**
1,2,3,4,7,8,9-HpCDF	7/7/15	1	ND	5.3	0.016	0.01	0.00016
OCDF	**7/7/15**	**1**	**0.23 Q B J**	**11**	**0.023**	**0.001**	**0.00023**
Total TEQ Concentration							**0.38**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	64	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	72	(23 - 140)
13C-OCDD	61	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	61	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	67	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	69	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	53	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-080 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	73	(35 - 197)

NOTES:

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When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-080 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 033	**Work Order #....:**	M64DV1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5177012				
Initial Wgt/Vol :	8.6 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	1.2	0.091	1.0	0.091
1,2,3,7,8-PeCDD	**7/7/15**	**1**	**0.12 Q J**	**5.8**	**0.025**	**0.5**	**0.060**
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	5.8	0.019	0.1	0.0019
1,2,3,6,7,8-HxCDD	**7/7/15**	**1**	**0.070 Q J**	**5.8**	**0.020**	**0.1**	**0.0070**
1,2,3,7,8,9-HxCDD	7/7/15	1	ND	5.8	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.61 Q B J**	**5.8**	**0.042**	**0.01**	**0.0061**
OCDD	**7/7/15**	**1**	**2.9 B J**	**12**	**0.019**	**0.001**	**0.0029**
2,3,7,8-TCDF	**7/7/15**	**1**	**0.50 J**	**1.2**	**0.048**	**0.1**	**0.050**
1,2,3,7,8-PeCDF	7/7/15	1	ND	5.8	0.048	0.05	0.0024
2,3,4,7,8-PeCDF	**7/7/15**	**1**	**0.15 Q J**	**5.8**	**0.043**	**0.5**	**0.075**
1,2,3,4,7,8-HxCDF	7/7/15	1	ND	5.8	0.030	0.1	0.0030
1,2,3,6,7,8-HxCDF	**7/7/15**	**1**	**0.79 Q J**	**5.8**	**0.029**	**0.1**	**0.079**
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	5.8	0.031	0.1	0.0031
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.8	0.041	0.1	0.0041
1,2,3,4,6,7,8-HpCDF	**7/7/15**	**1**	**0.18 Q B J**	**5.8**	**0.015**	**0.01**	**0.0018**
1,2,3,4,7,8,9-HpCDF	7/7/15	1	ND	5.8	0.021	0.01	0.00021
OCDF	**7/7/15**	**1**	**0.082 Q B J**	**12**	**0.0099**	**0.001**	**0.000082**
Total TEQ Concentration							**0.39**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	59	(25 - 164)
13C-1,2,3,7,8-PeCDD	60	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	62	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	69	(23 - 140)
13C-OCDD	58	(17 - 157)
13C-2,3,7,8-TCDF	56	(24 - 169)
13C-1,2,3,7,8-PeCDF	59	(24 - 185)
13C-2,3,4,7,8-PeCDF	61	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	64	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	59	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	63	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	62	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	62	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	63	(26 - 138)
13C-OCDF	51	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-080 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	68	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-080 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 034	**Work Order #....:**	M64DW1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5177012				
Initial Wgt/Vol :	8.7 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	1.1	0.083	1.0	0.083
1,2,3,7,8-PeCDD	**7/7/15**	**1**	**0.13 Q J**	**5.7**	**0.030**	**0.5**	**0.065**
1,2,3,4,7,8-HxCDD	**7/7/15**	**1**	**0.072 Q B J**	**5.7**	**0.019**	**0.1**	**0.0072**
1,2,3,6,7,8-HxCDD	**7/7/15**	**1**	**0.091 Q J**	**5.7**	**0.019**	**0.1**	**0.0091**
1,2,3,7,8,9-HxCDD	**7/7/15**	**1**	**0.064 B J**	**5.7**	**0.018**	**0.1**	**0.0064**
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.49 Q B J**	**5.7**	**0.030**	**0.01**	**0.0049**
OCDD	**7/7/15**	**1**	**3.0 B J**	**11**	**0.020**	**0.001**	**0.0030**
2,3,7,8-TCDF	**7/7/15**	**1**	**0.19 Q J**	**1.1**	**0.025**	**0.1**	**0.019**
1,2,3,7,8-PeCDF	**7/7/15**	**1**	**0.064 Q J**	**5.7**	**0.031**	**0.05**	**0.0032**
2,3,4,7,8-PeCDF	**7/7/15**	**1**	**0.071 Q J**	**5.7**	**0.029**	**0.5**	**0.035**
1,2,3,4,7,8-HxCDF	7/7/15	1	ND	5.7	0.021	0.1	0.0021
1,2,3,6,7,8-HxCDF	**7/7/15**	**1**	**0.36 Q J**	**5.7**	**0.019**	**0.1**	**0.036**
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	5.7	0.020	0.1	0.0020
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.7	0.028	0.1	0.0028
1,2,3,4,6,7,8-HpCDF	**7/7/15**	**1**	**0.22 B J**	**5.7**	**0.012**	**0.01**	**0.0022**
1,2,3,4,7,8,9-HpCDF	**7/7/15**	**1**	**0.086 Q B J**	**5.7**	**0.019**	**0.01**	**0.00086**
OCDF	**7/7/15**	**1**	**0.19 Q B J**	**11**	**0.0061**	**0.001**	**0.00019**
Total TEQ Concentration							**0.28**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	63	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	68	(23 - 140)
13C-OCDD	59	(17 - 157)
13C-2,3,7,8-TCDF	58	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	63	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	62	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	64	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	60	(26 - 138)
13C-OCDF	54	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-080 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	68	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-080 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 035	**Work Order #....:**	M64DX1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5177012				
Initial Wgt/Vol :	9.4 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	1.1	0.073	1.0	0.073
1,2,3,7,8-PeCDD	7/7/15	1	ND	5.3	0.022	0.5	0.011
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	5.3	0.020	0.1	0.0020
1,2,3,6,7,8-HxCDD	**7/7/15**	**1**	**0.083 Q J**	**5.3**	**0.019**	**0.1**	**0.0083**
1,2,3,7,8,9-HxCDD	**7/7/15**	**1**	**0.064 Q B J**	**5.3**	**0.018**	**0.1**	**0.0064**
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.48 B J**	**5.3**	**0.027**	**0.01**	**0.0048**
OCDD	**7/7/15**	**1**	**2.6 B J**	**11**	**0.014**	**0.001**	**0.0026**
2,3,7,8-TCDF	**7/7/15**	**1**	**0.32 J**	**1.1**	**0.029**	**0.1**	**0.032**
1,2,3,7,8-PeCDF	**7/7/15**	**1**	**0.12 Q J**	**5.3**	**0.028**	**0.05**	**0.0060**
2,3,4,7,8-PeCDF	**7/7/15**	**1**	**0.097 Q J**	**5.3**	**0.027**	**0.5**	**0.048**
1,2,3,4,7,8-HxCDF	**7/7/15**	**1**	**0.17 Q J**	**5.3**	**0.022**	**0.1**	**0.017**
1,2,3,6,7,8-HxCDF	**7/7/15**	**1**	**0.59 Q J**	**5.3**	**0.021**	**0.1**	**0.059**
2,3,4,6,7,8-HxCDF	7/7/15	1	ND	5.3	0.022	0.1	0.0022
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.3	0.028	0.1	0.0028
1,2,3,4,6,7,8-HpCDF	**7/7/15**	**1**	**0.14 Q B J**	**5.3**	**0.0098**	**0.01**	**0.0014**
1,2,3,4,7,8,9-HpCDF	**7/7/15**	**1**	**0.026 Q B J**	**5.3**	**0.013**	**0.01**	**0.00026**
OCDF	**7/7/15**	**1**	**0.29 B J**	**11**	**0.0054**	**0.001**	**0.00029**
Total TEQ Concentration							**0.28**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	63	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	61	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	60	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	69	(23 - 140)
13C-OCDD	61	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	61	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	61	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	64	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	62	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	64	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	65	(26 - 138)
13C-OCDF	55	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-080 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	72	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-080 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190410 - 036	**Work Order #....:**	M64D01AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/26/15			**Dilution Factor:**	1
Prep Batch # ....:	5177012				
Initial Wgt/Vol :	8.9 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/7/15	1	ND	1.1	0.086	1.0	0.086
1,2,3,7,8-PeCDD	**7/7/15**	**1**	**0.13 Q J**	**5.6**	**0.024**	**0.5**	**0.065**
1,2,3,4,7,8-HxCDD	7/7/15	1	ND	5.6	0.017	0.1	0.0017
1,2,3,6,7,8-HxCDD	7/7/15	1	ND	5.6	0.019	0.1	0.0019
1,2,3,7,8,9-HxCDD	**7/7/15**	**1**	**0.064 Q B J**	**5.6**	**0.017**	**0.1**	**0.0064**
1,2,3,4,6,7,8-HpCDD	**7/7/15**	**1**	**0.45 B J**	**5.6**	**0.029**	**0.01**	**0.0045**
OCDD	**7/7/15**	**1**	**2.7 B J**	**11**	**0.042**	**0.001**	**0.0027**
2,3,7,8-TCDF	**7/7/15**	**1**	**0.39 Q J**	**1.1**	**0.030**	**0.1**	**0.039**
1,2,3,7,8-PeCDF	7/7/15	1	ND	5.6	0.028	0.05	0.0014
2,3,4,7,8-PeCDF	**7/7/15**	**1**	**0.072 Q J**	**5.6**	**0.027**	**0.5**	**0.036**
1,2,3,4,7,8-HxCDF	**7/7/15**	**1**	**0.079 Q J**	**5.6**	**0.019**	**0.1**	**0.0079**
1,2,3,6,7,8-HxCDF	**7/7/15**	**1**	**0.60 Q J**	**5.6**	**0.018**	**0.1**	**0.060**
2,3,4,6,7,8-HxCDF	**7/7/15**	**1**	**0.057 Q J**	**5.6**	**0.019**	**0.1**	**0.0057**
1,2,3,7,8,9-HxCDF	7/7/15	1	ND	5.6	0.025	0.1	0.0025
1,2,3,4,6,7,8-HpCDF	**7/7/15**	**1**	**0.22 B J**	**5.6**	**0.010**	**0.01**	**0.0022**
1,2,3,4,7,8,9-HpCDF	7/7/15	1	ND	5.6	0.015	0.01	0.00015
OCDF	**7/7/15**	**1**	**0.17 Q B J**	**11**	**0.019**	**0.001**	**0.00017**
Total TEQ Concentration							**0.32**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	66	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	68	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	70	(26 - 138)
13C-OCDF	58	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-080 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	73	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F230000 - 018B	**Work Order #....:**	M64P01AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/23/15	**Analysis Date....:**	06/30/15		
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.053	pg/g
1,2,3,7,8-PeCDD	**0.087**	**Q J**	**5.0**	**0.013**	**pg/g**
1,2,3,4,7,8-HxCDD	ND		5.0	0.010	pg/g
1,2,3,6,7,8-HxCDD	ND		5.0	0.011	pg/g
1,2,3,7,8,9-HxCDD	ND		5.0	0.0098	pg/g
1,2,3,4,6,7,8-HpCDD	ND		5.0	0.015	pg/g
OCDD	**0.29**	**Q J**	**10**	**0.018**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.0039	pg/g
1,2,3,7,8-PeCDF	**0.060**	**Q J**	**5.0**	**0.0080**	**pg/g**
2,3,4,7,8-PeCDF	ND		5.0	0.0072	pg/g
1,2,3,4,7,8-HxCDF	ND		5.0	0.0071	pg/g
1,2,3,6,7,8-HxCDF	**0.048**	**Q J**	**5.0**	**0.0070**	**pg/g**
2,3,4,6,7,8-HxCDF	**0.032**	**Q J**	**5.0**	**0.0076**	**pg/g**
1,2,3,7,8,9-HxCDF	**0.045**	**Q J**	**5.0**	**0.010**	**pg/g**
1,2,3,4,6,7,8-HpCDF	**0.041**	**J**	**5.0**	**0.0039**	**pg/g**
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.0065	pg/g
OCDF	**0.044**	**Q J**	**10**	**0.014**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	25 - 164
13C-1,2,3,7,8-PeCDD	56	25 - 181
13C-1,2,3,4,7,8-HxCDD	66	32 - 141
13C-1,2,3,6,7,8-HxCDD	63	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	60	23 - 140
13C-OCDD	32	17 - 157
13C-2,3,7,8-TCDF	62	24 - 169
13C-1,2,3,7,8-PeCDF	62	24 - 185
13C-2,3,4,7,8-PeCDF	64	21 - 178
13C-1,2,3,4,7,8-HxCDF	68	26 - 152
13C-1,2,3,6,7,8-HxCDF	61	26 - 123
13C-2,3,4,6,7,8-HxCDF	67	28 - 136
13C-1,2,3,7,8,9-HxCDF	61	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	58	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	49	26 - 138
13C-OCDF	30	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F230000 - 018B	**Work Order #....:**	M64P01AA	**Matrix.....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/23/15	**Analysis Date....:**	06/30/15		
Prep Batch # ....:	5174018				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	74	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64P01AC-LCS	**Matrix .....:**	BIOLOGICA
LCS Lot-Sample# :	H5F230000 - 018				
Prep Date .....:	06/23/15	**Analysis Date ..:**	06/30/15		
Prep Batch # ...:	5174018				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**20.2**	**pg/g**	**101**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**115**	**pg/g**	**115**	**B**	**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**103**	**pg/g**	**103**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**96.5**	**pg/g**	**96**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**113**	**pg/g**	**113**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**97.4**	**pg/g**	**97**		**(70 - 140)**
OCDD	**200**	**191**	**pg/g**	**95**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**20.3**	**pg/g**	**101**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**103**	**pg/g**	**103**	**B**	**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**111**	**pg/g**	**111**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**96.6**	**pg/g**	**97**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**94.6**	**pg/g**	**95**	**B**	**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**93.1**	**pg/g**	**93**	**B**	**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**94.0**	**pg/g**	**94**	**B**	**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**99.7**	**pg/g**	**100**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**98.5**	**pg/g**	**99**		**(78 - 138)**
OCDF	**200**	**200**	**pg/g**	**100**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(20 - 175)
13C-1,2,3,7,8-PeCDD	60	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	64	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	63	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	67	(26 - 166)
13C-OCDD	45	(13 - 199)
13C-2,3,7,8-TCDF	62	(22 - 152)
13C-1,2,3,7,8-PeCDF	64	(21 - 192)
13C-2,3,4,7,8-PeCDF	66	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	62	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	60	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	66	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	63	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	55	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	55	(20 - 186)
13C-OCDF	38	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	79	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64CV1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190410 - 004		M64CV1AD-MSD		
Prep Date .....:	06/23/15	**Analysis Date ..:**	06/30/15		
Prep Batch # ...:	5174018				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	9.6 g				

PARAMETER	SAMPLE AMOUNT	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	ND	21.1	23.5	pg/g	112	(67 - 158)		
	ND	21.1	23.7	pg/g	113	(67 - 158)	0.98	(0 - 25)
1,2,3,7,8-PeCDD	0.060	105	116	pg/g	111 B	(70 - 142)		
	0.060	105	122	pg/g	116 B	(70 - 142)	4.7	(0 - 25)
1,2,3,4,7,8-HxCDD	0.025	105	109	pg/g	104	(70 - 164)		
	0.025	105	108	pg/g	103	(70 - 164)	0.82	(0 - 25)
1,2,3,6,7,8-HxCDD	ND	105	98.7	pg/g	94	(76 - 134)		
	ND	105	110	pg/g	105	(76 - 134)	11	(0 - 25)
1,2,3,7,8,9-HxCDD	0.067	105	106	pg/g	101	(64 - 162)		
	0.067	105	115	pg/g	109	(64 - 162)	7.9	(0 - 25)
1,2,3,4,6,7,8-HpCDD	0.88	105	101	pg/g	95	(70 - 140)		
	0.88	105	108	pg/g	102	(70 - 140)	7.4	(0 - 25)
OCDD	5.5	211	202	pg/g	93 B	(78 - 144)		
	5.5	211	216	pg/g	100 B	(78 - 144)	6.7	(0 - 25)
2,3,7,8-TCDF	0.60	21.1	21.9	pg/g	101 X	(75 - 158)		
	0.60	21.1	22.8	pg/g	105 X	(75 - 158)	3.8	(0 - 25)
1,2,3,7,8-PeCDF	0.089	105	107	pg/g	101 B	(80 - 134)		
	0.089	105	109	pg/g	104 B	(80 - 134)	2.3	(0 - 25)
2,3,4,7,8-PeCDF	0.092	105	113	pg/g	107	(68 - 160)		
	0.092	105	120	pg/g	114	(68 - 160)	6.6	(0 - 25)
1,2,3,4,7,8-HxCDF	0.12	105	105	pg/g	100	(72 - 134)		
	0.12	105	106	pg/g	100	(72 - 134)	0.38	(0 - 25)
1,2,3,6,7,8-HxCDF	0.34	105	98.9	pg/g	94 B	(84 - 130)		
	0.34	105	104	pg/g	98 B	(84 - 130)	4.8	(0 - 25)
2,3,4,6,7,8-HxCDF	ND	105	102	pg/g	97 B	(70 - 156)		
	ND	105	100	pg/g	95 B	(70 - 156)	1.1	(0 - 25)
1,2,3,7,8,9-HxCDF	ND	105	102	pg/g	96 B	(78 - 130)		
	ND	105	104	pg/g	99 B	(78 - 130)	2.4	(0 - 25)
1,2,3,4,6,7,8-HpCDF	0.31	105	100	pg/g	95 B	(82 - 122)		
	0.31	105	103	pg/g	98 B	(82 - 122)	3.0	(0 - 25)
1,2,3,4,7,8,9-HpCDF	ND	105	103	pg/g	98	(78 - 138)		
	ND	105	106	pg/g	101	(78 - 138)	3.1	(0 - 25)
OCDF	0.29	211	203	pg/g	96 B	(63 - 170)		
	0.29	211	201	pg/g	95 B	(63 - 170)	1.1	(0 - 25)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64CV1AC-MS M64CV1AD-MSD	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190410 - 004				
Prep Date .....:	06/23/15	**Analysis Date ..:**	06/30/15		
Prep Batch # ...:	5174018				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	9.6 g				

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	63	(25 - 164)
	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	62	(25 - 181)
	57	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	72	(32 - 141)
	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	72	(28 - 130)
	62	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	71	(23 - 140)
	68	(23 - 140)
13C-OCDD	49	(17 - 157)
	45	(17 - 157)
13C-2,3,7,8-TCDF	65	(24 - 169)
	64	(24 - 169)
13C-1,2,3,7,8-PeCDF	66	(24 - 185)
	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
	62	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	68	(26 - 152)
	65	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
	62	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	67	(28 - 136)
	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	66	(29 - 147)
	62	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
	63	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	63	(26 - 138)
	61	(26 - 138)
13C-OCDF	45	(17 - 157)
	42	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	84	(35 - 197)
	80	(35 - 197)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64CV1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190410 - 004		M64CV1AD-MSD		
Prep Date .....:	06/23/15	**Analysis Date ..:**	06/30/15		
Prep Batch # ...:	5174018				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	9.6 g				

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

X See project narrative.

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64CW1AC-MS M64CW1AD-MSD	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190410 - 005				
Prep Date .....:	06/23/15	**Analysis Date ..:**	06/30/15		
Prep Batch # ...:	5174018				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	9.8 g				

PARAMETER	SAMPLE AMOUNT	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	ND	20.8	24.1	pg/g	116	(67 - 158)		
	ND	20.8	24.1	pg/g	115	(67 - 158)	0.25	(0 - 25)
1,2,3,7,8-PeCDD	0.097	104	126	pg/g	121 B	(70 - 142)		
	0.097	104	123	pg/g	118 B	(70 - 142)	2.6	(0 - 25)
1,2,3,4,7,8-HxCDD	0.088	104	114	pg/g	110	(70 - 164)		
	0.088	104	109	pg/g	104	(70 - 164)	4.9	(0 - 25)
1,2,3,6,7,8-HxCDD	0.11	104	110	pg/g	105	(76 - 134)		
	0.11	104	108	pg/g	104	(76 - 134)	1.4	(0 - 25)
1,2,3,7,8,9-HxCDD	0.099	104	117	pg/g	112	(64 - 162)		
	0.099	104	114	pg/g	109	(64 - 162)	2.8	(0 - 25)
1,2,3,4,6,7,8-HpCDD	1.2	104	108	pg/g	103	(70 - 140)		
	1.2	104	109	pg/g	104	(70 - 140)	0.61	(0 - 25)
OCDD	6.2	208	219	pg/g	102 B	(78 - 144)		
	6.2	208	217	pg/g	101 B	(78 - 144)	1.0	(0 - 25)
2,3,7,8-TCDF	0.90	20.8	22.9	pg/g	106 X	(75 - 158)		
	0.90	20.8	24.3	pg/g	112 X	(75 - 158)	5.8	(0 - 25)
1,2,3,7,8-PeCDF	0.090	104	110	pg/g	105 B	(80 - 134)		
	0.090	104	111	pg/g	106 B	(80 - 134)	0.77	(0 - 25)
2,3,4,7,8-PeCDF	0.30	104	117	pg/g	112	(68 - 160)		
	0.30	104	118	pg/g	113	(68 - 160)	0.95	(0 - 25)
1,2,3,4,7,8-HxCDF	0.20	104	104	pg/g	100	(72 - 134)		
	0.20	104	111	pg/g	106	(72 - 134)	5.8	(0 - 25)
1,2,3,6,7,8-HxCDF	0.51	104	106	pg/g	101 B	(84 - 130)		
	0.51	104	109	pg/g	104 B	(84 - 130)	2.8	(0 - 25)
2,3,4,6,7,8-HxCDF	0.088	104	106	pg/g	102 B	(70 - 156)		
	0.088	104	111	pg/g	107 B	(70 - 156)	5.1	(0 - 25)
1,2,3,7,8,9-HxCDF	ND	104	101	pg/g	97 B	(78 - 130)		
	ND	104	105	pg/g	101 B	(78 - 130)	3.9	(0 - 25)
1,2,3,4,6,7,8-HpCDF	0.38	104	105	pg/g	100 B	(82 - 122)		
	0.38	104	107	pg/g	103 B	(82 - 122)	2.6	(0 - 25)
1,2,3,4,7,8,9-HpCDF	ND	104	105	pg/g	101	(78 - 138)		
	ND	104	112	pg/g	107	(78 - 138)	6.1	(0 - 25)
OCDF	0.48	208	207	pg/g	99 B	(63 - 170)		
	0.48	208	216	pg/g	104 B	(63 - 170)	4.1	(0 - 25)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64CW1AC-MS M64CW1AD-MSD	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190410 - 005				
Prep Date .....:	06/23/15	**Analysis Date ..:**	06/30/15		
Prep Batch # ...:	5174018				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	9.8 g				

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	57	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 164)
13C-1,2,3,4,7,8-HxCDD	52	(25 - 181)
13C-1,2,3,6,7,8-HxCDD	59	(25 - 181)
13C-1,2,3,4,6,7,8-HpCDD	65	(32 - 141)
13C-OCDD	71	(32 - 141)
13C-2,3,7,8-TCDF	62	(28 - 130)
13C-1,2,3,7,8-PeCDF	65	(28 - 130)
13C-2,3,4,7,8-PeCDF	67	(23 - 140)
13C-1,2,3,4,7,8-HxCDF	74	(23 - 140)
13C-1,2,3,6,7,8-HxCDF	45	(17 - 157)
13C-2,3,4,6,7,8-HxCDF	60	(17 - 157)
13C-1,2,3,7,8,9-HxCDF	61	(24 - 169)
13C-1,2,3,4,6,7,8-HpCDF	69	(24 - 169)
13C-1,2,3,4,7,8,9-HpCDF	58	(24 - 185)
13C-OCDF	62	(24 - 185)
	60	(21 - 178)
	65	(21 - 178)
	66	(26 - 152)
	69	(26 - 152)
	60	(26 - 123)
	66	(26 - 123)
	63	(28 - 136)
	68	(28 - 136)
	63	(29 - 147)
	67	(29 - 147)
	62	(28 - 143)
	69	(28 - 143)
	60	(26 - 138)
	71	(26 - 138)
	43	(17 - 157)
	57	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	79	(35 - 197)
	82	(35 - 197)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64CW1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190410 - 005		M64CW1AD-MSD		
Prep Date .....:	06/23/15	**Analysis Date ..:**	06/30/15		
Prep Batch # ...:	5174018				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	9.8 g				

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

X See project narrative.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F240000 - 013B	**Work Order #....:**	M64X81AA	**Matrix.....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/24/15	**Analysis Date....:**	07/07/15		
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.077	pg/g
1,2,3,7,8-PeCDD	**0.098**	**Q J**	**5.0**	**0.020**	**pg/g**
1,2,3,4,7,8-HxCDD	**0.054**	**J**	**5.0**	**0.012**	**pg/g**
1,2,3,6,7,8-HxCDD	ND		5.0	0.012	pg/g
1,2,3,7,8,9-HxCDD	**0.042**	**Q J**	**5.0**	**0.011**	**pg/g**
1,2,3,4,6,7,8-HpCDD	**0.13**	**Q J**	**5.0**	**0.018**	**pg/g**
OCDD	**0.38**	**Q J**	**10**	**0.0091**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.011	pg/g
1,2,3,7,8-PeCDF	**0.054**	**Q J**	**5.0**	**0.015**	**pg/g**
2,3,4,7,8-PeCDF	**0.092**	**J**	**5.0**	**0.013**	**pg/g**
1,2,3,4,7,8-HxCDF	ND		5.0	0.011	pg/g
1,2,3,6,7,8-HxCDF	**0.033**	**Q J**	**5.0**	**0.010**	**pg/g**
2,3,4,6,7,8-HxCDF	**0.061**	**Q J**	**5.0**	**0.011**	**pg/g**
1,2,3,7,8,9-HxCDF	**0.070**	**Q J**	**5.0**	**0.014**	**pg/g**
1,2,3,4,6,7,8-HpCDF	**0.070**	**Q J**	**5.0**	**0.0031**	**pg/g**
1,2,3,4,7,8,9-HpCDF	**0.12**	**Q J**	**5.0**	**0.0047**	**pg/g**
OCDF	**0.23**	**Q J**	**10**	**0.0052**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	71	25 - 164
13C-1,2,3,7,8-PeCDD	74	25 - 181
13C-1,2,3,4,7,8-HxCDD	70	32 - 141
13C-1,2,3,6,7,8-HxCDD	73	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	78	23 - 140
13C-OCDD	68	17 - 157
13C-2,3,7,8-TCDF	70	24 - 169
13C-1,2,3,7,8-PeCDF	72	24 - 185
13C-2,3,4,7,8-PeCDF	74	21 - 178
13C-1,2,3,4,7,8-HxCDF	73	26 - 152
13C-1,2,3,6,7,8-HxCDF	71	26 - 123
13C-2,3,4,6,7,8-HxCDF	72	28 - 136
13C-1,2,3,7,8,9-HxCDF	68	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	71	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	65	26 - 138
13C-OCDF	57	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F240000 - 013B	**Work Order #....:**	M64X81AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/24/15	**Analysis Date....:**	07/07/15		
Prep Batch # ....:	5175013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	86	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64X81AC-LCS	**Matrix .....:**	BIOLOGICA
LCS Lot-Sample# :	H5F240000 - 013				
Prep Date .....:	06/24/15	**Analysis Date ..:**	07/07/15		
Prep Batch # ...:	5175013				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**21.8**	**pg/g**	**109**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**107**	**pg/g**	**107**	**B**	**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**104**	**pg/g**	**104**	**B**	**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**105**	**pg/g**	**105**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**118**	**pg/g**	**118**	**B**	**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**101**	**pg/g**	**101**	**B**	**(70 - 140)**
OCDD	**200**	**189**	**pg/g**	**94**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**21.2**	**pg/g**	**106**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**94.2**	**pg/g**	**94**	**B**	**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**106**	**pg/g**	**106**	**B**	**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**103**	**pg/g**	**103**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**101**	**pg/g**	**101**	**B**	**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**103**	**pg/g**	**103**	**B**	**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**98.4**	**pg/g**	**98**	**B**	**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**96.7**	**pg/g**	**97**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**103**	**pg/g**	**103**	**B**	**(78 - 138)**
OCDF	**200**	**201**	**pg/g**	**101**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(20 - 175)
13C-1,2,3,7,8-PeCDD	69	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	67	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	63	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	72	(26 - 166)
13C-OCDD	68	(13 - 199)
13C-2,3,7,8-TCDF	67	(22 - 152)
13C-1,2,3,7,8-PeCDF	71	(21 - 192)
13C-2,3,4,7,8-PeCDF	70	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	67	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	66	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	68	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	67	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	70	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	62	(20 - 186)
13C-OCDF	55	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	82	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64CX1AC-MS M64CX1AD-MSD	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190410 - 006				
Prep Date .....:	06/24/15	**Analysis Date ..:**	07/08/15		
Prep Batch # ...:	5175013				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	9.7 g				

PARAMETER	SAMPLE AMOUNT	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	0.10	20.6	21.9	pg/g	106	(67 - 158)		
	0.10	20.6	23.7	pg/g	114	(67 - 158)	8.0	(0 - 25)
1,2,3,7,8-PeCDD	0.11	103	113	pg/g	110 B	(70 - 142)		
	0.11	103	113	pg/g	110 B	(70 - 142)	0.010	(0 - 25)
1,2,3,4,7,8-HxCDD	0.088	103	112	pg/g	109 B	(70 - 164)		
	0.088	103	113	pg/g	109 B	(70 - 164)	0.57	(0 - 25)
1,2,3,6,7,8-HxCDD	0.13	103	110	pg/g	107	(76 - 134)		
	0.13	103	107	pg/g	103	(76 - 134)	3.5	(0 - 25)
1,2,3,7,8,9-HxCDD	0.051	103	119	pg/g	116 B	(64 - 162)		
	0.051	103	116	pg/g	112 B	(64 - 162)	2.8	(0 - 25)
1,2,3,4,6,7,8-HpCDD	0.81	103	107	pg/g	103 B	(70 - 140)		
	0.81	103	107	pg/g	103 B	(70 - 140)	0.64	(0 - 25)
OCDD	4.6	206	201	pg/g	95 B	(78 - 144)		
	4.6	206	203	pg/g	96 B	(78 - 144)	0.83	(0 - 25)
2,3,7,8-TCDF	0.68	20.6	23.7	pg/g	111 X	(75 - 158)		
	0.68	20.6	24.0	pg/g	113 X	(75 - 158)	1.4	(0 - 25)
1,2,3,7,8-PeCDF	0.068	103	103	pg/g	100 B	(80 - 134)		
	0.068	103	100	pg/g	97 B	(80 - 134)	2.4	(0 - 25)
2,3,4,7,8-PeCDF	0.17	103	115	pg/g	112 B	(68 - 160)		
	0.17	103	113	pg/g	110 B	(68 - 160)	1.6	(0 - 25)
1,2,3,4,7,8-HxCDF	0.21	103	107	pg/g	103	(72 - 134)		
	0.21	103	112	pg/g	109	(72 - 134)	4.8	(0 - 25)
1,2,3,6,7,8-HxCDF	0.76	103	109	pg/g	105 B	(84 - 130)		
	0.76	103	109	pg/g	105 B	(84 - 130)	0.60	(0 - 25)
2,3,4,6,7,8-HxCDF	0.11	103	110	pg/g	106 B	(70 - 156)		
	0.11	103	112	pg/g	108 B	(70 - 156)	1.8	(0 - 25)
1,2,3,7,8,9-HxCDF	ND	103	109	pg/g	106 B	(78 - 130)		
	ND	103	106	pg/g	103 B	(78 - 130)	3.0	(0 - 25)
1,2,3,4,6,7,8-HpCDF	0.37	103	105	pg/g	102 B	(82 - 122)		
	0.37	103	106	pg/g	102 B	(82 - 122)	0.28	(0 - 25)
1,2,3,4,7,8,9-HpCDF	0.048	103	112	pg/g	108 B	(78 - 138)		
	0.048	103	115	pg/g	111 B	(78 - 138)	2.4	(0 - 25)
OCDF	0.42	206	216	pg/g	105 B	(63 - 170)		
	0.42	206	218	pg/g	106 B	(63 - 170)	0.99	(0 - 25)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64CX1AC-MS M64CX1AD-MSD	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190410 - 006				
Prep Date .....:	06/24/15	**Analysis Date ..:**	07/08/15		
Prep Batch # ...:	5175013				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	9.7 g				

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	59	(25 - 164)
13C-1,2,3,4,7,8-HxCDD	66	(25 - 181)
13C-1,2,3,6,7,8-HxCDD	64	(25 - 181)
13C-1,2,3,4,6,7,8-HpCDD	64	(32 - 141)
13C-OCDD	66	(32 - 141)
13C-2,3,7,8-TCDF	65	(28 - 130)
13C-1,2,3,7,8-PeCDF	66	(28 - 130)
13C-2,3,4,7,8-PeCDF	71	(23 - 140)
13C-1,2,3,4,7,8-HxCDF	70	(23 - 140)
13C-1,2,3,6,7,8-HxCDF	66	(17 - 157)
13C-2,3,4,6,7,8-HxCDF	65	(17 - 157)
13C-1,2,3,7,8,9-HxCDF	64	(24 - 169)
13C-1,2,3,4,6,7,8-HpCDF	61	(24 - 169)
13C-1,2,3,4,7,8,9-HpCDF	66	(24 - 185)
13C-OCDF	65	(24 - 185)
	63	(21 - 178)
	64	(21 - 178)
	67	(26 - 152)
	65	(26 - 152)
	63	(26 - 123)
	64	(26 - 123)
	67	(28 - 136)
	66	(28 - 136)
	63	(29 - 147)
	65	(29 - 147)
	66	(28 - 143)
	67	(28 - 143)
	62	(26 - 138)
	60	(26 - 138)
	53	(17 - 157)
	53	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	89	(35 - 197)
	81	(35 - 197)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64CX1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190410 - 006		M64CX1AD-MSD		
Prep Date .....:	06/24/15	**Analysis Date ..:**	07/08/15		
Prep Batch # ...:	5175013				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	9.7 g				

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

X See project narrative.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F260000 - 012B	**Work Order #....:**	M649E1AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/26/15	**Analysis Date....:**	07/06/15		
Prep Batch # ....:	5177012				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.11	pg/g
1,2,3,7,8-PeCDD	ND		5.0	0.033	pg/g
1,2,3,4,7,8-HxCDD	**0.12**	**Q J**	**5.0**	**0.026**	**pg/g**
1,2,3,6,7,8-HxCDD	ND		5.0	0.025	pg/g
1,2,3,7,8,9-HxCDD	**0.17**	**J**	**5.0**	**0.024**	**pg/g**
1,2,3,4,6,7,8-HpCDD	**0.16**	**Q J**	**5.0**	**0.047**	**pg/g**
OCDD	**0.38**	**Q J**	**10**	**0.018**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.034	pg/g
1,2,3,7,8-PeCDF	ND		5.0	0.023	pg/g
2,3,4,7,8-PeCDF	ND		5.0	0.021	pg/g
1,2,3,4,7,8-HxCDF	ND		5.0	0.034	pg/g
1,2,3,6,7,8-HxCDF	ND		5.0	0.031	pg/g
2,3,4,6,7,8-HxCDF	ND		5.0	0.034	pg/g
1,2,3,7,8,9-HxCDF	ND		5.0	0.045	pg/g
1,2,3,4,6,7,8-HpCDF	**0.074**	**J**	**5.0**	**0.0079**	**pg/g**
1,2,3,4,7,8,9-HpCDF	**0.12**	**Q J**	**5.0**	**0.012**	**pg/g**
OCDF	**0.13**	**Q J**	**10**	**0.0070**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	63	25 - 164
13C-1,2,3,7,8-PeCDD	74	25 - 181
13C-1,2,3,4,7,8-HxCDD	63	32 - 141
13C-1,2,3,6,7,8-HxCDD	72	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	73	23 - 140
13C-OCDD	66	17 - 157
13C-2,3,7,8-TCDF	67	24 - 169
13C-1,2,3,7,8-PeCDF	71	24 - 185
13C-2,3,4,7,8-PeCDF	72	21 - 178
13C-1,2,3,4,7,8-HxCDF	68	26 - 152
13C-1,2,3,6,7,8-HxCDF	65	26 - 123
13C-2,3,4,6,7,8-HxCDF	68	28 - 136
13C-1,2,3,7,8,9-HxCDF	65	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	67	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	61	26 - 138
13C-OCDF	60	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F260000 - 012B	**Work Order #....:**	M649E1AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/26/15	**Analysis Date....:**	07/06/15		
Prep Batch # ....:	5177012				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	75	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M649E1AC-LCS	**Matrix .....:**	BIOLOGICA
LCS Lot-Sample# :	H5F260000 - 012				
Prep Date .....:	06/26/15	**Analysis Date ..:**	07/06/15		
Prep Batch # ...:	5177012				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**21.3**	**pg/g**	**106**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**112**	**pg/g**	**112**		**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**98.4**	**pg/g**	**98**	**B**	**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**91.7**	**pg/g**	**92**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**107**	**pg/g**	**107**	**B**	**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**89.4**	**pg/g**	**89**	**B**	**(70 - 140)**
OCDD	**200**	**181**	**pg/g**	**91**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**22.0**	**pg/g**	**110**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**94.8**	**pg/g**	**95**		**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**102**	**pg/g**	**102**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**103**	**pg/g**	**103**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**101**	**pg/g**	**101**		**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**98.6**	**pg/g**	**99**		**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**97.6**	**pg/g**	**98**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**103**	**pg/g**	**103**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**96.2**	**pg/g**	**96**	**B**	**(78 - 138)**
OCDF	**200**	**185**	**pg/g**	**93**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(20 - 175)
13C-1,2,3,7,8-PeCDD	68	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	65	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	66	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	75	(26 - 166)
13C-OCDD	66	(13 - 199)
13C-2,3,7,8-TCDF	64	(22 - 152)
13C-1,2,3,7,8-PeCDF	72	(21 - 192)
13C-2,3,4,7,8-PeCDF	74	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	62	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	62	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	66	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	62	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	61	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	59	(20 - 186)
13C-OCDF	51	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64DE1AC-MS M64DE1AD-MSD	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190410 - 020				
Prep Date .....:	06/26/15	**Analysis Date ..:**	07/06/15		
Prep Batch # ...:	5177012				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	8.7 g				

PARAMETER	SAMPLE AMOUNT	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	ND	22.7	22.8	pg/g	100	(67 - 158)		
	ND	22.7	23.2	pg/g	102	(67 - 158)	1.8	(0 - 25)
1,2,3,7,8-PeCDD	ND	114	112	pg/g	99	(70 - 142)		
	ND	114	116	pg/g	102	(70 - 142)	3.2	(0 - 25)
1,2,3,4,7,8-HxCDD	ND	114	110	pg/g	97 B	(70 - 164)		
	ND	114	119	pg/g	104 B	(70 - 164)	7.3	(0 - 25)
1,2,3,6,7,8-HxCDD	ND	114	115	pg/g	101	(76 - 134)		
	ND	114	114	pg/g	101	(76 - 134)	0.74	(0 - 25)
1,2,3,7,8,9-HxCDD	ND	114	119	pg/g	104 B	(64 - 162)		
	ND	114	119	pg/g	105 B	(64 - 162)	0.30	(0 - 25)
1,2,3,4,6,7,8-HpCDD	0.34	114	109	pg/g	96 B	(70 - 140)		
	0.34	114	108	pg/g	94 B	(70 - 140)	1.5	(0 - 25)
OCDD	4.2	227	225	pg/g	97 B	(78 - 144)		
	4.2	227	209	pg/g	90 B	(78 - 144)	7.3	(0 - 25)
2,3,7,8-TCDF	ND	22.7	23.6	pg/g	104 X	(75 - 158)		
	ND	22.7	25.8	pg/g	113 X	(75 - 158)	9.0	(0 - 25)
1,2,3,7,8-PeCDF	ND	114	107	pg/g	94	(80 - 134)		
	ND	114	107	pg/g	94	(80 - 134)	0.010	(0 - 25)
2,3,4,7,8-PeCDF	ND	114	113	pg/g	100	(68 - 160)		
	ND	114	119	pg/g	105	(68 - 160)	5.0	(0 - 25)
1,2,3,4,7,8-HxCDF	ND	114	116	pg/g	102	(72 - 134)		
	ND	114	117	pg/g	103	(72 - 134)	0.33	(0 - 25)
1,2,3,6,7,8-HxCDF	0.30	114	116	pg/g	102	(84 - 130)		
	0.30	114	114	pg/g	100	(84 - 130)	1.7	(0 - 25)
2,3,4,6,7,8-HxCDF	ND	114	118	pg/g	104	(70 - 156)		
	ND	114	117	pg/g	103	(70 - 156)	1.2	(0 - 25)
1,2,3,7,8,9-HxCDF	ND	114	107	pg/g	94	(78 - 130)		
	ND	114	111	pg/g	98	(78 - 130)	3.6	(0 - 25)
1,2,3,4,6,7,8-HpCDF	0.091	114	109	pg/g	96 B	(82 - 122)		
	0.091	114	110	pg/g	96 B	(82 - 122)	0.85	(0 - 25)
1,2,3,4,7,8,9-HpCDF	ND	114	119	pg/g	104 B	(78 - 138)		
	ND	114	115	pg/g	101 B	(78 - 138)	3.0	(0 - 25)
OCDF	0.14	227	218	pg/g	96 B	(63 - 170)		
	0.14	227	218	pg/g	96 B	(63 - 170)	0.19	(0 - 25)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64DE1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190410 - 020		M64DE1AD-MSD		
Prep Date .....:	06/26/15	**Analysis Date ..:**	07/06/15		
Prep Batch # ...:	5177012				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	8.7 g				

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
	58	(25 - 164)
13C-1,2,3,7,8-PeCDD	71	(25 - 181)
	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	62	(28 - 130)
	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	71	(23 - 140)
	77	(23 - 140)
13C-OCDD	63	(17 - 157)
	68	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
	56	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	69	(21 - 178)
	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	62	(26 - 152)
	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	60	(26 - 123)
	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	63	(28 - 136)
	67	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	65	(28 - 143)
	69	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	63	(26 - 138)
	70	(26 - 138)
13C-OCDF	60	(17 - 157)
	60	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	71	(35 - 197)
	66	(35 - 197)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190410	**Work Order # ...:**	M64DE1AC-MS M64DE1AD-MSD	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190410 - 020				
Prep Date .....:	06/26/15	**Analysis Date ..:**	07/06/15		
Prep Batch # ...:	5177012				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	8.7 g				

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

X See project narrative.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

14SF150410

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 4
Company: TestAmerica Laboratories, Inc.				Job #: 180-44665-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921	PO #:			
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	WO #:			
Email:	Project #: 18014305			
Project Name: CBBT Thimble Shoal Parallel Tunnel	SSOW#:			
Site:				

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-074 A-W (180-44665-1)	5/21/15	12:00 Eastern		Tissue			X	1	CUSTODY SEALS INTACT
AT5-074 B-W (180-44665-2)	5/21/15	12:00 Eastern		Tissue			X	1	RECEIVED AT
AT5-074 C-W (180-44665-3)	5/21/15	12:00 Eastern		Tissue			X	1	RT 0.4,0.2,0.2 / CT 0.4,0.2,0.2°C
PRETESTA-W (180-44665-4)	4/22/15	12:00 Eastern		Tissue			X	1	AKG 6-19-15
PRETESTA-W (180-44665-4MS)	4/22/15	12:00 Eastern	MS	Tissue			X	1	3 COOLERS FED X
PRETESTA-W (180-44665-4MSD)	4/22/15	12:00 Eastern	MSD	Tissue			X	1	568237263908 M
PRETESTB-W (180-44665-5)	4/22/15	12:00 Eastern		Tissue			X	1	
PRETESTB-W (180-44665-5MS)	4/22/15	12:00 Eastern	MS	Tissue			X	1	
PRETESTB-W (180-44665-5MSD)	4/22/15	12:00 Eastern	MSD	Tissue			X	1	
PRETESTC-W (180-44665-6)	4/22/15	12:00 Eastern		Tissue			X	1	
PRETESTC-W (180-44665-6MS)	4/22/15	12:00 Eastern	MS	Tissue			X	1	

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		6/18/15			6-19-15 09:45	TA KNOX
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ^ Yes ^ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

HSF190410

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 2 of 4
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-44665-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			Preservation Codes:
City: Knoxville	TAT Requested (days):			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2SO3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - ph 4-5 L - EDA Z - other (specify)
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PRETESTC-W (180-44665-6MSD)	4/22/15	12:00 Eastern	MSD	Tissue			X	1	
AT5-075 A-W (180-44665-7)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-075 B-W (180-44665-8)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-075 C-W (180-44665-9)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-075 D-W (180-44665-10)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-075 E-W (180-44665-11)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-076 A-W (180-44665-12)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-076 B-W (180-44665-13)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-076 C-W (180-44665-14)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-076 D-W (180-44665-15)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-076 E-W (180-44665-16)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		6/18/15 17			6-19-15 09:45	TA KNOX
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record HSF190410

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 3 of 4
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-44665-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			Preservation Codes:
City: Knoxville	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-077 A-W (180-44665-17)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-077 B-W (180-44665-18)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-077 C-W (180-44665-19)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-077 D-W (180-44665-20)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-077 D-W (180-44665-20MS)	5/21/15	12:00 Eastern	MS	Tissue			X	1	
AT5-077 D-W (180-44665-20MSD)	5/21/15	12:00 Eastern	MSD	Tissue			X	1	
AT5-077 E-W (180-44665-21)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-078 A-W (180-44665-22)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-078 B-W (180-44665-23)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-078 C-W (180-44665-24)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-078 D-W (180-44665-25)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/18/15			6-19-15 09:45	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

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TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

HJF190410

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.4
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 4 of 4
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-44665-1
Address: 5815 Middlebrook Pike,	Due Date Requested: 7/6/2015			Preservation Codes:
City: Knoxville	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-078 E-W (180-44665-26)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-079 A-W (180-44665-27)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-079 B-W (180-44665-28)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-079 C-W (180-44665-29)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-079 D-W (180-44665-30)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-079 E-W (180-44665-31)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-080 A-W (180-44665-32)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-080 B-W (180-44665-33)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-080 C-W (180-44665-34)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-080 D-W (180-44665-35)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-080 E-W (180-44665-36)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		6/11/15			6-19-15 09:45	TA KNOX
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: 480190410

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC57 Correction factor: 0.0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?		✓		☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: _____	✓		✓	☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	**Labeling Verified by:** **Date:**
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	**pH test strip lot number:**
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?		✓		☐ **19a** Other	

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: _____

Sample Receiving Associate: _____ Date: 6-19-15

QA026R29.doc, 041115

Trace Level Organics

Shipping and Receiving Documents

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**	180-44665 Chain of Custody	**ıne: 412.963.2428**
	Phone: **860.287.0745**		**: 412.963.2468**
Project Name: Parallel Thimble Shoal Tunnel			**TN: Carrie Gamber**
Project#: **15204.01**			
Page 1 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-074A-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-074B-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-074C-W	1	X	
4/22/2015	1200	X		PRETESTA-W	1	X	
4/22/2015	1200	X		PRETESTB-W	1	X	
4/22/2015	1200	X		PRETESTC-W	1	X	
5/21/2015	1200	X		AT5-075A-W	1	X	
5/21/2015	1200	X		AT5-075B-W	1	X	
5/21/2015	1200	X		AT5-075C-W	1	X	
5/21/2015	1200	X		AT5-075D-W	1	X	
5/21/2015	1200	X		AT5-075E-W	1	X	
5/21/2015	1200	X		AT5-076A-W	1	X	
5/21/2015	1200	X		AT5-076B-W	1	X	
5/21/2015	1200	X		AT5-076C-W	1	X	
5/21/2015	1200	X		AT5-076D-W	1	X	
5/21/2015	1200	X		AT5-076E-W	1	X	
5/21/2015	1200	X		AT5-077A-W	1	X	
5/21/2015	1200	X		AT5-077B-W	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600			**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1700	Dellie Watson	5-29-15 8:50	

44665

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC **225 Schilling Circle** **Hunt Valley, MD 21031**	**Peggy Derrick** Phone: **410.329.5126** Project Contact: **Morgan Gelinas** Phone: **860.287.0745**		Laboratory: **TestAmerica - Pittsburgh** **301 Alpha Drive** **Pittsburgh, PA 15238** **phone: 412.963.2428** **fax: 412.963.2468** **ATTN: Carrie Gamber**

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

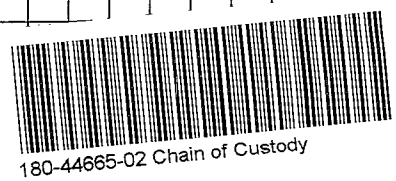
Page 2 of 6

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-077C-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-077D-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-077E-W	1	X	
5/21/2015	1200	X		AT5-078A-W	1	X	
5/21/2015	1200	X		AT5-078B-W	1	X	
5/21/2015	1200	X		AT5-078C-W	1	X	
5/21/2015	1200	X		AT5-078D-W	1	X	
5/21/2015	1200	X		AT5-078E-W	1	X	
5/21/2015	1200	X		AT5-079A-W	1	X	
5/21/2015	1200	X		AT5-079B-W	1	X	
5/21/2015	1200	X		AT5-079C-W	1	X	
5/21/2015	1200	X		AT5-079D-W	1	X	
5/21/2015	1200	X		AT5-079E-W	1	X	
5/21/2015	1200	X		AT5-080A-W	1	X	
5/21/2015	1200	X		AT5-080B-W	1	X	
5/21/2015	1200	X		AT5-080C-W	1	X	
5/21/2015	1200	X		AT5-080D-W	1	X	
5/21/2015	1200	X		AT5-080E-W	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
[signature]	5/28/15 1600			**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
[signature]	5/28/15 1700	[signature] Watson	~~6-2-15~~ 5-29-15 8:50	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		**phone: 412.963.2428**
	Phone: **860.287.0745**		**fax: 412.963.2468**
Project Name: Parallel Thimble Shoal Tunnel			**ATTN: Carrie Gamber**
Project#: **15204.01**			
Page 1 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-074A-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-074B-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-074C-W	1	X	
4/22/2015	1200	X		PRETESTA-W	1	X	
4/22/2015	1200	X		PRETESTB-W	1	X	
4/22/2015	1200	X		PRETESTC-W	1	X	
5/21/2015	1200	X		AT5-075A-W	1	X	
5/21/2015	1200	X		AT5-075B-W	1	X	
5/21/2015	1200	X		AT5-075C-W	1	X	
5/21/2015	1200	X		AT5-075D-W	1	X	
5/21/2015	1200	X		AT5-075E-W	1	X	
5/21/2015	1200	X		AT5-076A-W	1	X	
5/21/2015	1200	X		AT5-076B-W	1	X	
5/21/2015	1200	X		AT5-076C-W	1	X	
5/21/2015	1200	X		AT5-076D-W	1	X	
5/21/2015	1200	X		AT5-076E-W	1	X	
5/21/2015	1200	X		AT5-077A-W	1	X	
5/21/2015	1200	X		AT5-077B-W	1	X	



Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600		6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
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Project Name: Parallel Thimble Shoal Tunnel Project#: **15204.01**			**ATTN: Carrie Gamber**
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5/21/2015	1200	X		AT5-078B-W	1	X	
5/21/2015	1200	X		AT5-078C-W	1	X	
5/21/2015	1200	X		AT5-078D-W	1	X	
5/21/2015	1200	X		AT5-078E-W	1	X	
5/21/2015	1200	X		AT5-079A-W	1	X	
5/21/2015	1200	X		AT5-079B-W	1	X	
5/21/2015	1200	X		AT5-079C-W	1	X	
5/21/2015	1200	X		AT5-079D-W	1	X	
5/21/2015	1200	X		AT5-079E-W	1	X	
5/21/2015	1200	X		AT5-080A-W	1	X	
5/21/2015	1200	X		AT5-080B-W	1	X	
5/21/2015	1200	X		AT5-080C-W	1	X	
5/21/2015	1200	X		AT5-080D-W	1	X	
5/21/2015	1200	X		AT5-080E-W	1	X	

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	5/28/15 1600		6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	**Date/Time**	**Received by Laboratory: (Signature)**	**Date/Time**	
	5/28/15 1700		6/1/15 1235	

SOE/11

UPS CampusShip: View/Print Label

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2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

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   UPS locations include the UPS Store®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS drivers.
   Schedule a same d[illegible]r future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the packar[illegible]river in your area.
   Take your pack[illegible]n of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Off[illegible]ples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Serv[illegible]g via Ground) are also accepted at Drop Boxes. To find the location nearest yo[illegible] Resources area of CampusShip and select UPS Locations.

   Custom[illegible] Pickup
   Your d[illegible]our shipment(s) as usual.

180-44665 Waybill

FOLD HERE

KATHRYN MINCZUK
4105847000 5206
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

45 LBS 1 OF 7

DWT: 24,18,18

SHIP TO:
CARRIE GAMBER
4129632428
TESTAMERICA
301 ALPHA DRIVE
PITTSBURGH PA 15238-2907

PA 152 9-22

UPS EARLY A.M. 1+
TRACKING #: 1Z 288 682 15 9407 7421

Uncorrected temp 2.7 °C
Thermometer ID #4
CF 0.0 Initials MAL
PT-WI-SR-001 effective 7/26/13

BILLING: P/P

6/2/15 Chart Dropoff

Department Code: 2123
Project Phase AND Task: 1520401_0012
CS 17.2.07. WNTNV50 63.0A 04/2015

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   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

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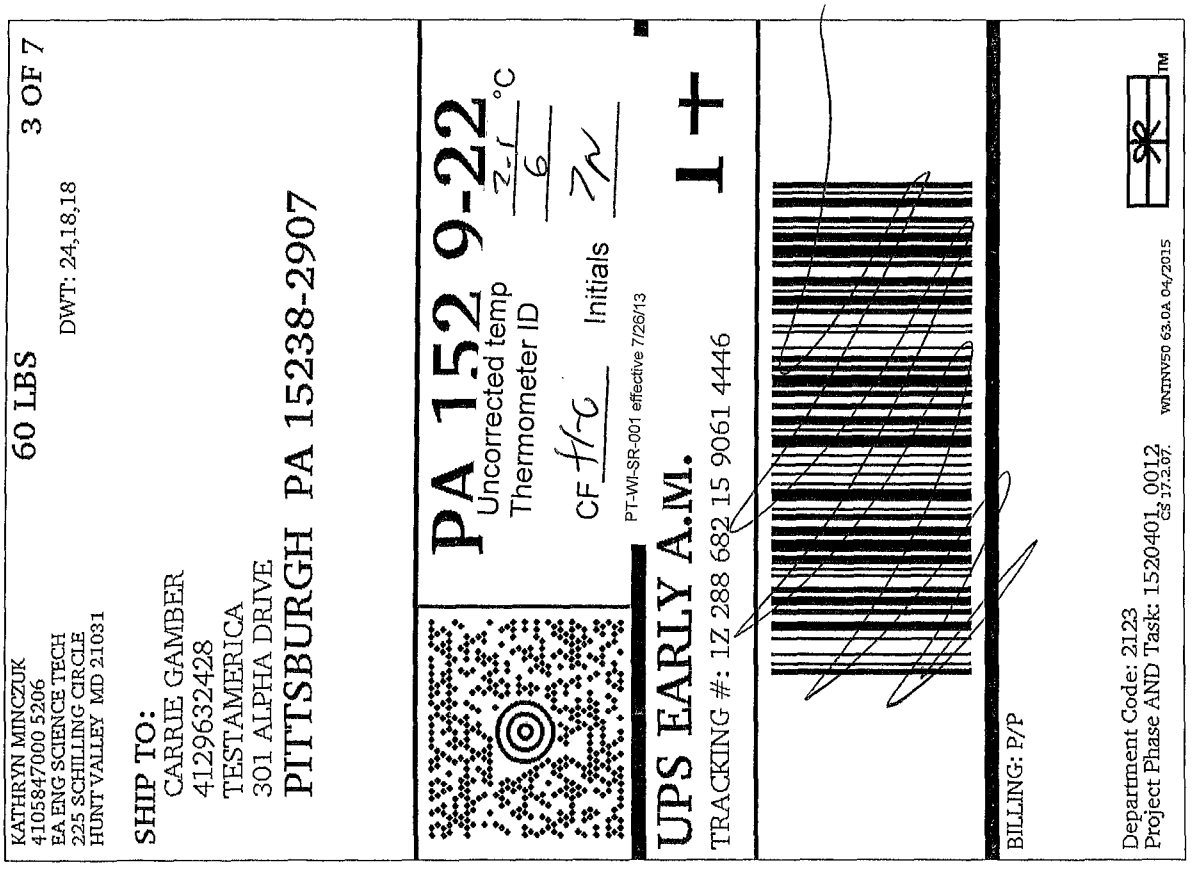

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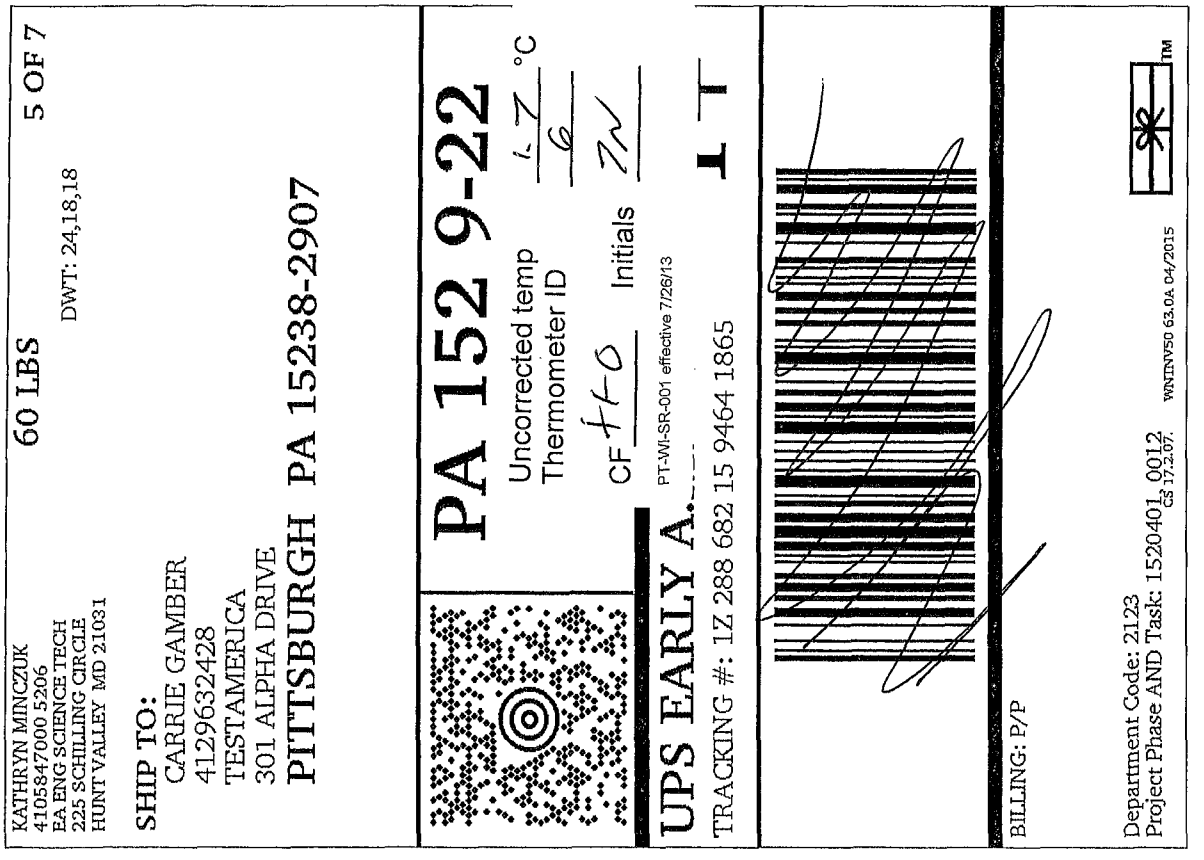

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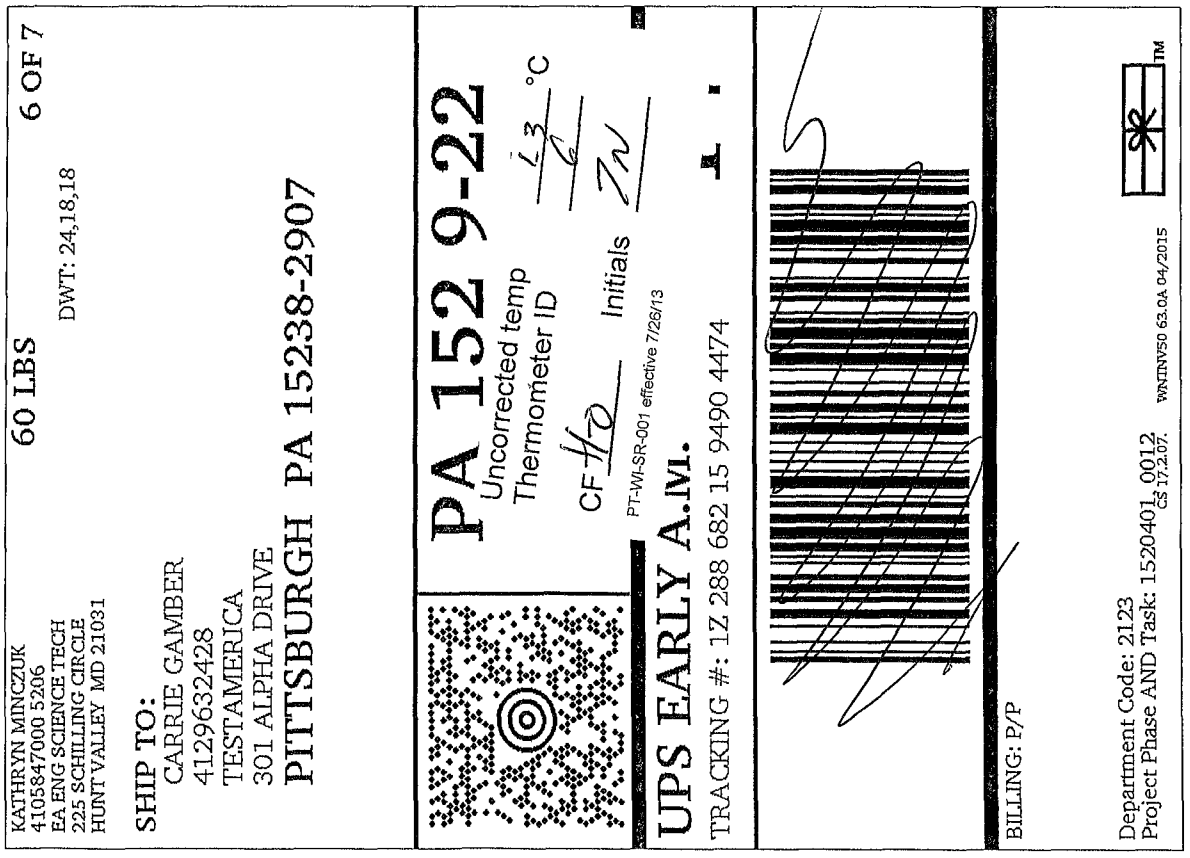

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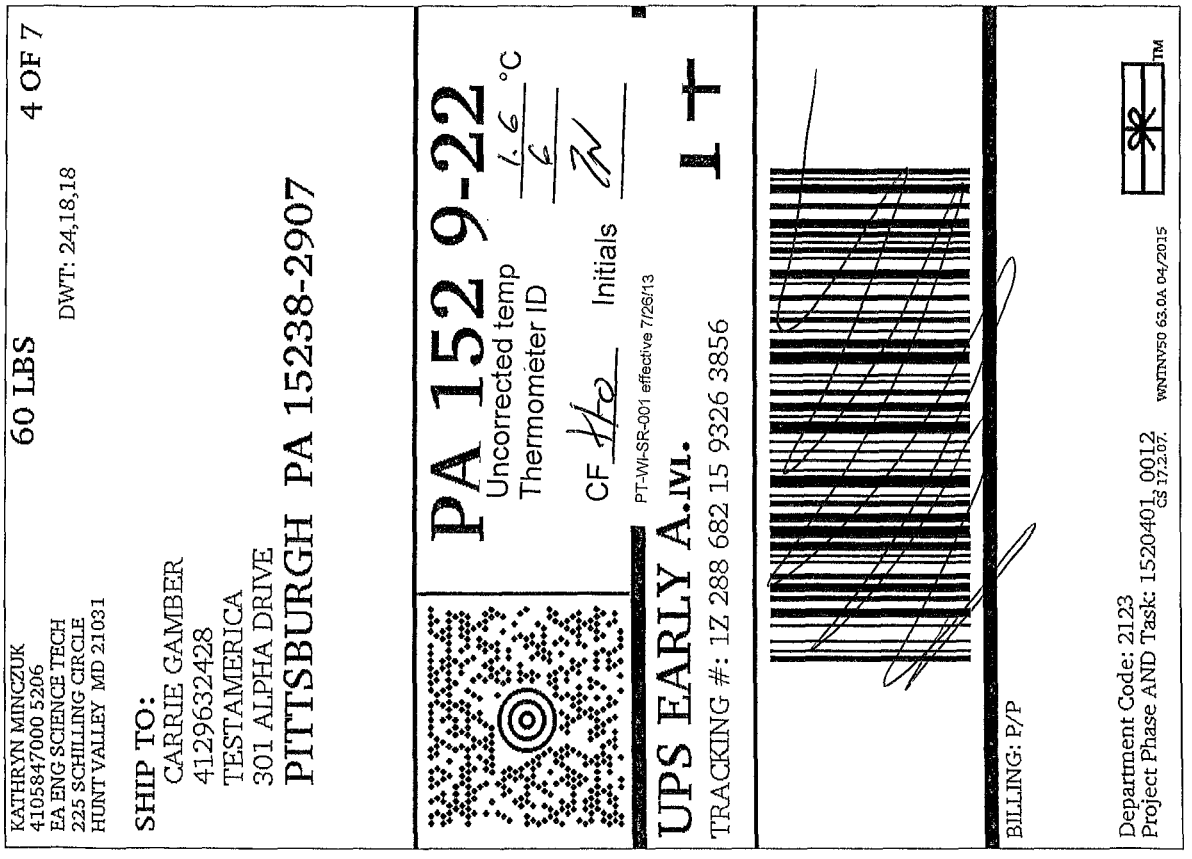

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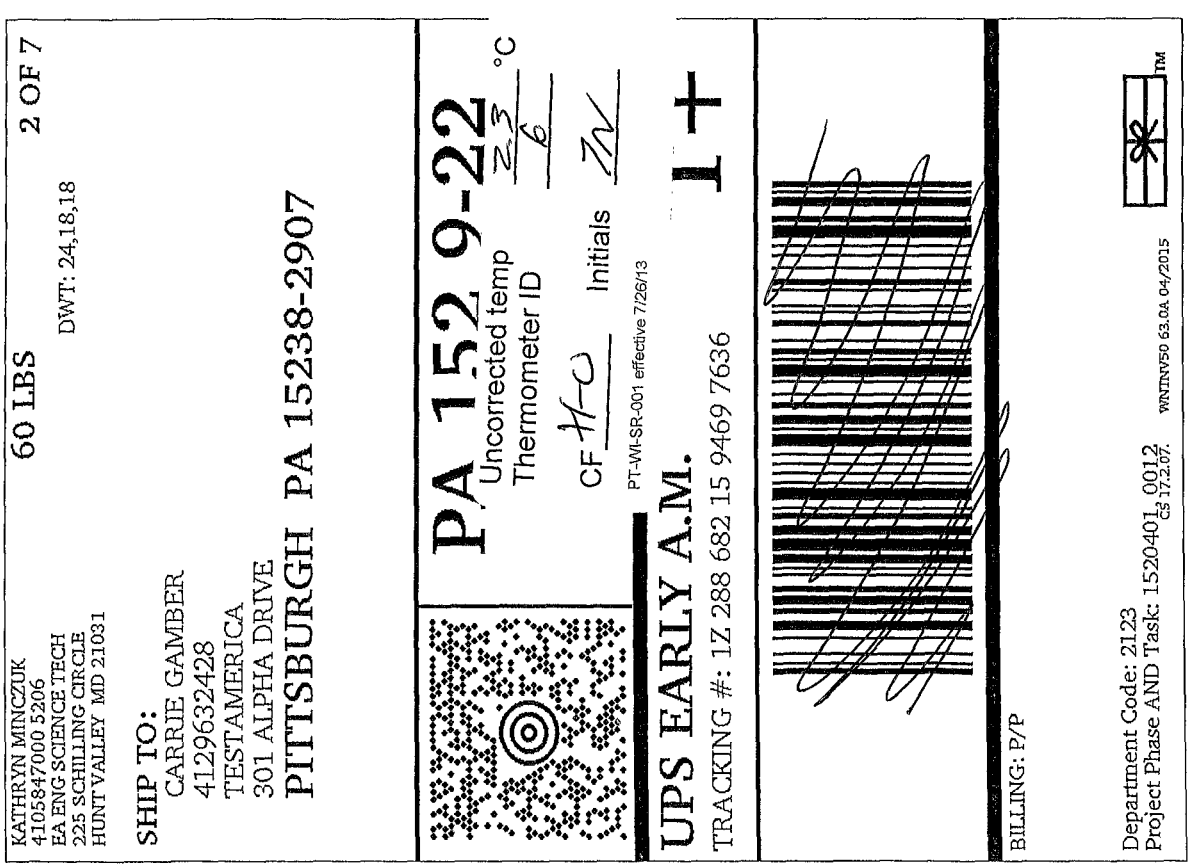

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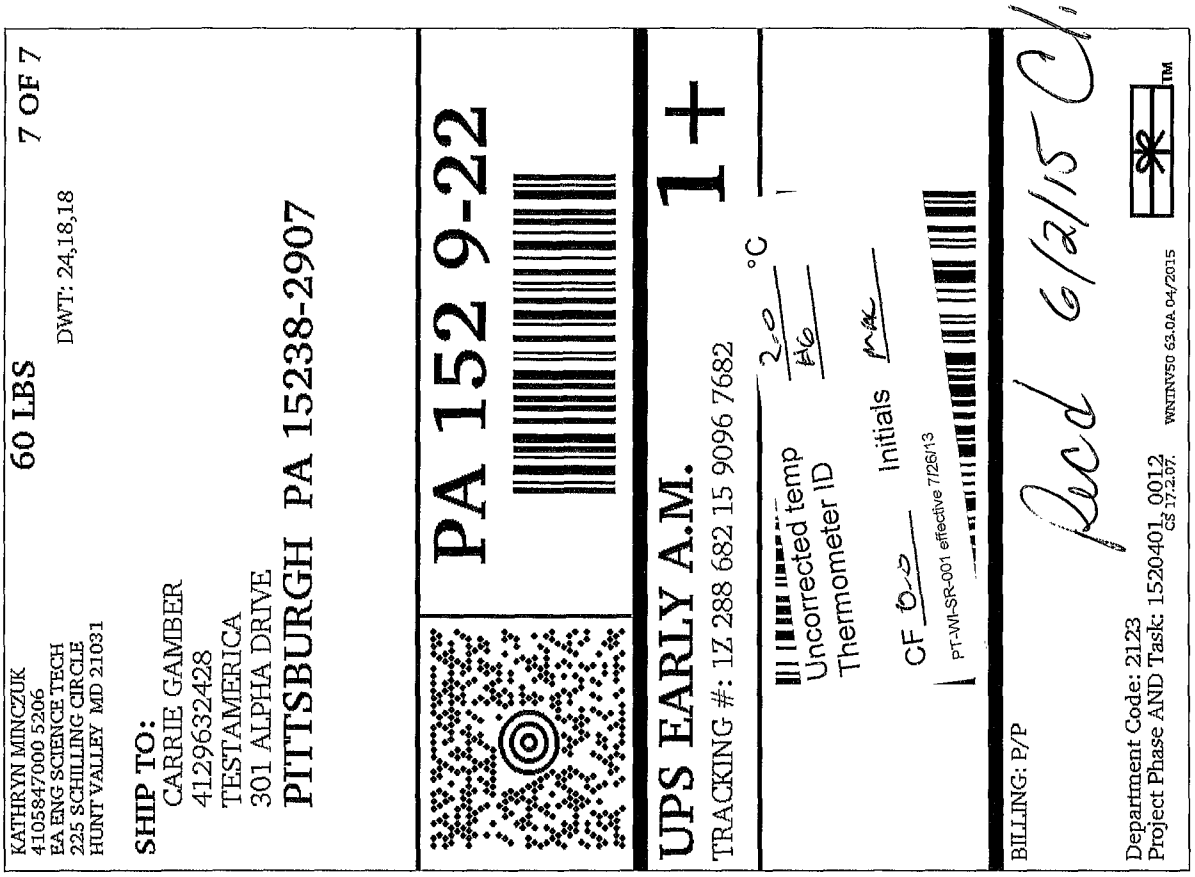

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-44665-2

Login Number: 44665
List Number: 1
Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-44667-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/15/2015 1:27 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/15/2015

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
V	Serial Dilution exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-44667-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 05/29/2015; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 7 coolers at receipt time were 1.3º C, 1.6º C, 1.7º C, 2.0º C, 2.1º C, 2.3º C and 2.7º C.

SEMIVOLATILES
Several samples required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Surrogate recovery for the following samples was outside control limits: AT5-082 A-W (180-44667-6), AT5-083 A-W (180-44667-11), AT5-087 B-W (180-44667-32) and AT5-087 D-W (180-44667-34). Evidence of matrix interference is present and samples were analyzed at a dilution; therefore, re-extraction and/or re-analysis was not performed.

Bis(2-ethylhexyl) phthalate and Fluoranthene failed the recovery criteria high for the MS/MSD of sample AT5-083 B-W (180-44667-12) in batch 180-147069.

Benzo[g,h,i]perylene exceeded the RPD limit for the MS/MSD of sample AT5-086 E-W (180-44667-30) in batch 180-146321.

METALS
The holding time for mercury on tissues is 28 days from the date sampled. These samples were released from hold after the 28 day holding time for mercury. All results are flagged with the H qualifier and reported with this narration.

Several samples were diluted due to the nature of the sample matrix for mercury. Elevated reporting limits (RLs) are provided.

Several analytes were detected in method blank MB 180-145549/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Several analytes were detected in method blank MB 180-145552/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Vanadium was detected in method blank MB 180-145685/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Several analytes were detected in method blank MB 180-145709/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Several analytes were detected in method blank MB 180-145802/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Arsenic and Potassium failed the recovery criteria low for the MS of sample AT5-083 C-W (180-44667-13) in batch 180-146839. Aluminum and Iron failed the recovery criteria high. Aluminum and Iron failed the recovery criteria high for the MSD of sample AT5-083 C-W (180-44667-13) in batch 180-146839. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Mercury failed the recovery criteria low for the MS/MSD of sample AT5-087 A-W (180-44667-31) in batch 180-146287.

The serial dilution performed for the following sample associated with batch 145685 was outside of the control limits for chromium.: AT5-087 A-W (180-44667-31)

The serial dilution performed for the following samples associated with batch 145549 was outside of the control limits for nickel and vanadium.: SRM 2 (180-44667-38)

The serial dilution performed for the following sample associated with batch 145709 was outside of the control limits for several analytes.: AT5-083 C-W (180-44667-13)

MOISTURE
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT LIPIDS
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44667-1

Client Sample ID: AT5-081 A-W — Lab Sample ID: 180-44667-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	2.6	J	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.0		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.044	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.033	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	170		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.67	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.28		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.5		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	53	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.020	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2400	B	50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	770	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5600	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.57		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.089	J	0.099	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.20	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.049	J B	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	11		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	0.53		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.58		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-081 B-W — Lab Sample ID: 180-44667-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	1.9	J	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.2		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.060	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.034	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	170		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.40	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.30		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.5		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	56	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.010	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2600	B	50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	770	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5600	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.60		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.075	J	0.10	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.098	J B	0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	11		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	0.52		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.82		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-081 C-W — Lab Sample ID: 180-44667-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	7.4	B	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.7		0.10	0.018	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-081 C-W (Continued) — Lab Sample ID: 180-44667-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.11	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.028	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	190		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.38	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.21	B	0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.4		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	62		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0093	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2200		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	670	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5000	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.44	B	0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.069	J	0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0051	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.049	J	0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	17	B	0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	1.0		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	1.1		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-081 D-W — Lab Sample ID: 180-44667-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	72	B	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.1		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.23	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.050	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	650		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	1.1	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.32	B	0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.1		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	260		4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.0090	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	760	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5400	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.92	B	0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.14		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0093	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.20	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.32		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	23	B	0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	3.3		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.62		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-081 E-W — Lab Sample ID: 180-44667-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	41	B	2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	1.6		0.096	0.017	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-081 E-W (Continued) — Lab Sample ID: 180-44667-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.18	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.026	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	380		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.84	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.22	B	0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	150		4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.0088	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2000		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	620	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4400	B	48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.69	B	0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.094	J	0.096	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.18	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.15		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	22	B	0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.2		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.74		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-082 A-W — Lab Sample ID: 180-44667-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	89	B	3.0	0.29	mg/Kg	1		6020A	Total/NA
Arsenic	2.3		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.26	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.0088	J	0.10	0.0071	mg/Kg	1		6020A	Total/NA
Calcium	2300		51	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.62		0.20	0.0062	mg/Kg	1		6020A	Total/NA
Cobalt	0.41		0.051	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.5		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	260	B	5.1	0.36	mg/Kg	1		6020A	Total/NA
Silver	0.0098	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2400		51	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	740	B	51	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5000	B	51	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.79		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.17		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0076	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.27	J	0.51	0.051	mg/Kg	1		6020A	Total/NA
Vanadium	0.34	B	0.10	0.0080	mg/Kg	1		6020A	Total/NA
Zinc	11		0.51	0.065	mg/Kg	1		6020A	Total/NA
Manganese	1.6		0.51	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.59		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-082 B-W — Lab Sample ID: 180-44667-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	11	B	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.8		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.025	J	0.98	0.010	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-082 B-W (Continued) — Lab Sample ID: 180-44667-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.0091	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	190		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.41		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.36		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.7		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	70	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0084	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2600		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	760	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5600	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.77		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.086	J	0.098	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.22	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.12	B	0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	11		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	0.59		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.94		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-082 C-W — Lab Sample ID: 180-44667-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	99	B	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.1		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.34	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Calcium	910		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.71		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.43		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.5		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	290	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.011	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2700		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	950	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	7000	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.94		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.18		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.26	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.38	B	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	54		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	3.7		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.59		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-082 D-W — Lab Sample ID: 180-44667-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	5.1	B	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.9		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.022	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.017	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	170		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.50		0.19	0.0059	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-082 D-W (Continued) — Lab Sample ID: 180-44667-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.36		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.5		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	60	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.011	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2500		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	670	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4800	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.77		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.072	J	0.097	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.16	B	0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	13		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	0.58		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.72		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-082 E-W — Lab Sample ID: 180-44667-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	4.6	B	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.7		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.014	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Calcium	180		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.40		0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.29		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.5		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	56	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0053	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2300		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	690	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5200	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.63		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.074	J	0.10	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.22	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.13	B	0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	28		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	0.98		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.52		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-083 A-W — Lab Sample ID: 180-44667-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	9.6		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.4		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.087	J B	0.95	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.037	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	160		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.30	B	0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.31	B	0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.3		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	70		4.8	0.34	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-083 A-W (Continued) — Lab Sample ID: 180-44667-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silver	0.018	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	2300		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	550	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	3900		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.56	B	0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.099		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Antimony	0.026	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.18	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0028	J B	0.095	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.13	B	0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	75		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	1.4	B	0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.74		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-083 B-W — Lab Sample ID: 180-44667-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	280	J	990	120	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	86		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.3		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.35	J B	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.030	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	410		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.58	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.37	B	0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.3		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	270		4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0063	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2200		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	630	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4300		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.67	B	0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.17		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.019	J B	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.23	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0025	J B	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.37	B	0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	14		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	3.0	B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.91		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-083 C-W — Lab Sample ID: 180-44667-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	210	J	880	100	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	230	F1	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.8	F1	0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.87	J B	0.97	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.0073	J	0.097	0.0073	mg/Kg	1		6020A	Total/NA
Cadmium	0.041	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-083 C-W (Continued) — Lab Sample ID: 180-44667-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	3000		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	2.3	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.48	B	0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.5		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	670		4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.013	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2400	F1	49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	800	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5000		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	1.4	B	0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.30		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.016	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.22	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0042	J B	0.097	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.86	B	0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	12		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	9.3	B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.53		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-083 D-W — Lab Sample ID: 180-44667-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	87		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.2		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.34	J B	0.97	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.0085	J	0.097	0.0073	mg/Kg	1		6020A	Total/NA
Cadmium	0.045	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	450		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.94	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.32	B	0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	240		4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.012	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	720	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5200		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.87	B	0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.17		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.060	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.18	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0091	J B	0.097	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.36	B	0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	11		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	2.7	B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.71		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-083 E-W — Lab Sample ID: 180-44667-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	5.8		2.9	0.27	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-083 E-W (Continued) — Lab Sample ID: 180-44667-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.1		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.10	J B	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.034	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	170		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	1.1	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.30	B	0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.3		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	66		4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.0066	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2200		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	620	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4700		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	1.0	B	0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.078	J	0.096	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.020	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0043	J B	0.096	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.013	J B	0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	10		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	0.61	B	0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.90		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-084 A-W — Lab Sample ID: 180-44667-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	1.7	J	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.5		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.10	J B	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.026	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	150		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.64	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.30	B	0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.6		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	44		4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0093	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2100		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	570	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	3900		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.88	B	0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.065	J	0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.051	J B	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.19	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0047	J B	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.026	J B	0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	10		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	0.42	J B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.63		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-084 B-W — Lab Sample ID: 180-44667-17

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-084 B-W (Continued) — Lab Sample ID: 180-44667-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	13		3.0	0.29	mg/Kg	1		6020A	Total/NA
Arsenic	1.8		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.11	J B	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.037	J	0.10	0.0071	mg/Kg	1		6020A	Total/NA
Calcium	190		51	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.36	B	0.20	0.0062	mg/Kg	1		6020A	Total/NA
Cobalt	0.30	B	0.051	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.5		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	73		5.1	0.36	mg/Kg	1		6020A	Total/NA
Silver	0.011	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2300		51	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	610	B	51	0.19	mg/Kg	1		6020A	Total/NA
Sodium	4200		51	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.74	B	0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.088	J	0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.016	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.27	J	0.51	0.051	mg/Kg	1		6020A	Total/NA
Thallium	0.0024	J B	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Zinc	11		0.51	0.065	mg/Kg	1		6020A	Total/NA
Manganese	0.61	B	0.51	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.80		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-084 C-W — Lab Sample ID: 180-44667-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	1.1	J	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.7		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.10	J B	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.038	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	160		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.39	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.34	B	0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.7		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	47		4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.012	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2200		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	620	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4300		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.86	B	0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.068	J	0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0093	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.072	J B	0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	47		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	0.97	B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.73		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-084 D-W — Lab Sample ID: 180-44667-19

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-084 D-W (Continued) — Lab Sample ID: 180-44667-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	1.2	J	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.6		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.069	J B	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.040	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	160		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.36	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.32	B	0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.6		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	44		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.010	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2200		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	650	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	4400		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.65	B	0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.063	J	0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0034	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.16	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.024	J B	0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	25		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	0.95	B	0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.99		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-084 E-W — Lab Sample ID: 180-44667-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	2.6	J	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.7		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.076	J B	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.027	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	160		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.38	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.32	B	0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.6		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	55		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.017	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2200		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	590	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	4000		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.68	B	0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.066	J	0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0037	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.22	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.052	J B	0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	10		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	0.53	B	0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.70		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-085 A-W — Lab Sample ID: 180-44667-21

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-085 A-W (Continued) — Lab Sample ID: 180-44667-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	85		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.0		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.25	J B	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.037	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	370		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.77	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.30	B	0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.8		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	240		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0091	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2100		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	620	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	3900		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.76	B	0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.16		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0026	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.35	B	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	13		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.4	B	0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	1.1		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-085 B-W — Lab Sample ID: 180-44667-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	11		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.0		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.11	J B	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.040	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	180		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.46	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.32	B	0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.7		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	70		4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.010	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	640	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4300		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.62	B	0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.092	J	0.096	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0034	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.28	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.12	B	0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	10		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	0.67	B	0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	1.0		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-085 C-W — Lab Sample ID: 180-44667-23

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-085 C-W (Continued) — Lab Sample ID: 180-44667-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	5.6		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.1		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.10	J B	0.95	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.039	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	200		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.46	B	0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.32	B	0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.3		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	56		4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.010	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	2300		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	650	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4300		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.68	B	0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.087	J	0.095	0.0036	mg/Kg	1		6020A	Total/NA
Selenium	0.22	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.078	J B	0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	51		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	1.4	B	0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.79		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-085 D-W — Lab Sample ID: 180-44667-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	1.0	J	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.9		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.084	J B	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.035	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	160		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.45	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.29	B	0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.6		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	47		4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0065	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2200		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	640	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4300		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.66	B	0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.066	J	0.098	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.032	J B	0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	22		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	0.82	B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.73		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-085 E-W — Lab Sample ID: 180-44667-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	11		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.1		0.099	0.018	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-085 E-W (Continued) — Lab Sample ID: 180-44667-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.13	J B	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.040	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	260		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.45	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.34	B	0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.9		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	79		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0063	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2400		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	670	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	4500		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.68	B	0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.087	J	0.099	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.28	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.13	B	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	9.8		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	0.76	B	0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.85		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-086 A-W — Lab Sample ID: 180-44667-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	86		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.8		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.24	J B	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.035	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	770		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.71	B	0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.31	B	0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.6		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	300		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0078	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2100		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	630	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	3700		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.81	B	0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.17		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.040	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.19	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0049	J B	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.34	B	0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	39		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	3.3	B	0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.83		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-086 B-W — Lab Sample ID: 180-44667-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	38		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.0		0.097	0.018	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-086 B-W (Continued) — Lab Sample ID: 180-44667-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.24	J B	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.032	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	950		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.86	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.31	B	0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.4		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	180		4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.012	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2200		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	660	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4200		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.93	B	0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.13		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.011	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.26	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.28	B	0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	10		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	1.3	B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.65		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-086 C-W — Lab Sample ID: 180-44667-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	3.0		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.8		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.075	J B	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.040	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	170		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.55	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.30	B	0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.6		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	49		4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.014	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2100		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	630	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4500		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.80	B	0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.064	J	0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0066	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.023	J B	0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	26		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	1.3	B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.46		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-086 D-W — Lab Sample ID: 180-44667-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.98	J	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.9		0.098	0.018	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-086 D-W (Continued) — Lab Sample ID: 180-44667-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.075	J B	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.026	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	160		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.33	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.31	B	0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.4		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	46		4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.019	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	650	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4500		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.71	B	0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.070	J	0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0037	J B	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.21	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Zinc	10		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	0.45	J B	0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.76		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-086 E-W — Lab Sample ID: 180-44667-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	240	J	990	120	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	1.5	J	2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.0		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.012	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.011	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	170		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.47		0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.31		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.4		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	51		4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.010	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2400		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	630		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4700		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.68		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.070	J	0.096	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.12	B	0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	10		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	0.55		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.76		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-087 A-W — Lab Sample ID: 180-44667-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	270	J	950	110	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	3.3		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.0		0.10	0.018	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-087 A-W (Continued) — Lab Sample ID: 180-44667-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.0085	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	160		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.33		0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.33		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.4		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	56		5.0	0.35	mg/Kg	1		6020A	Total/NA
Potassium	2500		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	650		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	4500		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.60		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.072	J	0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.035	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.27	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0032	J	0.10	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.18	B	0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	33		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	0.82		0.50	0.010	mg/Kg	1		6020A	Total/NA
Mercury	0.081	J F1 H	0.17	0.057	mg/Kg	5		7471B	Total/NA
Percent Lipids	0.76		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-087 B-W — Lab Sample ID: 180-44667-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	200	J	970	110	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	3.8		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.9		0.097	0.018	mg/Kg	1		6020A	Total/NA
Cadmium	0.019	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	190		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.33		0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.32		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.7		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	59		4.9	0.34	mg/Kg	1		6020A	Total/NA
Potassium	2500		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	560		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4200		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.56		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.072	J	0.097	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.23	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.096	J B	0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	13		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	0.75		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.93		0.19	0.056	%	1		Lipids	Total/NA

Client Sample ID: AT5-087 C-W — Lab Sample ID: 180-44667-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	160		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.2		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.44	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Calcium	450		49	1.3	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-087 C-W (Continued) — Lab Sample ID: 180-44667-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	1.0		0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.43		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.5		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	380		4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.0050	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2400		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	740		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4900		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.84		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.20		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0083	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0050	J	0.097	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.56	B	0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	42		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	5.1		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.82		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-087 D-W — Lab Sample ID: 180-44667-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	260	J	890	100	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	8.9		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.4		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.13	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.015	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	1200		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.61		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.36		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	93		4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0060	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2700		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	770		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5500		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.72		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.086	J	0.098	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.28	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.22	B	0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	46		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	1.5		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	1.1		0.19	0.055	%	1		Lipids	Total/NA

Client Sample ID: AT5-087 E-W — Lab Sample ID: 180-44667-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	170	J	860	100	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	4.4		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.4		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.022	J	0.98	0.010	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-087 E-W (Continued) — Lab Sample ID: 180-44667-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	260		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.69		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.31		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	67		4.9	0.35	mg/Kg	1		6020A	Total/NA
Potassium	2600		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	820		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6200		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.67		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.077	J	0.098	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.12	B	0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	11		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	0.61		0.49	0.010	mg/Kg	1		6020A	Total/NA
Mercury	0.061	J H	0.17	0.057	mg/Kg	5		7471B	Total/NA
Percent Lipids	1.1		0.19	0.055	%	1		Lipids	Total/NA

Client Sample ID: AT5-088 A-W — Lab Sample ID: 180-44667-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	240	J	930	110	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	80		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.4		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.15	J	0.95	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.023	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	270		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	1.8		0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.31		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.7		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	220		4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.0059	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	2500		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	690		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4500		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.90		0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.16		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.34	B	0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	12		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	2.1		0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.79		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: SRM 1 — Lab Sample ID: 180-44667-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	46		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	6.9		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	5.9		1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	2.3		0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	690		50	1.3	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SRM 1 (Continued) — Lab Sample ID: 180-44667-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.39		0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.35		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	68		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	180		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.57		0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	5500		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	1200		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	3800		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.98		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.27		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.011	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	2.0		0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.46	B	0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	1500		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	18		0.50	0.010	mg/Kg	1		6020A	Total/NA

Client Sample ID: SRM 2 — Lab Sample ID: 180-44667-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	43	B	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	6.5		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	5.7		0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	2.2		0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	670		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.35	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.34	B	0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	64		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	160		4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.56		0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	5400		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	1200	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4100	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.97	B	0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.28		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.0096	J	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	1.8		0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.44		0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	1400	B	0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	17		0.49	0.010	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-082 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-6
Matrix: Tissue
Percent Solids: 15.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	99	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Anthracene	ND		1000	100	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Benzo[k]fluoranthene	ND		1000	210	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Bis(2-ethylhexyl) phthalate	ND		10000	830	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Chrysene	ND		1000	120	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Fluorene	ND		1000	140	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Indeno[1,2,3-cd]pyrene	ND		1000	110	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Naphthalene	ND		1000	89	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Phenol	ND		1000	120	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4
Pyrene	ND		1000	100	ug/Kg	☼	06/27/15 03:15	07/06/15 08:33	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*34*		*34 - 103*	*06/27/15 03:15*	*07/06/15 08:33*	*4*
2,4,6-Tribromophenol (Surr)	*61*		*20 - 113*	*06/27/15 03:15*	*07/06/15 08:33*	*4*
Phenol-d5 (Surr)	*38*		*35 - 103*	*06/27/15 03:15*	*07/06/15 08:33*	*4*
2-Fluorobiphenyl	*46*		*38 - 103*	*06/27/15 03:15*	*07/06/15 08:33*	*4*
Nitrobenzene-d5 (Surr)	*39*	*X*	*41 - 108*	*06/27/15 03:15*	*07/06/15 08:33*	*4*
Terphenyl-d14 (Surr)	*58*		*28 - 109*	*06/27/15 03:15*	*07/06/15 08:33*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-082 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-7
Matrix: Tissue
Percent Solids: 17.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		940	90	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Acenaphthylene	ND		940	110	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Anthracene	ND		940	92	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Benzo[a]anthracene	ND		940	120	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Benzo[b]fluoranthene	ND		940	150	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Benzo[k]fluoranthene	ND		940	190	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Benzo[g,h,i]perylene	ND		940	93	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Benzo[a]pyrene	ND		940	94	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Bis(2-ethylhexyl) phthalate	ND		9400	760	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Chrysene	ND		940	110	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Dibenz(a,h)anthracene	ND		940	100	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Fluoranthene	ND		940	100	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Fluorene	ND		940	120	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Indeno[1,2,3-cd]pyrene	ND		940	97	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Naphthalene	ND		940	81	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Phenanthrene	ND		940	150	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Phenol	ND		940	110	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4
Pyrene	ND		940	95	ug/Kg	☼	06/27/15 03:15	07/06/15 09:01	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*47*		*34 - 103*	*06/27/15 03:15*	*07/06/15 09:01*	*4*
2,4,6-Tribromophenol (Surr)	*66*		*20 - 113*	*06/27/15 03:15*	*07/06/15 09:01*	*4*
Phenol-d5 (Surr)	*50*		*35 - 103*	*06/27/15 03:15*	*07/06/15 09:01*	*4*
2-Fluorobiphenyl	*51*		*38 - 103*	*06/27/15 03:15*	*07/06/15 09:01*	*4*
Nitrobenzene-d5 (Surr)	*50*		*41 - 108*	*06/27/15 03:15*	*07/06/15 09:01*	*4*
Terphenyl-d14 (Surr)	*59*		*28 - 109*	*06/27/15 03:15*	*07/06/15 09:01*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-082 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-8
Matrix: Tissue
Percent Solids: 17.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		900	86	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Acenaphthylene	ND		900	100	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Anthracene	ND		900	87	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Benzo[a]anthracene	ND		900	110	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Benzo[b]fluoranthene	ND		900	140	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Benzo[k]fluoranthene	ND		900	180	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Benzo[g,h,i]perylene	ND		900	89	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Benzo[a]pyrene	ND		900	89	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Bis(2-ethylhexyl) phthalate	ND		8900	720	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Chrysene	ND		900	110	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Dibenz(a,h)anthracene	ND		900	99	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Fluoranthene	ND		900	96	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Fluorene	ND		900	120	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Indeno[1,2,3-cd]pyrene	ND		900	92	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Naphthalene	ND		900	77	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Phenanthrene	ND		900	140	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Phenol	ND		900	110	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4
Pyrene	ND		900	90	ug/Kg	☼	06/27/15 03:15	07/06/15 09:28	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*39*		*34 - 103*	*06/27/15 03:15*	*07/06/15 09:28*	*4*
2,4,6-Tribromophenol (Surr)	*59*		*20 - 113*	*06/27/15 03:15*	*07/06/15 09:28*	*4*
Phenol-d5 (Surr)	*39*		*35 - 103*	*06/27/15 03:15*	*07/06/15 09:28*	*4*
2-Fluorobiphenyl	*44*		*38 - 103*	*06/27/15 03:15*	*07/06/15 09:28*	*4*
Nitrobenzene-d5 (Surr)	*41*		*41 - 108*	*06/27/15 03:15*	*07/06/15 09:28*	*4*
Terphenyl-d14 (Surr)	*58*		*28 - 109*	*06/27/15 03:15*	*07/06/15 09:28*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-082 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-9
Matrix: Tissue
Percent Solids: 15.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	97	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Anthracene	ND		1000	99	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Bis(2-ethylhexyl) phthalate	ND		10000	820	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Chrysene	ND		1000	120	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Fluorene	ND		1000	130	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Naphthalene	ND		1000	87	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Phenol	ND		1000	120	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4
Pyrene	ND		1000	100	ug/Kg	☼	06/27/15 03:15	07/06/15 09:56	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*41*		*34 - 103*	*06/27/15 03:15*	*07/06/15 09:56*	*4*
2,4,6-Tribromophenol (Surr)	*69*		*20 - 113*	*06/27/15 03:15*	*07/06/15 09:56*	*4*
Phenol-d5 (Surr)	*48*		*35 - 103*	*06/27/15 03:15*	*07/06/15 09:56*	*4*
2-Fluorobiphenyl	*49*		*38 - 103*	*06/27/15 03:15*	*07/06/15 09:56*	*4*
Nitrobenzene-d5 (Surr)	*45*		*41 - 108*	*06/27/15 03:15*	*07/06/15 09:56*	*4*
Terphenyl-d14 (Surr)	*58*		*28 - 109*	*06/27/15 03:15*	*07/06/15 09:56*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-082 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-10
Matrix: Tissue
Percent Solids: 14.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Anthracene	ND		1100	110	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Bis(2-ethylhexyl) phthalate	ND		11000	880	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Chrysene	ND		1100	130	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Fluorene	ND		1100	140	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Naphthalene	ND		1100	94	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Phenol	ND		1100	130	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4
Pyrene	ND		1100	110	ug/Kg	☼	06/27/15 03:15	07/07/15 01:17	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*34*		*34 - 103*	*06/27/15 03:15*	*07/07/15 01:17*	*4*
2,4,6-Tribromophenol (Surr)	*50*		*20 - 113*	*06/27/15 03:15*	*07/07/15 01:17*	*4*
Phenol-d5 (Surr)	*38*		*35 - 103*	*06/27/15 03:15*	*07/07/15 01:17*	*4*
2-Fluorobiphenyl	*41*		*38 - 103*	*06/27/15 03:15*	*07/07/15 01:17*	*4*
Nitrobenzene-d5 (Surr)	*41*		*41 - 108*	*06/27/15 03:15*	*07/07/15 01:17*	*4*
Terphenyl-d14 (Surr)	*47*		*28 - 109*	*06/27/15 03:15*	*07/07/15 01:17*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-083 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-11
Matrix: Tissue
Percent Solids: 16.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	96	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Acenaphthylene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Anthracene	ND		1000	98	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Benzo[g,h,i]perylene	ND		1000	99	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Bis(2-ethylhexyl) phthalate	ND		10000	810	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Chrysene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Fluorene	ND		1000	130	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Naphthalene	ND		1000	86	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Phenol	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4
Pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 01:38	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*74*		*34 - 103*	*06/29/15 03:10*	*07/08/15 01:38*	*4*
2,4,6-Tribromophenol (Surr)	*118*	*X*	*20 - 113*	*06/29/15 03:10*	*07/08/15 01:38*	*4*
Phenol-d5 (Surr)	*86*		*35 - 103*	*06/29/15 03:10*	*07/08/15 01:38*	*4*
2-Fluorobiphenyl	*100*		*38 - 103*	*06/29/15 03:10*	*07/08/15 01:38*	*4*
Nitrobenzene-d5 (Surr)	*83*		*41 - 108*	*06/29/15 03:10*	*07/08/15 01:38*	*4*
Terphenyl-d14 (Surr)	*110*	*X*	*28 - 109*	*06/29/15 03:10*	*07/08/15 01:38*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-083 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-12
Matrix: Tissue
Percent Solids: 16.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		990	95	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Acenaphthylene	ND		990	110	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Anthracene	ND		990	97	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Benzo[a]anthracene	ND		990	120	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Benzo[b]fluoranthene	ND		990	160	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Benzo[k]fluoranthene	ND		990	200	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Benzo[g,h,i]perylene	ND		990	98	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Benzo[a]pyrene	ND		990	99	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Bis(2-ethylhexyl) phthalate	ND	F1	9900	800	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Chrysene	ND		990	120	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Dibenz(a,h)anthracene	ND		990	110	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Fluoranthene	ND	F1	990	110	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Fluorene	ND		990	130	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Indeno[1,2,3-cd]pyrene	ND		990	100	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Naphthalene	ND		990	85	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Phenanthrene	ND		990	160	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Phenol	**280**	**J**	990	120	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4
Pyrene	ND		990	100	ug/Kg	☼	06/29/15 03:10	07/08/15 02:06	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*82*		*34 - 103*	*06/29/15 03:10*	*07/08/15 02:06*	*4*
2,4,6-Tribromophenol (Surr)	*111*		*20 - 113*	*06/29/15 03:10*	*07/08/15 02:06*	*4*
Phenol-d5 (Surr)	*82*		*35 - 103*	*06/29/15 03:10*	*07/08/15 02:06*	*4*
2-Fluorobiphenyl	*83*		*38 - 103*	*06/29/15 03:10*	*07/08/15 02:06*	*4*
Nitrobenzene-d5 (Surr)	*82*		*41 - 108*	*06/29/15 03:10*	*07/08/15 02:06*	*4*
Terphenyl-d14 (Surr)	*92*		*28 - 109*	*06/29/15 03:10*	*07/08/15 02:06*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-083 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-13
Matrix: Tissue
Percent Solids: 17.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		880	84	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Acenaphthylene	ND		880	100	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Anthracene	ND		880	85	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Benzo[a]anthracene	ND		880	110	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Benzo[b]fluoranthene	ND		880	140	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Benzo[k]fluoranthene	ND		880	180	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Benzo[g,h,i]perylene	ND		880	87	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Benzo[a]pyrene	ND		880	87	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Bis(2-ethylhexyl) phthalate	ND		8700	700	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Chrysene	ND		880	100	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Dibenz(a,h)anthracene	ND		880	97	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Fluoranthene	ND		880	93	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Fluorene	ND		880	110	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Indeno[1,2,3-cd]pyrene	ND		880	90	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Naphthalene	ND		880	75	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Phenanthrene	ND		880	140	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Phenol	**210**	**J**	880	100	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4
Pyrene	ND		880	88	ug/Kg	☼	06/29/15 03:10	07/08/15 02:34	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*67*		*34 - 103*	*06/29/15 03:10*	*07/08/15 02:34*	*4*
2,4,6-Tribromophenol (Surr)	*92*		*20 - 113*	*06/29/15 03:10*	*07/08/15 02:34*	*4*
Phenol-d5 (Surr)	*69*		*35 - 103*	*06/29/15 03:10*	*07/08/15 02:34*	*4*
2-Fluorobiphenyl	*74*		*38 - 103*	*06/29/15 03:10*	*07/08/15 02:34*	*4*
Nitrobenzene-d5 (Surr)	*72*		*41 - 108*	*06/29/15 03:10*	*07/08/15 02:34*	*4*
Terphenyl-d14 (Surr)	*79*		*28 - 109*	*06/29/15 03:10*	*07/08/15 02:34*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-083 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-14
Matrix: Tissue
Percent Solids: 16.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		970	93	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Acenaphthylene	ND		970	110	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Anthracene	ND		970	95	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Benzo[a]anthracene	ND		970	120	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Benzo[b]fluoranthene	ND		970	150	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Benzo[k]fluoranthene	ND		970	200	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Benzo[g,h,i]perylene	ND		970	96	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Benzo[a]pyrene	ND		970	97	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Bis(2-ethylhexyl) phthalate	ND		9700	780	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Chrysene	ND		970	120	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Dibenz(a,h)anthracene	ND		970	110	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Fluoranthene	ND		970	100	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Fluorene	ND		970	130	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Indeno[1,2,3-cd]pyrene	ND		970	100	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Naphthalene	ND		970	84	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Phenanthrene	ND		970	150	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Phenol	ND		970	110	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4
Pyrene	ND		970	98	ug/Kg	☼	06/29/15 03:10	07/08/15 03:02	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*57*		*34 - 103*	*06/29/15 03:10*	*07/08/15 03:02*	*4*
2,4,6-Tribromophenol (Surr)	*83*		*20 - 113*	*06/29/15 03:10*	*07/08/15 03:02*	*4*
Phenol-d5 (Surr)	*62*		*35 - 103*	*06/29/15 03:10*	*07/08/15 03:02*	*4*
2-Fluorobiphenyl	*59*		*38 - 103*	*06/29/15 03:10*	*07/08/15 03:02*	*4*
Nitrobenzene-d5 (Surr)	*65*		*41 - 108*	*06/29/15 03:10*	*07/08/15 03:02*	*4*
Terphenyl-d14 (Surr)	*73*		*28 - 109*	*06/29/15 03:10*	*07/08/15 03:02*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-083 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-15
Matrix: Tissue
Percent Solids: 15.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	99	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Anthracene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Benzo[k]fluoranthene	ND		1000	210	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Bis(2-ethylhexyl) phthalate	ND		10000	840	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Chrysene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Dibenz(a,h)anthracene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Fluorene	ND		1000	140	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Indeno[1,2,3-cd]pyrene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Naphthalene	ND		1000	89	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Phenol	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4
Pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 03:30	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*78*		*34 - 103*	*06/29/15 03:10*	*07/08/15 03:30*	*4*
2,4,6-Tribromophenol (Surr)	*94*		*20 - 113*	*06/29/15 03:10*	*07/08/15 03:30*	*4*
Phenol-d5 (Surr)	*79*		*35 - 103*	*06/29/15 03:10*	*07/08/15 03:30*	*4*
2-Fluorobiphenyl	*75*		*38 - 103*	*06/29/15 03:10*	*07/08/15 03:30*	*4*
Nitrobenzene-d5 (Surr)	*78*		*41 - 108*	*06/29/15 03:10*	*07/08/15 03:30*	*4*
Terphenyl-d14 (Surr)	*83*		*28 - 109*	*06/29/15 03:10*	*07/08/15 03:30*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-084 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-16
Matrix: Tissue
Percent Solids: 15.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	97	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Anthracene	ND		1000	99	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Bis(2-ethylhexyl) phthalate	ND		10000	810	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Chrysene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Fluorene	ND		1000	130	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Naphthalene	ND		1000	87	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Phenol	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4
Pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 03:58	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*80*		*34 - 103*	*06/29/15 03:10*	*07/08/15 03:58*	*4*
2,4,6-Tribromophenol (Surr)	*98*		*20 - 113*	*06/29/15 03:10*	*07/08/15 03:58*	*4*
Phenol-d5 (Surr)	*81*		*35 - 103*	*06/29/15 03:10*	*07/08/15 03:58*	*4*
2-Fluorobiphenyl	*83*		*38 - 103*	*06/29/15 03:10*	*07/08/15 03:58*	*4*
Nitrobenzene-d5 (Surr)	*77*		*41 - 108*	*06/29/15 03:10*	*07/08/15 03:58*	*4*
Terphenyl-d14 (Surr)	*82*		*28 - 109*	*06/29/15 03:10*	*07/08/15 03:58*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-084 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-17
Matrix: Tissue
Percent Solids: 16.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		950	91	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Acenaphthylene	ND		950	110	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Anthracene	ND		950	93	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Benzo[a]anthracene	ND		950	120	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Benzo[b]fluoranthene	ND		950	150	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Benzo[k]fluoranthene	ND		950	190	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Benzo[g,h,i]perylene	ND		950	94	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Benzo[a]pyrene	ND		950	95	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Bis(2-ethylhexyl) phthalate	ND		9500	770	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Chrysene	ND		950	110	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Dibenz(a,h)anthracene	ND		950	110	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Fluoranthene	ND		950	100	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Fluorene	ND		950	130	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Indeno[1,2,3-cd]pyrene	ND		950	98	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Naphthalene	ND		950	82	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Phenanthrene	ND		950	150	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Phenol	ND		950	110	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4
Pyrene	ND		950	96	ug/Kg	☼	06/29/15 03:10	07/08/15 04:26	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*76*		*34 - 103*	*06/29/15 03:10*	*07/08/15 04:26*	*4*
2,4,6-Tribromophenol (Surr)	*91*		*20 - 113*	*06/29/15 03:10*	*07/08/15 04:26*	*4*
Phenol-d5 (Surr)	*74*		*35 - 103*	*06/29/15 03:10*	*07/08/15 04:26*	*4*
2-Fluorobiphenyl	*80*		*38 - 103*	*06/29/15 03:10*	*07/08/15 04:26*	*4*
Nitrobenzene-d5 (Surr)	*85*		*41 - 108*	*06/29/15 03:10*	*07/08/15 04:26*	*4*
Terphenyl-d14 (Surr)	*81*		*28 - 109*	*06/29/15 03:10*	*07/08/15 04:26*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-084 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-18
Matrix: Tissue
Percent Solids: 16.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		980	93	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Acenaphthylene	ND		980	110	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Anthracene	ND		980	95	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Benzo[a]anthracene	ND		980	120	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Benzo[b]fluoranthene	ND		980	150	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Benzo[k]fluoranthene	ND		980	200	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Benzo[g,h,i]perylene	ND		980	97	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Benzo[a]pyrene	ND		980	97	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Bis(2-ethylhexyl) phthalate	ND		9700	790	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Chrysene	ND		980	120	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Dibenz(a,h)anthracene	ND		980	110	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Fluoranthene	ND		980	100	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Fluorene	ND		980	130	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Indeno[1,2,3-cd]pyrene	ND		980	100	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Naphthalene	ND		980	84	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Phenanthrene	ND		980	150	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Phenol	ND		980	110	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4
Pyrene	ND		980	98	ug/Kg	☼	06/29/15 03:10	07/08/15 04:54	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*44*		*34 - 103*	*06/29/15 03:10*	*07/08/15 04:54*	*4*
2,4,6-Tribromophenol (Surr)	*58*		*20 - 113*	*06/29/15 03:10*	*07/08/15 04:54*	*4*
Phenol-d5 (Surr)	*45*		*35 - 103*	*06/29/15 03:10*	*07/08/15 04:54*	*4*
2-Fluorobiphenyl	*50*		*38 - 103*	*06/29/15 03:10*	*07/08/15 04:54*	*4*
Nitrobenzene-d5 (Surr)	*50*		*41 - 108*	*06/29/15 03:10*	*07/08/15 04:54*	*4*
Terphenyl-d14 (Surr)	*54*		*28 - 109*	*06/29/15 03:10*	*07/08/15 04:54*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-084 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-19
Matrix: Tissue
Percent Solids: 16.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		950	91	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Acenaphthylene	ND		950	110	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Anthracene	ND		950	93	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Benzo[a]anthracene	ND		950	120	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Benzo[b]fluoranthene	ND		950	150	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Benzo[k]fluoranthene	ND		950	190	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Benzo[g,h,i]perylene	ND		950	94	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Benzo[a]pyrene	ND		950	95	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Bis(2-ethylhexyl) phthalate	ND		9500	770	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Chrysene	ND		950	110	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Dibenz(a,h)anthracene	ND		950	110	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Fluoranthene	ND		950	100	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Fluorene	ND		950	130	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Indeno[1,2,3-cd]pyrene	ND		950	98	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Naphthalene	ND		950	82	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Phenanthrene	ND		950	150	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Phenol	ND		950	110	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4
Pyrene	ND		950	96	ug/Kg	☼	06/29/15 03:10	07/08/15 05:21	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*43*		*34 - 103*	*06/29/15 03:10*	*07/08/15 05:21*	*4*
2,4,6-Tribromophenol (Surr)	*56*		*20 - 113*	*06/29/15 03:10*	*07/08/15 05:21*	*4*
Phenol-d5 (Surr)	*42*		*35 - 103*	*06/29/15 03:10*	*07/08/15 05:21*	*4*
2-Fluorobiphenyl	*46*		*38 - 103*	*06/29/15 03:10*	*07/08/15 05:21*	*4*
Nitrobenzene-d5 (Surr)	*44*		*41 - 108*	*06/29/15 03:10*	*07/08/15 05:21*	*4*
Terphenyl-d14 (Surr)	*53*		*28 - 109*	*06/29/15 03:10*	*07/08/15 05:21*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-084 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-20
Matrix: Tissue
Percent Solids: 14.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Anthracene	ND		1100	110	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Bis(2-ethylhexyl) phthalate	ND		11000	880	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Chrysene	ND		1100	130	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Fluorene	ND		1100	140	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Naphthalene	ND		1100	94	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Phenol	ND		1100	130	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4
Pyrene	ND		1100	110	ug/Kg	☼	06/29/15 03:10	07/08/15 05:49	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*49*		*34 - 103*	*06/29/15 03:10*	*07/08/15 05:49*	*4*
2,4,6-Tribromophenol (Surr)	*88*		*20 - 113*	*06/29/15 03:10*	*07/08/15 05:49*	*4*
Phenol-d5 (Surr)	*60*		*35 - 103*	*06/29/15 03:10*	*07/08/15 05:49*	*4*
2-Fluorobiphenyl	*67*		*38 - 103*	*06/29/15 03:10*	*07/08/15 05:49*	*4*
Nitrobenzene-d5 (Surr)	*58*		*41 - 108*	*06/29/15 03:10*	*07/08/15 05:49*	*4*
Terphenyl-d14 (Surr)	*81*		*28 - 109*	*06/29/15 03:10*	*07/08/15 05:49*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-085 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-21
Matrix: Tissue
Percent Solids: 16.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		970	93	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Acenaphthylene	ND		970	110	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Anthracene	ND		970	95	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Benzo[a]anthracene	ND		970	120	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Benzo[b]fluoranthene	ND		970	150	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Benzo[k]fluoranthene	ND		970	200	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Benzo[g,h,i]perylene	ND		970	96	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Benzo[a]pyrene	ND		970	97	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Bis(2-ethylhexyl) phthalate	ND		9700	780	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Chrysene	ND		970	120	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Dibenz(a,h)anthracene	ND		970	110	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Fluoranthene	ND		970	100	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Fluorene	ND		970	130	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Indeno[1,2,3-cd]pyrene	ND		970	100	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Naphthalene	ND		970	83	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Phenanthrene	ND		970	150	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Phenol	ND		970	110	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4
Pyrene	ND		970	98	ug/Kg	☼	06/29/15 03:10	07/08/15 06:17	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*62*		*34 - 103*	*06/29/15 03:10*	*07/08/15 06:17*	*4*
2,4,6-Tribromophenol (Surr)	*82*		*20 - 113*	*06/29/15 03:10*	*07/08/15 06:17*	*4*
Phenol-d5 (Surr)	*66*		*35 - 103*	*06/29/15 03:10*	*07/08/15 06:17*	*4*
2-Fluorobiphenyl	*65*		*38 - 103*	*06/29/15 03:10*	*07/08/15 06:17*	*4*
Nitrobenzene-d5 (Surr)	*68*		*41 - 108*	*06/29/15 03:10*	*07/08/15 06:17*	*4*
Terphenyl-d14 (Surr)	*74*		*28 - 109*	*06/29/15 03:10*	*07/08/15 06:17*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-085 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-22
Matrix: Tissue
Percent Solids: 17.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		940	90	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Acenaphthylene	ND		940	110	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Anthracene	ND		940	92	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Benzo[a]anthracene	ND		940	120	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Benzo[b]fluoranthene	ND		940	150	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Benzo[k]fluoranthene	ND		940	190	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Benzo[g,h,i]perylene	ND		940	93	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Benzo[a]pyrene	ND		940	94	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Bis(2-ethylhexyl) phthalate	ND		9400	760	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Chrysene	ND		940	110	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Dibenz(a,h)anthracene	ND		940	100	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Fluoranthene	ND		940	100	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Fluorene	ND		940	120	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Indeno[1,2,3-cd]pyrene	ND		940	97	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Naphthalene	ND		940	81	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Phenanthrene	ND		940	150	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Phenol	ND		940	110	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4
Pyrene	ND		940	95	ug/Kg	☼	06/29/15 03:10	07/08/15 06:45	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*56*		*34 - 103*	*06/29/15 03:10*	*07/08/15 06:45*	*4*
2,4,6-Tribromophenol (Surr)	*72*		*20 - 113*	*06/29/15 03:10*	*07/08/15 06:45*	*4*
Phenol-d5 (Surr)	*60*		*35 - 103*	*06/29/15 03:10*	*07/08/15 06:45*	*4*
2-Fluorobiphenyl	*63*		*38 - 103*	*06/29/15 03:10*	*07/08/15 06:45*	*4*
Nitrobenzene-d5 (Surr)	*63*		*41 - 108*	*06/29/15 03:10*	*07/08/15 06:45*	*4*
Terphenyl-d14 (Surr)	*67*		*28 - 109*	*06/29/15 03:10*	*07/08/15 06:45*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-085 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-23
Matrix: Tissue
Percent Solids: 15.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Anthracene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Benzo[k]fluoranthene	ND		1000	210	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Bis(2-ethylhexyl) phthalate	ND		10000	840	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Chrysene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Dibenz(a,h)anthracene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Fluorene	ND		1000	140	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Indeno[1,2,3-cd]pyrene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Naphthalene	ND		1000	89	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Phenanthrene	ND		1000	170	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Phenol	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4
Pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 07:13	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*57*		*34 - 103*	*06/29/15 03:10*	*07/08/15 07:13*	*4*
2,4,6-Tribromophenol (Surr)	*61*		*20 - 113*	*06/29/15 03:10*	*07/08/15 07:13*	*4*
Phenol-d5 (Surr)	*59*		*35 - 103*	*06/29/15 03:10*	*07/08/15 07:13*	*4*
2-Fluorobiphenyl	*55*		*38 - 103*	*06/29/15 03:10*	*07/08/15 07:13*	*4*
Nitrobenzene-d5 (Surr)	*58*		*41 - 108*	*06/29/15 03:10*	*07/08/15 07:13*	*4*
Terphenyl-d14 (Surr)	*58*		*28 - 109*	*06/29/15 03:10*	*07/08/15 07:13*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-085 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-24
Matrix: Tissue
Percent Solids: 15.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		970	93	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Acenaphthylene	ND		970	110	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Anthracene	ND		970	95	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Benzo[a]anthracene	ND		970	120	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Benzo[b]fluoranthene	ND		970	150	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Benzo[k]fluoranthene	ND		970	200	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Benzo[g,h,i]perylene	ND		970	96	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Benzo[a]pyrene	ND		970	97	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Bis(2-ethylhexyl) phthalate	ND		9700	780	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Chrysene	ND		970	120	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Dibenz(a,h)anthracene	ND		970	110	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Fluoranthene	ND		970	100	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Fluorene	ND		970	130	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Indeno[1,2,3-cd]pyrene	ND		970	100	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Naphthalene	ND		970	83	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Phenanthrene	ND		970	150	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Phenol	ND		970	110	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4
Pyrene	ND		970	98	ug/Kg	☼	06/29/15 03:10	07/08/15 07:41	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*58*		*34 - 103*	*06/29/15 03:10*	*07/08/15 07:41*	*4*
2,4,6-Tribromophenol (Surr)	*71*		*20 - 113*	*06/29/15 03:10*	*07/08/15 07:41*	*4*
Phenol-d5 (Surr)	*64*		*35 - 103*	*06/29/15 03:10*	*07/08/15 07:41*	*4*
2-Fluorobiphenyl	*59*		*38 - 103*	*06/29/15 03:10*	*07/08/15 07:41*	*4*
Nitrobenzene-d5 (Surr)	*63*		*41 - 108*	*06/29/15 03:10*	*07/08/15 07:41*	*4*
Terphenyl-d14 (Surr)	*66*		*28 - 109*	*06/29/15 03:10*	*07/08/15 07:41*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-085 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-25
Matrix: Tissue
Percent Solids: 15.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	98	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Anthracene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Benzo[k]fluoranthene	ND		1000	210	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Bis(2-ethylhexyl) phthalate	ND		10000	820	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Chrysene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Fluorene	ND		1000	130	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Indeno[1,2,3-cd]pyrene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Naphthalene	ND		1000	88	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Phenol	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4
Pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 08:08	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*72*		*34 - 103*	*06/29/15 03:10*	*07/08/15 08:08*	*4*
2,4,6-Tribromophenol (Surr)	*85*		*20 - 113*	*06/29/15 03:10*	*07/08/15 08:08*	*4*
Phenol-d5 (Surr)	*76*		*35 - 103*	*06/29/15 03:10*	*07/08/15 08:08*	*4*
2-Fluorobiphenyl	*71*		*38 - 103*	*06/29/15 03:10*	*07/08/15 08:08*	*4*
Nitrobenzene-d5 (Surr)	*77*		*41 - 108*	*06/29/15 03:10*	*07/08/15 08:08*	*4*
Terphenyl-d14 (Surr)	*72*		*28 - 109*	*06/29/15 03:10*	*07/08/15 08:08*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-086 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-26
Matrix: Tissue
Percent Solids: 15.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Anthracene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Benzo[k]fluoranthene	ND		1000	210	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Bis(2-ethylhexyl) phthalate	ND		10000	840	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Chrysene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Dibenz(a,h)anthracene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Fluorene	ND		1000	140	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Indeno[1,2,3-cd]pyrene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Naphthalene	ND		1000	89	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Phenol	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4
Pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 08:36	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*61*		*34 - 103*	*06/29/15 03:10*	*07/08/15 08:36*	*4*
2,4,6-Tribromophenol (Surr)	*66*		*20 - 113*	*06/29/15 03:10*	*07/08/15 08:36*	*4*
Phenol-d5 (Surr)	*65*		*35 - 103*	*06/29/15 03:10*	*07/08/15 08:36*	*4*
2-Fluorobiphenyl	*55*		*38 - 103*	*06/29/15 03:10*	*07/08/15 08:36*	*4*
Nitrobenzene-d5 (Surr)	*59*		*41 - 108*	*06/29/15 03:10*	*07/08/15 08:36*	*4*
Terphenyl-d14 (Surr)	*59*		*28 - 109*	*06/29/15 03:10*	*07/08/15 08:36*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-086 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-27
Matrix: Tissue
Percent Solids: 15.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	98	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Anthracene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Benzo[k]fluoranthene	ND		1000	210	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Bis(2-ethylhexyl) phthalate	ND		10000	830	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Chrysene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Fluorene	ND		1000	130	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Indeno[1,2,3-cd]pyrene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Naphthalene	ND		1000	88	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Phenol	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4
Pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 09:04	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*53*		*34 - 103*	*06/29/15 03:10*	*07/08/15 09:04*	*4*
2,4,6-Tribromophenol (Surr)	*63*		*20 - 113*	*06/29/15 03:10*	*07/08/15 09:04*	*4*
Phenol-d5 (Surr)	*55*		*35 - 103*	*06/29/15 03:10*	*07/08/15 09:04*	*4*
2-Fluorobiphenyl	*50*		*38 - 103*	*06/29/15 03:10*	*07/08/15 09:04*	*4*
Nitrobenzene-d5 (Surr)	*56*		*41 - 108*	*06/29/15 03:10*	*07/08/15 09:04*	*4*
Terphenyl-d14 (Surr)	*59*		*28 - 109*	*06/29/15 03:10*	*07/08/15 09:04*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-086 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-28
Matrix: Tissue
Percent Solids: 14.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	110	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Acenaphthylene	ND		1100	130	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Anthracene	ND		1100	110	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Bis(2-ethylhexyl) phthalate	ND		11000	890	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Chrysene	ND		1100	130	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Fluorene	ND		1100	140	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Naphthalene	ND		1100	95	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Phenol	ND		1100	130	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4
Pyrene	ND		1100	110	ug/Kg	☼	06/29/15 03:10	07/08/15 09:32	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*53*		*34 - 103*	*06/29/15 03:10*	*07/08/15 09:32*	*4*
2,4,6-Tribromophenol (Surr)	*62*		*20 - 113*	*06/29/15 03:10*	*07/08/15 09:32*	*4*
Phenol-d5 (Surr)	*51*		*35 - 103*	*06/29/15 03:10*	*07/08/15 09:32*	*4*
2-Fluorobiphenyl	*50*		*38 - 103*	*06/29/15 03:10*	*07/08/15 09:32*	*4*
Nitrobenzene-d5 (Surr)	*53*		*41 - 108*	*06/29/15 03:10*	*07/08/15 09:32*	*4*
Terphenyl-d14 (Surr)	*54*		*28 - 109*	*06/29/15 03:10*	*07/08/15 09:32*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-086 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-29
Matrix: Tissue
Percent Solids: 15.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Anthracene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Benzo[k]fluoranthene	ND		1000	210	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Bis(2-ethylhexyl) phthalate	ND		10000	840	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Chrysene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Dibenz(a,h)anthracene	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Fluorene	ND		1000	140	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Indeno[1,2,3-cd]pyrene	ND		1000	110	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Naphthalene	ND		1000	89	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Phenol	ND		1000	120	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4
Pyrene	ND		1000	100	ug/Kg	☼	06/29/15 03:10	07/08/15 10:00	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*48*		*34 - 103*	*06/29/15 03:10*	*07/08/15 10:00*	*4*
2,4,6-Tribromophenol (Surr)	*54*		*20 - 113*	*06/29/15 03:10*	*07/08/15 10:00*	*4*
Phenol-d5 (Surr)	*48*		*35 - 103*	*06/29/15 03:10*	*07/08/15 10:00*	*4*
2-Fluorobiphenyl	*43*		*38 - 103*	*06/29/15 03:10*	*07/08/15 10:00*	*4*
Nitrobenzene-d5 (Surr)	*47*		*41 - 108*	*06/29/15 03:10*	*07/08/15 10:00*	*4*
Terphenyl-d14 (Surr)	*53*		*28 - 109*	*06/29/15 03:10*	*07/08/15 10:00*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-086 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-30
Matrix: Tissue
Percent Solids: 15.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		990	95	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Acenaphthylene	ND		990	110	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Anthracene	ND		990	97	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Benzo[a]anthracene	ND		990	120	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Benzo[b]fluoranthene	ND		990	160	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Benzo[k]fluoranthene	ND		990	200	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Benzo[g,h,i]perylene	ND	F2	990	99	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Benzo[a]pyrene	ND		990	99	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Bis(2-ethylhexyl) phthalate	ND		9900	800	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Chrysene	ND		990	120	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Dibenz(a,h)anthracene	ND		990	110	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Fluoranthene	ND		990	110	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Fluorene	ND		990	130	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Indeno[1,2,3-cd]pyrene	ND		990	100	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Naphthalene	ND		990	85	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Phenanthrene	ND		990	160	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Phenol	**240**	**J**	990	120	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4
Pyrene	ND		990	100	ug/Kg	☼	06/23/15 03:33	06/29/15 01:06	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*40*		*34 - 103*	*06/23/15 03:33*	*06/29/15 01:06*	*4*
2,4,6-Tribromophenol (Surr)	*98*		*20 - 113*	*06/23/15 03:33*	*06/29/15 01:06*	*4*
Phenol-d5 (Surr)	*51*		*35 - 103*	*06/23/15 03:33*	*06/29/15 01:06*	*4*
2-Fluorobiphenyl	*71*		*38 - 103*	*06/23/15 03:33*	*06/29/15 01:06*	*4*
Nitrobenzene-d5 (Surr)	*55*		*41 - 108*	*06/23/15 03:33*	*06/29/15 01:06*	*4*
Terphenyl-d14 (Surr)	*98*		*28 - 109*	*06/23/15 03:33*	*06/29/15 01:06*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-087 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-31
Matrix: Tissue
Percent Solids: 17.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		950	91	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Acenaphthylene	ND		950	110	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Anthracene	ND		950	92	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Benzo[a]anthracene	ND		950	120	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Benzo[b]fluoranthene	ND		950	150	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Benzo[k]fluoranthene	ND		950	190	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Benzo[g,h,i]perylene	ND		950	94	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Benzo[a]pyrene	ND		950	94	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Bis(2-ethylhexyl) phthalate	ND		9400	760	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Chrysene	ND		950	110	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Dibenz(a,h)anthracene	ND		950	100	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Fluoranthene	ND		950	100	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Fluorene	ND		950	120	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Indeno[1,2,3-cd]pyrene	ND		950	97	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Naphthalene	ND		950	81	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Phenanthrene	ND		950	150	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Phenol	**270**	**J**	950	110	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4
Pyrene	ND		950	95	ug/Kg	☼	06/23/15 03:33	06/29/15 01:33	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*62*		*34 - 103*	*06/23/15 03:33*	*06/29/15 01:33*	*4*
2,4,6-Tribromophenol (Surr)	*99*		*20 - 113*	*06/23/15 03:33*	*06/29/15 01:33*	*4*
Phenol-d5 (Surr)	*69*		*35 - 103*	*06/23/15 03:33*	*06/29/15 01:33*	*4*
2-Fluorobiphenyl	*76*		*38 - 103*	*06/23/15 03:33*	*06/29/15 01:33*	*4*
Nitrobenzene-d5 (Surr)	*73*		*41 - 108*	*06/23/15 03:33*	*06/29/15 01:33*	*4*
Terphenyl-d14 (Surr)	*93*		*28 - 109*	*06/23/15 03:33*	*06/29/15 01:33*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-087 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-32
Matrix: Tissue
Percent Solids: 16.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		970	93	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Acenaphthylene	ND		970	110	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Anthracene	ND		970	95	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Benzo[a]anthracene	ND		970	120	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Benzo[b]fluoranthene	ND		970	150	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Benzo[k]fluoranthene	ND		970	200	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Benzo[g,h,i]perylene	ND		970	96	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Benzo[a]pyrene	ND		970	97	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Bis(2-ethylhexyl) phthalate	ND		9700	780	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Chrysene	ND		970	120	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Dibenz(a,h)anthracene	ND		970	110	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Fluoranthene	ND		970	100	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Fluorene	ND		970	130	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Indeno[1,2,3-cd]pyrene	ND		970	100	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Naphthalene	ND		970	84	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Phenanthrene	ND		970	150	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Phenol	**200**	**J**	970	110	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4
Pyrene	ND		970	98	ug/Kg	☼	06/23/15 03:33	06/29/15 02:01	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*19*	*X*	*34 - 103*	*06/23/15 03:33*	*06/29/15 02:01*	*4*
2,4,6-Tribromophenol (Surr)	*78*		*20 - 113*	*06/23/15 03:33*	*06/29/15 02:01*	*4*
Phenol-d5 (Surr)	*34*	*X*	*35 - 103*	*06/23/15 03:33*	*06/29/15 02:01*	*4*
2-Fluorobiphenyl	*48*		*38 - 103*	*06/23/15 03:33*	*06/29/15 02:01*	*4*
Nitrobenzene-d5 (Surr)	*31*	*X*	*41 - 108*	*06/23/15 03:33*	*06/29/15 02:01*	*4*
Terphenyl-d14 (Surr)	*64*		*28 - 109*	*06/23/15 03:33*	*06/29/15 02:01*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-087 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-33
Matrix: Tissue
Percent Solids: 17.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		860	83	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Acenaphthylene	ND		860	98	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Anthracene	ND		860	84	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Benzo[a]anthracene	ND		860	110	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Benzo[b]fluoranthene	ND		860	140	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Benzo[k]fluoranthene	ND		860	170	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Benzo[g,h,i]perylene	ND		860	86	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Benzo[a]pyrene	ND		860	86	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Bis(2-ethylhexyl) phthalate	ND		8600	690	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Chrysene	ND		860	100	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Dibenz(a,h)anthracene	ND		860	96	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Fluoranthene	ND		860	92	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Fluorene	ND		860	110	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Indeno[1,2,3-cd]pyrene	ND		860	89	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Naphthalene	ND		860	74	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Phenanthrene	ND		860	140	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Phenol	ND		860	100	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4
Pyrene	ND		860	87	ug/Kg	☼	06/23/15 03:33	06/29/15 02:29	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*58*		*34 - 103*	*06/23/15 03:33*	*06/29/15 02:29*	*4*
2,4,6-Tribromophenol (Surr)	*89*		*20 - 113*	*06/23/15 03:33*	*06/29/15 02:29*	*4*
Phenol-d5 (Surr)	*63*		*35 - 103*	*06/23/15 03:33*	*06/29/15 02:29*	*4*
2-Fluorobiphenyl	*71*		*38 - 103*	*06/23/15 03:33*	*06/29/15 02:29*	*4*
Nitrobenzene-d5 (Surr)	*65*		*41 - 108*	*06/23/15 03:33*	*06/29/15 02:29*	*4*
Terphenyl-d14 (Surr)	*88*		*28 - 109*	*06/23/15 03:33*	*06/29/15 02:29*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-087 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-34
Matrix: Tissue
Percent Solids: 17.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		890	85	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Acenaphthylene	ND		890	100	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Anthracene	ND		890	87	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Benzo[a]anthracene	ND		890	110	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Benzo[b]fluoranthene	ND		890	140	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Benzo[k]fluoranthene	ND		890	180	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Benzo[g,h,i]perylene	ND		890	88	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Benzo[a]pyrene	ND		890	89	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Bis(2-ethylhexyl) phthalate	ND		8900	720	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Chrysene	ND		890	110	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Dibenz(a,h)anthracene	ND		890	99	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Fluoranthene	ND		890	95	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Fluorene	ND		890	120	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Indeno[1,2,3-cd]pyrene	ND		890	91	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Naphthalene	ND		890	76	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Phenanthrene	ND		890	140	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Phenol	**260**	**J**	890	100	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4
Pyrene	ND		890	90	ug/Kg	☼	06/23/15 03:33	06/29/15 02:57	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*70*		*34 - 103*	*06/23/15 03:33*	*06/29/15 02:57*	*4*
2,4,6-Tribromophenol (Surr)	*118*	*X*	*20 - 113*	*06/23/15 03:33*	*06/29/15 02:57*	*4*
Phenol-d5 (Surr)	*77*		*35 - 103*	*06/23/15 03:33*	*06/29/15 02:57*	*4*
2-Fluorobiphenyl	*94*		*38 - 103*	*06/23/15 03:33*	*06/29/15 02:57*	*4*
Nitrobenzene-d5 (Surr)	*82*		*41 - 108*	*06/23/15 03:33*	*06/29/15 02:57*	*4*
Terphenyl-d14 (Surr)	*109*		*28 - 109*	*06/23/15 03:33*	*06/29/15 02:57*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-087 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-35
Matrix: Tissue
Percent Solids: 17.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		860	82	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Acenaphthylene	ND		860	98	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Anthracene	ND		860	84	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Benzo[a]anthracene	ND		860	110	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Benzo[b]fluoranthene	ND		860	130	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Benzo[k]fluoranthene	ND		860	170	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Benzo[g,h,i]perylene	ND		860	85	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Benzo[a]pyrene	ND		860	86	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Bis(2-ethylhexyl) phthalate	ND		8600	690	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Chrysene	ND		860	100	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Dibenz(a,h)anthracene	ND		860	95	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Fluoranthene	ND		860	92	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Fluorene	ND		860	110	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Indeno[1,2,3-cd]pyrene	ND		860	88	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Naphthalene	ND		860	74	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Phenanthrene	ND		860	140	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Phenol	**170**	**J**	860	100	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4
Pyrene	ND		860	87	ug/Kg	☼	06/23/15 03:33	06/29/15 03:25	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*53*		*34 - 103*	*06/23/15 03:33*	*06/29/15 03:25*	*4*
2,4,6-Tribromophenol (Surr)	*84*		*20 - 113*	*06/23/15 03:33*	*06/29/15 03:25*	*4*
Phenol-d5 (Surr)	*59*		*35 - 103*	*06/23/15 03:33*	*06/29/15 03:25*	*4*
2-Fluorobiphenyl	*62*		*38 - 103*	*06/23/15 03:33*	*06/29/15 03:25*	*4*
Nitrobenzene-d5 (Surr)	*59*		*41 - 108*	*06/23/15 03:33*	*06/29/15 03:25*	*4*
Terphenyl-d14 (Surr)	*73*		*28 - 109*	*06/23/15 03:33*	*06/29/15 03:25*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-088 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-36
Matrix: Tissue
Percent Solids: 16.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		930	89	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Acenaphthylene	ND		930	110	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Anthracene	ND		930	91	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Benzo[a]anthracene	ND		930	120	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Benzo[b]fluoranthene	ND		930	150	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Benzo[k]fluoranthene	ND		930	190	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Benzo[g,h,i]perylene	ND		930	93	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Benzo[a]pyrene	ND		930	93	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Bis(2-ethylhexyl) phthalate	ND		9300	750	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Chrysene	ND		930	110	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Dibenz(a,h)anthracene	ND		930	100	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Fluoranthene	ND		930	99	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Fluorene	ND		930	120	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Indeno[1,2,3-cd]pyrene	ND		930	96	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Naphthalene	ND		930	80	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Phenanthrene	ND		930	150	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Phenol	**240**	**J**	930	110	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4
Pyrene	ND		930	94	ug/Kg	☼	06/23/15 03:33	06/29/15 03:53	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*75*		*34 - 103*	*06/23/15 03:33*	*06/29/15 03:53*	*4*
2,4,6-Tribromophenol (Surr)	*111*		*20 - 113*	*06/23/15 03:33*	*06/29/15 03:53*	*4*
Phenol-d5 (Surr)	*80*		*35 - 103*	*06/23/15 03:33*	*06/29/15 03:53*	*4*
2-Fluorobiphenyl	*88*		*38 - 103*	*06/23/15 03:33*	*06/29/15 03:53*	*4*
Nitrobenzene-d5 (Surr)	*82*		*41 - 108*	*06/23/15 03:33*	*06/29/15 03:53*	*4*
Terphenyl-d14 (Surr)	*98*		*28 - 109*	*06/23/15 03:33*	*06/29/15 03:53*	*4*

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-081 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**2.6**	**J**	3.0	0.28	mg/Kg		06/19/15 09:16	06/25/15 19:11	1
Arsenic	**2.0**		0.099	0.018	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Barium	**0.044**	**J**	0.99	0.011	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Cadmium	**0.033**	**J**	0.099	0.0069	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Calcium	**170**		50	1.3	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Chromium	**0.67**	**B**	0.20	0.0060	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Cobalt	**0.28**		0.050	0.0015	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Copper	**1.5**		0.20	0.033	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Iron	**53**	**B**	5.0	0.35	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Silver	**0.020**	**J**	0.099	0.0039	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Potassium	**2400**	**B**	50	1.3	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Magnesium	**770**	**B**	50	0.19	mg/Kg		06/19/15 09:16	06/25/15 19:11	1
Sodium	**5600**	**B**	50	1.4	mg/Kg		06/19/15 09:16	06/25/15 19:11	1
Nickel	**0.57**		0.099	0.011	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Lead	**0.089**	**J**	0.099	0.0038	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Antimony	ND		0.20	0.0026	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Selenium	**0.20**	**J**	0.50	0.050	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Thallium	ND		0.099	0.0020	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Vanadium	**0.049**	**J B**	0.099	0.0078	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Zinc	**11**		0.50	0.064	mg/Kg		06/19/15 09:16	06/24/15 19:29	1
Manganese	**0.53**		0.50	0.010	mg/Kg		06/19/15 09:16	06/24/15 19:29	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-081 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1.9**	**J**	3.0	0.28	mg/Kg		06/19/15 09:16	06/25/15 19:16	1
Arsenic	**2.2**		0.10	0.018	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Barium	**0.060**	**J**	1.0	0.011	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Cadmium	**0.034**	**J**	0.10	0.0070	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Calcium	**170**		50	1.3	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Chromium	**0.40**	**B**	0.20	0.0061	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Cobalt	**0.30**		0.050	0.0015	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Copper	**1.5**		0.20	0.033	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Iron	**56**	**B**	5.0	0.35	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Silver	**0.010**	**J**	0.10	0.0039	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Potassium	**2600**	**B**	50	1.4	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Magnesium	**770**	**B**	50	0.19	mg/Kg		06/19/15 09:16	06/25/15 19:16	1
Sodium	**5600**	**B**	50	1.4	mg/Kg		06/19/15 09:16	06/25/15 19:16	1
Nickel	**0.60**		0.10	0.011	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Lead	**0.075**	**J**	0.10	0.0038	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Antimony	ND		0.20	0.0026	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Selenium	**0.25**	**J**	0.50	0.050	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Thallium	ND		0.10	0.0020	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Vanadium	**0.098**	**J B**	0.10	0.0079	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Zinc	**11**		0.50	0.065	mg/Kg		06/19/15 09:16	06/24/15 19:34	1
Manganese	**0.52**		0.50	0.010	mg/Kg		06/19/15 09:16	06/24/15 19:34	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-081 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7.4	B	3.0	0.28	mg/Kg		06/19/15 09:13	07/03/15 02:53	1
Arsenic	1.7		0.10	0.018	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Barium	0.11	J	1.0	0.011	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Cadmium	0.028	J	0.10	0.0070	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Calcium	190		50	1.3	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Chromium	0.38	B	0.20	0.0061	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Cobalt	0.21	B	0.050	0.0015	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Copper	1.4		0.20	0.033	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Iron	62		5.0	0.35	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Silver	0.0093	J	0.10	0.0039	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Potassium	2200		50	1.4	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Magnesium	670	B	50	0.19	mg/Kg		06/19/15 09:13	07/03/15 02:53	1
Sodium	5000	B	50	1.4	mg/Kg		06/19/15 09:13	07/03/15 02:53	1
Nickel	0.44	B	0.10	0.011	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Lead	0.069	J	0.10	0.0038	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Antimony	0.0051	J	0.20	0.0026	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Selenium	0.25	J	0.50	0.050	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Thallium	ND		0.10	0.0020	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Vanadium	0.049	J	0.10	0.0079	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Zinc	17	B	0.50	0.065	mg/Kg		06/19/15 09:13	07/01/15 22:35	1
Manganese	1.0		0.50	0.010	mg/Kg		06/19/15 09:13	07/01/15 22:35	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-081 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	72	B	2.9	0.28	mg/Kg		06/19/15 09:13	07/03/15 02:58	1
Arsenic	2.1		0.097	0.018	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Barium	0.23	J	0.97	0.010	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Cadmium	0.050	J	0.097	0.0068	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Calcium	650		49	1.3	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Chromium	1.1	B	0.19	0.0059	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Cobalt	0.32	B	0.049	0.0015	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Copper	2.1		0.19	0.032	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Iron	260		4.9	0.34	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Silver	0.0090	J	0.097	0.0038	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Potassium	2300		49	1.3	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Magnesium	760	B	49	0.18	mg/Kg		06/19/15 09:13	07/03/15 02:58	1
Sodium	5400	B	49	1.3	mg/Kg		06/19/15 09:13	07/03/15 02:58	1
Nickel	0.92	B	0.097	0.011	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Lead	0.14		0.097	0.0037	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Antimony	0.0093	J	0.19	0.0025	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Selenium	0.20	J	0.49	0.049	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Thallium	ND		0.097	0.0019	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Vanadium	0.32		0.097	0.0077	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Zinc	23	B	0.49	0.063	mg/Kg		06/19/15 09:13	07/01/15 22:40	1
Manganese	3.3		0.49	0.010	mg/Kg		06/19/15 09:13	07/01/15 22:40	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-081 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**41**	**B**	2.9	0.27	mg/Kg		06/19/15 09:13	07/03/15 03:03	1
Arsenic	**1.6**		0.096	0.017	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Barium	**0.18**	**J**	0.96	0.010	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Cadmium	**0.026**	**J**	0.096	0.0067	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Calcium	**380**		48	1.3	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Chromium	**0.84**	**B**	0.19	0.0059	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Cobalt	**0.22**	**B**	0.048	0.0014	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Copper	**1.8**		0.19	0.032	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Iron	**150**		4.8	0.34	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Silver	**0.0088**	**J**	0.096	0.0038	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Potassium	**2000**		48	1.3	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Magnesium	**620**	**B**	48	0.18	mg/Kg		06/19/15 09:13	07/03/15 03:03	1
Sodium	**4400**	**B**	48	1.3	mg/Kg		06/19/15 09:13	07/03/15 03:03	1
Nickel	**0.69**	**B**	0.096	0.011	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Lead	**0.094**	**J**	0.096	0.0037	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Antimony	ND		0.19	0.0025	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Selenium	**0.18**	**J**	0.48	0.048	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Thallium	ND		0.096	0.0019	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Vanadium	**0.15**		0.096	0.0076	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Zinc	**22**	**B**	0.48	0.062	mg/Kg		06/19/15 09:13	07/01/15 22:45	1
Manganese	**2.2**		0.48	0.0099	mg/Kg		06/19/15 09:13	07/01/15 22:45	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-082 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	89	B	3.0	0.29	mg/Kg		06/23/15 06:55	06/29/15 21:29	1
Arsenic	2.3		0.10	0.018	mg/Kg		06/23/15 06:55	06/29/15 21:29	1
Barium	0.26	J	1.0	0.011	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Beryllium	ND		0.10	0.0076	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Cadmium	0.0088	J	0.10	0.0071	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Calcium	2300		51	1.3	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Chromium	0.62		0.20	0.0062	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Cobalt	0.41		0.051	0.0015	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Copper	1.5		0.20	0.033	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Iron	260	B	5.1	0.36	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Silver	0.0098	J	0.10	0.0039	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Potassium	2400		51	1.4	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Magnesium	740	B	51	0.19	mg/Kg		06/23/15 06:55	06/29/15 21:29	1
Sodium	5000	B	51	1.4	mg/Kg		06/23/15 06:55	06/29/15 21:29	1
Nickel	0.79		0.10	0.011	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Lead	0.17		0.10	0.0038	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Antimony	0.0076	J B	0.20	0.0026	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Selenium	0.27	J	0.51	0.051	mg/Kg		06/23/15 06:55	06/29/15 21:29	1
Thallium	ND		0.10	0.0020	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Vanadium	0.34	B	0.10	0.0080	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Zinc	11		0.51	0.065	mg/Kg		06/23/15 06:55	06/29/15 03:01	1
Manganese	1.6		0.51	0.010	mg/Kg		06/23/15 06:55	06/29/15 03:01	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-082 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**11**	**B**	2.9	0.28	mg/Kg		06/23/15 06:55	06/29/15 21:34	1
Arsenic	**1.8**		0.098	0.018	mg/Kg		06/23/15 06:55	06/29/15 21:34	1
Barium	**0.025**	**J**	0.98	0.010	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Cadmium	**0.0091**	**J**	0.098	0.0069	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Calcium	**190**		49	1.3	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Chromium	**0.41**		0.20	0.0060	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Cobalt	**0.36**		0.049	0.0015	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Copper	**1.7**		0.20	0.032	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Iron	**70**	**B**	4.9	0.35	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Silver	**0.0084**	**J**	0.098	0.0038	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Potassium	**2600**		49	1.3	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Magnesium	**760**	**B**	49	0.18	mg/Kg		06/23/15 06:55	06/29/15 21:34	1
Sodium	**5600**	**B**	49	1.3	mg/Kg		06/23/15 06:55	06/29/15 21:34	1
Nickel	**0.77**		0.098	0.011	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Lead	**0.086**	**J**	0.098	0.0037	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Antimony	ND		0.20	0.0025	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Selenium	**0.22**	**J**	0.49	0.049	mg/Kg		06/23/15 06:55	06/29/15 21:34	1
Thallium	ND		0.098	0.0020	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Vanadium	**0.12**	**B**	0.098	0.0077	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Zinc	**11**		0.49	0.064	mg/Kg		06/23/15 06:55	06/29/15 03:06	1
Manganese	**0.59**		0.49	0.010	mg/Kg		06/23/15 06:55	06/29/15 03:06	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-082 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**99**	**B**	3.0	0.28	mg/Kg		06/23/15 06:55	06/29/15 21:39	1
Arsenic	**2.1**		0.099	0.018	mg/Kg		06/23/15 06:55	06/29/15 21:39	1
Barium	**0.34**	**J**	0.99	0.011	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Cadmium	ND		0.099	0.0069	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Calcium	**910**		50	1.3	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Chromium	**0.71**		0.20	0.0060	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Cobalt	**0.43**		0.050	0.0015	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Copper	**1.5**		0.20	0.033	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Iron	**290**	**B**	5.0	0.35	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Silver	**0.011**	**J**	0.099	0.0039	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Potassium	**2700**		50	1.3	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Magnesium	**950**	**B**	50	0.19	mg/Kg		06/23/15 06:55	06/29/15 21:39	1
Sodium	**7000**	**B**	50	1.4	mg/Kg		06/23/15 06:55	06/29/15 21:39	1
Nickel	**0.94**		0.099	0.011	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Lead	**0.18**		0.099	0.0038	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Antimony	ND		0.20	0.0026	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Selenium	**0.26**	**J**	0.50	0.050	mg/Kg		06/23/15 06:55	06/29/15 21:39	1
Thallium	ND		0.099	0.0020	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Vanadium	**0.38**	**B**	0.099	0.0078	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Zinc	**54**		0.50	0.064	mg/Kg		06/23/15 06:55	06/29/15 03:11	1
Manganese	**3.7**		0.50	0.010	mg/Kg		06/23/15 06:55	06/29/15 03:11	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-082 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**5.1**	**B**	2.9	0.28	mg/Kg		06/23/15 06:55	06/29/15 21:44	1
Arsenic	**1.9**		0.097	0.018	mg/Kg		06/23/15 06:55	06/29/15 21:44	1
Barium	**0.022**	**J**	0.97	0.010	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Cadmium	**0.017**	**J**	0.097	0.0068	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Calcium	**170**		49	1.3	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Chromium	**0.50**		0.19	0.0059	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Cobalt	**0.36**		0.049	0.0015	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Copper	**1.5**		0.19	0.032	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Iron	**60**	**B**	4.9	0.34	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Silver	**0.011**	**J**	0.097	0.0038	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Potassium	**2500**		49	1.3	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Magnesium	**670**	**B**	49	0.18	mg/Kg		06/23/15 06:55	06/29/15 21:44	1
Sodium	**4800**	**B**	49	1.3	mg/Kg		06/23/15 06:55	06/29/15 21:44	1
Nickel	**0.77**		0.097	0.011	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Lead	**0.072**	**J**	0.097	0.0037	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Antimony	ND		0.19	0.0025	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Selenium	**0.24**	**J**	0.49	0.049	mg/Kg		06/23/15 06:55	06/29/15 21:44	1
Thallium	ND		0.097	0.0019	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Vanadium	**0.16**	**B**	0.097	0.0077	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Zinc	**13**		0.49	0.063	mg/Kg		06/23/15 06:55	06/29/15 03:16	1
Manganese	**0.58**		0.49	0.010	mg/Kg		06/23/15 06:55	06/29/15 03:16	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-082 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**4.6**	**B**	3.0	0.28	mg/Kg		06/23/15 06:55	06/29/15 21:49	1
Arsenic	**1.7**		0.10	0.018	mg/Kg		06/23/15 06:55	06/29/15 21:49	1
Barium	**0.014**	**J**	1.0	0.011	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Cadmium	ND		0.10	0.0070	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Calcium	**180**		50	1.3	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Chromium	**0.40**		0.20	0.0061	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Cobalt	**0.29**		0.050	0.0015	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Copper	**1.5**		0.20	0.033	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Iron	**56**	**B**	5.0	0.35	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Silver	**0.0053**	**J**	0.10	0.0039	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Potassium	**2300**		50	1.4	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Magnesium	**690**	**B**	50	0.19	mg/Kg		06/23/15 06:55	06/29/15 21:49	1
Sodium	**5200**	**B**	50	1.4	mg/Kg		06/23/15 06:55	06/29/15 21:49	1
Nickel	**0.63**		0.10	0.011	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Lead	**0.074**	**J**	0.10	0.0038	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Antimony	ND		0.20	0.0026	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Selenium	**0.22**	**J**	0.50	0.050	mg/Kg		06/23/15 06:55	06/29/15 21:49	1
Thallium	ND		0.10	0.0020	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Vanadium	**0.13**	**B**	0.10	0.0079	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Zinc	**28**		0.50	0.065	mg/Kg		06/23/15 06:55	06/29/15 03:21	1
Manganese	**0.98**		0.50	0.010	mg/Kg		06/23/15 06:55	06/29/15 03:21	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-083 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9.6		2.9	0.27	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Arsenic	2.4		0.095	0.017	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Barium	0.087	J B	0.95	0.010	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Cadmium	0.037	J	0.095	0.0067	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Calcium	160		48	1.3	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Chromium	0.30	B	0.19	0.0058	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Cobalt	0.31	B	0.048	0.0014	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Copper	1.3		0.19	0.031	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Iron	70		4.8	0.34	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Silver	0.018	J	0.095	0.0037	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Potassium	2300		48	1.3	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Magnesium	550	B	48	0.18	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Sodium	3900		48	1.3	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Nickel	0.56	B	0.095	0.011	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Lead	0.099		0.095	0.0036	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Antimony	0.026	J B	0.19	0.0025	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Selenium	0.18	J	0.48	0.048	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Thallium	0.0028	J B	0.095	0.0019	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Vanadium	0.13	B	0.095	0.0075	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Zinc	75		0.48	0.062	mg/Kg		06/22/15 08:55	07/04/15 16:45	1
Manganese	1.4	B	0.48	0.0098	mg/Kg		06/22/15 08:55	07/04/15 16:45	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-083 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	86		2.9	0.28	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Arsenic	2.3		0.098	0.018	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Barium	0.35	J B	0.98	0.010	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Cadmium	0.030	J	0.098	0.0069	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Calcium	410		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Chromium	0.58	B	0.20	0.0060	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Cobalt	0.37	B	0.049	0.0015	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Copper	1.3		0.20	0.032	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Iron	270		4.9	0.35	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Silver	0.0063	J	0.098	0.0038	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Potassium	2200		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Magnesium	630	B	49	0.18	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Sodium	4300		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Nickel	0.67	B	0.098	0.011	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Lead	0.17		0.098	0.0037	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Antimony	0.019	J B	0.20	0.0025	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Selenium	0.23	J	0.49	0.049	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Thallium	0.0025	J B	0.098	0.0020	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Vanadium	0.37	B	0.098	0.0077	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Zinc	14		0.49	0.064	mg/Kg		06/22/15 08:55	07/04/15 16:50	1
Manganese	3.0	B	0.49	0.010	mg/Kg		06/22/15 08:55	07/04/15 16:50	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-083 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	230	F1	2.9	0.28	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Arsenic	2.8	F1	0.097	0.018	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Barium	0.87	J B	0.97	0.010	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Beryllium	0.0073	J	0.097	0.0073	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Cadmium	0.041	J	0.097	0.0068	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Calcium	3000		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Chromium	2.3	B	0.19	0.0059	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Cobalt	0.48	B	0.049	0.0015	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Copper	1.5		0.19	0.032	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Iron	670		4.9	0.34	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Silver	0.013	J	0.097	0.0038	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Potassium	2400	F1	49	1.3	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Magnesium	800	B	49	0.18	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Sodium	5000		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Nickel	1.4	B	0.097	0.011	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Lead	0.30		0.097	0.0037	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Antimony	0.016	J B	0.19	0.0025	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Selenium	0.22	J	0.49	0.049	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Thallium	0.0042	J B	0.097	0.0019	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Vanadium	0.86	B	0.097	0.0077	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Zinc	12		0.49	0.063	mg/Kg		06/22/15 08:55	07/04/15 16:55	1
Manganese	9.3	B	0.49	0.010	mg/Kg		06/22/15 08:55	07/04/15 16:55	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-083 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	87		2.9	0.28	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Arsenic	2.2		0.097	0.018	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Barium	0.34	J B	0.97	0.010	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Beryllium	0.0085	J	0.097	0.0073	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Cadmium	0.045	J	0.097	0.0068	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Calcium	450		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Chromium	0.94	B	0.19	0.0059	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Cobalt	0.32	B	0.049	0.0015	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Copper	1.8		0.19	0.032	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Iron	240		4.9	0.34	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Silver	0.012	J	0.097	0.0038	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Potassium	2300		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Magnesium	720	B	49	0.18	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Sodium	5200		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Nickel	0.87	B	0.097	0.011	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Lead	0.17		0.097	0.0037	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Antimony	0.060	J B	0.19	0.0025	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Selenium	0.18	J	0.49	0.049	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Thallium	0.0091	J B	0.097	0.0019	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Vanadium	0.36	B	0.097	0.0077	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Zinc	11		0.49	0.063	mg/Kg		06/22/15 08:55	07/04/15 17:21	1
Manganese	2.7	B	0.49	0.010	mg/Kg		06/22/15 08:55	07/04/15 17:21	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-083 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	5.8		2.9	0.27	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Arsenic	2.1		0.096	0.017	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Barium	0.10	J B	0.96	0.010	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Cadmium	0.034	J	0.096	0.0067	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Calcium	170		48	1.3	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Chromium	1.1	B	0.19	0.0059	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Cobalt	0.30	B	0.048	0.0014	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Copper	2.3		0.19	0.032	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Iron	66		4.8	0.34	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Silver	0.0066	J	0.096	0.0038	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Potassium	2200		48	1.3	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Magnesium	620	B	48	0.18	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Sodium	4700		48	1.3	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Nickel	1.0	B	0.096	0.011	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Lead	0.078	J	0.096	0.0037	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Antimony	0.020	J B	0.19	0.0025	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Selenium	0.24	J	0.48	0.048	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Thallium	0.0043	J B	0.096	0.0019	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Vanadium	0.013	J B	0.096	0.0076	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Zinc	10		0.48	0.062	mg/Kg		06/22/15 08:55	07/04/15 17:26	1
Manganese	0.61	B	0.48	0.0099	mg/Kg		06/22/15 08:55	07/04/15 17:26	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-084 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1.7	J	2.9	0.28	mg/Kg		06/22/15 08:55	07/05/15 15:26	1
Arsenic	1.5		0.098	0.018	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Barium	0.10	J B	0.98	0.010	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Cadmium	0.026	J	0.098	0.0069	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Calcium	150		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Chromium	0.64	B	0.20	0.0060	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Cobalt	0.30	B	0.049	0.0015	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Copper	1.6		0.20	0.032	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Iron	44		4.9	0.35	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Silver	0.0093	J	0.098	0.0038	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Potassium	2100		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Magnesium	570	B	49	0.18	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Sodium	3900		49	1.3	mg/Kg		06/22/15 08:55	07/05/15 15:26	1
Nickel	0.88	B	0.098	0.011	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Lead	0.065	J	0.098	0.0037	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Antimony	0.051	J B	0.20	0.0025	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Selenium	0.19	J	0.49	0.049	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Thallium	0.0047	J B	0.098	0.0020	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Vanadium	0.026	J B	0.098	0.0077	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Zinc	10		0.49	0.064	mg/Kg		06/22/15 08:55	07/04/15 17:49	1
Manganese	0.42	J B	0.49	0.010	mg/Kg		06/22/15 08:55	07/04/15 17:49	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-084 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	13		3.0	0.29	mg/Kg		06/22/15 08:55	07/05/15 15:31	1
Arsenic	1.8		0.10	0.018	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Barium	0.11	J B	1.0	0.011	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Beryllium	ND		0.10	0.0076	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Cadmium	0.037	J	0.10	0.0071	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Calcium	190		51	1.3	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Chromium	0.36	B	0.20	0.0062	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Cobalt	0.30	B	0.051	0.0015	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Copper	1.5		0.20	0.033	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Iron	73		5.1	0.36	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Silver	0.011	J	0.10	0.0039	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Potassium	2300		51	1.4	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Magnesium	610	B	51	0.19	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Sodium	4200		51	1.4	mg/Kg		06/22/15 08:55	07/05/15 15:31	1
Nickel	0.74	B	0.10	0.011	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Lead	0.088	J	0.10	0.0038	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Antimony	0.016	J B	0.20	0.0026	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Selenium	0.27	J	0.51	0.051	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Thallium	0.0024	J B	0.10	0.0020	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Vanadium	ND		0.10	0.0080	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Zinc	11		0.51	0.065	mg/Kg		06/22/15 08:55	07/04/15 17:54	1
Manganese	0.61	B	0.51	0.010	mg/Kg		06/22/15 08:55	07/04/15 17:54	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-084 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1.1	J	2.9	0.28	mg/Kg		06/22/15 08:55	07/05/15 15:36	1
Arsenic	1.7		0.097	0.018	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Barium	0.10	J B	0.97	0.010	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Cadmium	0.038	J	0.097	0.0068	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Calcium	160		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Chromium	0.39	B	0.19	0.0059	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Cobalt	0.34	B	0.049	0.0015	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Copper	1.7		0.19	0.032	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Iron	47		4.9	0.34	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Silver	0.012	J	0.097	0.0038	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Potassium	2200		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Magnesium	620	B	49	0.18	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Sodium	4300		49	1.3	mg/Kg		06/22/15 08:55	07/05/15 15:36	1
Nickel	0.86	B	0.097	0.011	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Lead	0.068	J	0.097	0.0037	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Antimony	0.0093	J B	0.19	0.0025	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Selenium	0.25	J	0.49	0.049	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Thallium	ND		0.097	0.0019	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Vanadium	0.072	J B	0.097	0.0077	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Zinc	47		0.49	0.063	mg/Kg		06/22/15 08:55	07/04/15 17:59	1
Manganese	0.97	B	0.49	0.010	mg/Kg		06/22/15 08:55	07/04/15 17:59	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-084 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1.2	J	3.0	0.28	mg/Kg		06/22/15 08:55	07/05/15 15:41	1
Arsenic	1.6		0.10	0.018	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Barium	0.069	J B	1.0	0.011	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Cadmium	0.040	J	0.10	0.0070	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Calcium	160		50	1.3	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Chromium	0.36	B	0.20	0.0061	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Cobalt	0.32	B	0.050	0.0015	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Copper	1.6		0.20	0.033	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Iron	44		5.0	0.35	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Silver	0.010	J	0.10	0.0039	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Potassium	2200		50	1.4	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Magnesium	650	B	50	0.19	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Sodium	4400		50	1.4	mg/Kg		06/22/15 08:55	07/05/15 15:41	1
Nickel	0.65	B	0.10	0.011	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Lead	0.063	J	0.10	0.0038	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Antimony	0.0034	J B	0.20	0.0026	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Selenium	0.16	J	0.50	0.050	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Thallium	ND		0.10	0.0020	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Vanadium	0.024	J B	0.10	0.0079	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Zinc	25		0.50	0.065	mg/Kg		06/22/15 08:55	07/04/15 18:04	1
Manganese	0.95	B	0.50	0.010	mg/Kg		06/22/15 08:55	07/04/15 18:04	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-084 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	2.6	J	3.0	0.28	mg/Kg		06/22/15 08:55	07/05/15 15:46	1
Arsenic	1.7		0.10	0.018	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Barium	0.076	J B	1.0	0.011	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Cadmium	0.027	J	0.10	0.0070	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Calcium	160		50	1.3	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Chromium	0.38	B	0.20	0.0061	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Cobalt	0.32	B	0.050	0.0015	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Copper	1.6		0.20	0.033	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Iron	55		5.0	0.35	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Silver	0.017	J	0.10	0.0039	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Potassium	2200		50	1.4	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Magnesium	590	B	50	0.19	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Sodium	4000		50	1.4	mg/Kg		06/22/15 08:55	07/05/15 15:46	1
Nickel	0.68	B	0.10	0.011	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Lead	0.066	J	0.10	0.0038	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Antimony	0.0037	J B	0.20	0.0026	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Selenium	0.22	J	0.50	0.050	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Thallium	ND		0.10	0.0020	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Vanadium	0.052	J B	0.10	0.0079	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Zinc	10		0.50	0.065	mg/Kg		06/22/15 08:55	07/04/15 18:09	1
Manganese	0.53	B	0.50	0.010	mg/Kg		06/22/15 08:55	07/04/15 18:09	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-085 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	85		3.0	0.28	mg/Kg		06/22/15 08:55	07/05/15 15:51	1
Arsenic	2.0		0.099	0.018	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Barium	0.25	J B	0.99	0.011	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Cadmium	0.037	J	0.099	0.0069	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Calcium	370		50	1.3	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Chromium	0.77	B	0.20	0.0060	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Cobalt	0.30	B	0.050	0.0015	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Copper	2.8		0.20	0.033	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Iron	240		5.0	0.35	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Silver	0.0091	J	0.099	0.0039	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Potassium	2100		50	1.3	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Magnesium	620	B	50	0.19	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Sodium	3900		50	1.4	mg/Kg		06/22/15 08:55	07/05/15 15:51	1
Nickel	0.76	B	0.099	0.011	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Lead	0.16		0.099	0.0038	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Antimony	0.0026	J B	0.20	0.0026	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Selenium	0.25	J	0.50	0.050	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Thallium	ND		0.099	0.0020	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Vanadium	0.35	B	0.099	0.0078	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Zinc	13		0.50	0.064	mg/Kg		06/22/15 08:55	07/04/15 18:14	1
Manganese	2.4	B	0.50	0.010	mg/Kg		06/22/15 08:55	07/04/15 18:14	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-085 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	11		2.9	0.27	mg/Kg		06/22/15 08:55	07/05/15 15:56	1
Arsenic	2.0		0.096	0.017	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Barium	0.11	J B	0.96	0.010	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Cadmium	0.040	J	0.096	0.0067	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Calcium	180		48	1.3	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Chromium	0.46	B	0.19	0.0059	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Cobalt	0.32	B	0.048	0.0014	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Copper	1.7		0.19	0.032	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Iron	70		4.8	0.34	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Silver	0.010	J	0.096	0.0038	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Potassium	2300		48	1.3	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Magnesium	640	B	48	0.18	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Sodium	4300		48	1.3	mg/Kg		06/22/15 08:55	07/05/15 15:56	1
Nickel	0.62	B	0.096	0.011	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Lead	0.092	J	0.096	0.0037	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Antimony	0.0034	J B	0.19	0.0025	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Selenium	0.28	J	0.48	0.048	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Thallium	ND		0.096	0.0019	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Vanadium	0.12	B	0.096	0.0076	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Zinc	10		0.48	0.062	mg/Kg		06/22/15 08:55	07/04/15 18:20	1
Manganese	0.67	B	0.48	0.0099	mg/Kg		06/22/15 08:55	07/04/15 18:20	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-085 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**5.6**		2.9	0.27	mg/Kg		06/22/15 08:55	07/05/15 16:01	1
Arsenic	**2.1**		0.095	0.017	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Barium	**0.10**	**J B**	0.95	0.010	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Cadmium	**0.039**	**J**	0.095	0.0067	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Calcium	**200**		48	1.3	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Chromium	**0.46**	**B**	0.19	0.0058	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Cobalt	**0.32**	**B**	0.048	0.0014	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Copper	**2.3**		0.19	0.031	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Iron	**56**		4.8	0.34	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Silver	**0.010**	**J**	0.095	0.0037	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Potassium	**2300**		48	1.3	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Magnesium	**650**	**B**	48	0.18	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Sodium	**4300**		48	1.3	mg/Kg		06/22/15 08:55	07/05/15 16:01	1
Nickel	**0.68**	**B**	0.095	0.011	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Lead	**0.087**	**J**	0.095	0.0036	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Antimony	ND		0.19	0.0025	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Selenium	**0.22**	**J**	0.48	0.048	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Thallium	ND		0.095	0.0019	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Vanadium	**0.078**	**J B**	0.095	0.0075	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Zinc	**51**		0.48	0.062	mg/Kg		06/22/15 08:55	07/04/15 18:25	1
Manganese	**1.4**	**B**	0.48	0.0098	mg/Kg		06/22/15 08:55	07/04/15 18:25	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-085 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1.0**	**J**	2.9	0.28	mg/Kg		06/22/15 08:55	07/05/15 16:06	1
Arsenic	**1.9**		0.098	0.018	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Barium	**0.084**	**J B**	0.98	0.010	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Cadmium	**0.035**	**J**	0.098	0.0069	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Calcium	**160**		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Chromium	**0.45**	**B**	0.20	0.0060	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Cobalt	**0.29**	**B**	0.049	0.0015	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Copper	**1.6**		0.20	0.032	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Iron	**47**		4.9	0.35	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Silver	**0.0065**	**J**	0.098	0.0038	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Potassium	**2200**		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Magnesium	**640**	**B**	49	0.18	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Sodium	**4300**		49	1.3	mg/Kg		06/22/15 08:55	07/05/15 16:06	1
Nickel	**0.66**	**B**	0.098	0.011	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Lead	**0.066**	**J**	0.098	0.0037	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Antimony	ND		0.20	0.0025	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Selenium	**0.24**	**J**	0.49	0.049	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Thallium	ND		0.098	0.0020	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Vanadium	**0.032**	**J B**	0.098	0.0077	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Zinc	**22**		0.49	0.064	mg/Kg		06/22/15 08:55	07/04/15 18:30	1
Manganese	**0.82**	**B**	0.49	0.010	mg/Kg		06/22/15 08:55	07/04/15 18:30	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-085 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**11**		3.0	0.28	mg/Kg		06/22/15 08:55	07/05/15 16:11	1
Arsenic	**2.1**		0.099	0.018	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Barium	**0.13**	**J B**	0.99	0.011	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Cadmium	**0.040**	**J**	0.099	0.0069	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Calcium	**260**		50	1.3	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Chromium	**0.45**	**B**	0.20	0.0060	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Cobalt	**0.34**	**B**	0.050	0.0015	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Copper	**1.9**		0.20	0.033	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Iron	**79**		5.0	0.35	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Silver	**0.0063**	**J**	0.099	0.0039	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Potassium	**2400**		50	1.3	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Magnesium	**670**	**B**	50	0.19	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Sodium	**4500**		50	1.4	mg/Kg		06/22/15 08:55	07/05/15 16:11	1
Nickel	**0.68**	**B**	0.099	0.011	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Lead	**0.087**	**J**	0.099	0.0038	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Antimony	ND		0.20	0.0026	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Selenium	**0.28**	**J**	0.50	0.050	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Thallium	ND		0.099	0.0020	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Vanadium	**0.13**	**B**	0.099	0.0078	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Zinc	**9.8**		0.50	0.064	mg/Kg		06/22/15 08:55	07/04/15 18:35	1
Manganese	**0.76**	**B**	0.50	0.010	mg/Kg		06/22/15 08:55	07/04/15 18:35	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-086 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	86		3.0	0.28	mg/Kg		06/22/15 08:55	07/05/15 16:35	1
Arsenic	1.8		0.10	0.018	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Barium	0.24	J B	1.0	0.011	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Cadmium	0.035	J	0.10	0.0070	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Calcium	770		50	1.3	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Chromium	0.71	B	0.20	0.0061	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Cobalt	0.31	B	0.050	0.0015	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Copper	1.6		0.20	0.033	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Iron	300		5.0	0.35	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Silver	0.0078	J	0.10	0.0039	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Potassium	2100		50	1.4	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Magnesium	630	B	50	0.19	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Sodium	3700		50	1.4	mg/Kg		06/22/15 08:55	07/05/15 16:35	1
Nickel	0.81	B	0.10	0.011	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Lead	0.17		0.10	0.0038	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Antimony	0.040	J B	0.20	0.0026	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Selenium	0.19	J	0.50	0.050	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Thallium	0.0049	J B	0.10	0.0020	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Vanadium	0.34	B	0.10	0.0079	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Zinc	39		0.50	0.065	mg/Kg		06/22/15 08:55	07/04/15 18:58	1
Manganese	3.3	B	0.50	0.010	mg/Kg		06/22/15 08:55	07/04/15 18:58	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-086 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-27
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	38		2.9	0.28	mg/Kg		06/22/15 08:55	07/05/15 16:40	1
Arsenic	2.0		0.097	0.018	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Barium	0.24	J B	0.97	0.010	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Cadmium	0.032	J	0.097	0.0068	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Calcium	950		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Chromium	0.86	B	0.19	0.0059	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Cobalt	0.31	B	0.049	0.0015	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Copper	2.4		0.19	0.032	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Iron	180		4.9	0.34	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Silver	0.012	J	0.097	0.0038	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Potassium	2200		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Magnesium	660	B	49	0.18	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Sodium	4200		49	1.3	mg/Kg		06/22/15 08:55	07/05/15 16:40	1
Nickel	0.93	B	0.097	0.011	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Lead	0.13		0.097	0.0037	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Antimony	0.011	J B	0.19	0.0025	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Selenium	0.26	J	0.49	0.049	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Thallium	ND		0.097	0.0019	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Vanadium	0.28	B	0.097	0.0077	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Zinc	10		0.49	0.063	mg/Kg		06/22/15 08:55	07/04/15 19:03	1
Manganese	1.3	B	0.49	0.010	mg/Kg		06/22/15 08:55	07/04/15 19:03	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-086 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-28
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	3.0		2.9	0.28	mg/Kg		06/22/15 08:55	07/05/15 16:45	1
Arsenic	1.8		0.097	0.018	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Barium	0.075	J B	0.97	0.010	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Cadmium	0.040	J	0.097	0.0068	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Calcium	170		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Chromium	0.55	B	0.19	0.0059	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Cobalt	0.30	B	0.049	0.0015	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Copper	1.6		0.19	0.032	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Iron	49		4.9	0.34	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Silver	0.014	J	0.097	0.0038	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Potassium	2100		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Magnesium	630	B	49	0.18	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Sodium	4500		49	1.3	mg/Kg		06/22/15 08:55	07/05/15 16:45	1
Nickel	0.80	B	0.097	0.011	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Lead	0.064	J	0.097	0.0037	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Antimony	0.0066	J B	0.19	0.0025	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Selenium	0.24	J	0.49	0.049	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Thallium	ND		0.097	0.0019	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Vanadium	0.023	J B	0.097	0.0077	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Zinc	26		0.49	0.063	mg/Kg		06/22/15 08:55	07/04/15 19:08	1
Manganese	1.3	B	0.49	0.010	mg/Kg		06/22/15 08:55	07/04/15 19:08	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-086 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-29
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.98	J	2.9	0.28	mg/Kg		06/22/15 08:55	07/05/15 16:50	1
Arsenic	1.9		0.098	0.018	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Barium	0.075	J B	0.98	0.010	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Cadmium	0.026	J	0.098	0.0069	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Calcium	160		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Chromium	0.33	B	0.20	0.0060	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Cobalt	0.31	B	0.049	0.0015	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Copper	1.4		0.20	0.032	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Iron	46		4.9	0.35	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Silver	0.019	J	0.098	0.0038	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Potassium	2300		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Magnesium	650	B	49	0.18	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Sodium	4500		49	1.3	mg/Kg		06/22/15 08:55	07/05/15 16:50	1
Nickel	0.71	B	0.098	0.011	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Lead	0.070	J	0.098	0.0037	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Antimony	0.0037	J B	0.20	0.0025	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Selenium	0.21	J	0.49	0.049	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Thallium	ND		0.098	0.0020	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Vanadium	ND		0.098	0.0077	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Zinc	10		0.49	0.064	mg/Kg		06/22/15 08:55	07/04/15 19:13	1
Manganese	0.45	J B	0.49	0.010	mg/Kg		06/22/15 08:55	07/04/15 19:13	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-086 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-30
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1.5**	**J**	2.9	0.27	mg/Kg		06/22/15 07:17	06/29/15 22:13	1
Arsenic	**2.0**		0.096	0.017	mg/Kg		06/22/15 07:17	06/29/15 22:13	1
Barium	**0.012**	**J**	0.96	0.010	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Cadmium	**0.011**	**J**	0.096	0.0067	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Calcium	**170**		48	1.3	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Chromium	**0.47**		0.19	0.0059	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Cobalt	**0.31**		0.048	0.0014	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Copper	**2.4**		0.19	0.032	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Iron	**51**		4.8	0.34	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Silver	**0.010**	**J**	0.096	0.0038	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Potassium	**2400**		48	1.3	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Magnesium	**630**		48	0.18	mg/Kg		06/22/15 07:17	06/29/15 22:13	1
Sodium	**4700**		48	1.3	mg/Kg		06/22/15 07:17	06/29/15 22:13	1
Nickel	**0.68**		0.096	0.011	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Lead	**0.070**	**J**	0.096	0.0037	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Antimony	ND		0.19	0.0025	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Selenium	**0.24**	**J**	0.48	0.048	mg/Kg		06/22/15 07:17	06/29/15 22:13	1
Thallium	ND		0.096	0.0019	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Vanadium	**0.12**	**B**	0.096	0.0076	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Zinc	**10**		0.48	0.062	mg/Kg		06/22/15 07:17	06/29/15 03:44	1
Manganese	**0.55**		0.48	0.0099	mg/Kg		06/22/15 07:17	06/29/15 03:44	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-087 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-31
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**3.3**		3.0	0.28	mg/Kg		06/22/15 07:17	06/29/15 22:41	1
Arsenic	**2.0**		0.10	0.018	mg/Kg		06/22/15 07:17	06/29/15 22:41	1
Barium	ND		1.0	0.011	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Cadmium	**0.0085**	**J**	0.10	0.0070	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Calcium	**160**		50	1.3	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Chromium	**0.33**		0.20	0.0061	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Cobalt	**0.33**		0.050	0.0015	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Copper	**1.4**		0.20	0.033	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Iron	**56**		5.0	0.35	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Silver	ND		0.10	0.0039	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Potassium	**2500**		50	1.4	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Magnesium	**650**		50	0.19	mg/Kg		06/22/15 07:17	06/29/15 22:41	1
Sodium	**4500**		50	1.4	mg/Kg		06/22/15 07:17	06/29/15 22:41	1
Nickel	**0.60**		0.10	0.011	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Lead	**0.072**	**J**	0.10	0.0038	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Antimony	**0.035**	**J**	0.20	0.0026	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Selenium	**0.27**	**J**	0.50	0.050	mg/Kg		06/22/15 07:17	06/29/15 22:41	1
Thallium	**0.0032**	**J**	0.10	0.0020	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Vanadium	**0.18**	**B**	0.10	0.0079	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Zinc	**33**		0.50	0.065	mg/Kg		06/22/15 07:17	06/29/15 04:13	1
Manganese	**0.82**		0.50	0.010	mg/Kg		06/22/15 07:17	06/29/15 04:13	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-087 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-32
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**3.8**		2.9	0.28	mg/Kg		06/22/15 07:17	06/29/15 22:18	1
Arsenic	**1.9**		0.097	0.018	mg/Kg		06/22/15 07:17	06/29/15 22:18	1
Barium	ND		0.97	0.010	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Cadmium	**0.019**	**J**	0.097	0.0068	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Calcium	**190**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Chromium	**0.33**		0.19	0.0059	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Cobalt	**0.32**		0.049	0.0015	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Copper	**1.7**		0.19	0.032	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Iron	**59**		4.9	0.34	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Silver	ND		0.097	0.0038	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Potassium	**2500**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Magnesium	**560**		49	0.18	mg/Kg		06/22/15 07:17	06/29/15 22:18	1
Sodium	**4200**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 22:18	1
Nickel	**0.56**		0.097	0.011	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Lead	**0.072**	**J**	0.097	0.0037	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Antimony	ND		0.19	0.0025	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Selenium	**0.23**	**J**	0.49	0.049	mg/Kg		06/22/15 07:17	06/29/15 22:18	1
Thallium	ND		0.097	0.0019	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Vanadium	**0.096**	**J B**	0.097	0.0077	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Zinc	**13**		0.49	0.063	mg/Kg		06/22/15 07:17	06/29/15 03:50	1
Manganese	**0.75**		0.49	0.010	mg/Kg		06/22/15 07:17	06/29/15 03:50	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-087 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-33
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**160**		2.9	0.28	mg/Kg		06/22/15 07:17	06/29/15 23:09	1
Arsenic	**2.2**		0.097	0.018	mg/Kg		06/22/15 07:17	06/29/15 23:09	1
Barium	**0.44**	**J**	0.97	0.010	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Cadmium	ND		0.097	0.0068	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Calcium	**450**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Chromium	**1.0**		0.19	0.0059	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Cobalt	**0.43**		0.049	0.0015	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Copper	**2.5**		0.19	0.032	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Iron	**380**		4.9	0.34	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Silver	**0.0050**	**J**	0.097	0.0038	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Potassium	**2400**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Magnesium	**740**		49	0.18	mg/Kg		06/22/15 07:17	06/29/15 23:09	1
Sodium	**4900**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 23:09	1
Nickel	**0.84**		0.097	0.011	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Lead	**0.20**		0.097	0.0037	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Antimony	**0.0083**	**J**	0.19	0.0025	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Selenium	**0.24**	**J**	0.49	0.049	mg/Kg		06/22/15 07:17	06/29/15 23:09	1
Thallium	**0.0050**	**J**	0.097	0.0019	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Vanadium	**0.56**	**B**	0.097	0.0077	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Zinc	**42**		0.49	0.063	mg/Kg		06/22/15 07:17	06/29/15 04:38	1
Manganese	**5.1**		0.49	0.010	mg/Kg		06/22/15 07:17	06/29/15 04:38	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-087 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-34
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**8.9**		2.9	0.28	mg/Kg		06/22/15 07:17	06/29/15 23:14	1
Arsenic	**2.4**		0.098	0.018	mg/Kg		06/22/15 07:17	06/29/15 23:14	1
Barium	**0.13**	**J**	0.98	0.010	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Cadmium	**0.015**	**J**	0.098	0.0069	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Calcium	**1200**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Chromium	**0.61**		0.20	0.0060	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Cobalt	**0.36**		0.049	0.0015	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Copper	**1.8**		0.20	0.032	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Iron	**93**		4.9	0.35	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Silver	**0.0060**	**J**	0.098	0.0038	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Potassium	**2700**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Magnesium	**770**		49	0.18	mg/Kg		06/22/15 07:17	06/29/15 23:14	1
Sodium	**5500**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 23:14	1
Nickel	**0.72**		0.098	0.011	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Lead	**0.086**	**J**	0.098	0.0037	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Antimony	ND		0.20	0.0025	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Selenium	**0.28**	**J**	0.49	0.049	mg/Kg		06/22/15 07:17	06/29/15 23:14	1
Thallium	ND		0.098	0.0020	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Vanadium	**0.22**	**B**	0.098	0.0077	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Zinc	**46**		0.49	0.064	mg/Kg		06/22/15 07:17	06/29/15 04:43	1
Manganese	**1.5**		0.49	0.010	mg/Kg		06/22/15 07:17	06/29/15 04:43	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-087 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-35
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**4.4**		2.9	0.28	mg/Kg		06/22/15 07:17	06/29/15 23:19	1
Arsenic	**2.4**		0.098	0.018	mg/Kg		06/22/15 07:17	06/29/15 23:19	1
Barium	**0.022**	**J**	0.98	0.010	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Cadmium	ND		0.098	0.0069	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Calcium	**260**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Chromium	**0.69**		0.20	0.0060	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Cobalt	**0.31**		0.049	0.0015	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Copper	**1.8**		0.20	0.032	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Iron	**67**		4.9	0.35	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Silver	ND		0.098	0.0038	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Potassium	**2600**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Magnesium	**820**		49	0.18	mg/Kg		06/22/15 07:17	06/29/15 23:19	1
Sodium	**6200**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 23:19	1
Nickel	**0.67**		0.098	0.011	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Lead	**0.077**	**J**	0.098	0.0037	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Antimony	ND		0.20	0.0025	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Selenium	**0.24**	**J**	0.49	0.049	mg/Kg		06/22/15 07:17	06/29/15 23:19	1
Thallium	ND		0.098	0.0020	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Vanadium	**0.12**	**B**	0.098	0.0077	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Zinc	**11**		0.49	0.064	mg/Kg		06/22/15 07:17	06/29/15 04:49	1
Manganese	**0.61**		0.49	0.010	mg/Kg		06/22/15 07:17	06/29/15 04:49	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-088 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-36
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**80**		2.9	0.27	mg/Kg		06/22/15 07:17	06/29/15 23:24	1
Arsenic	**2.4**		0.095	0.017	mg/Kg		06/22/15 07:17	06/29/15 23:24	1
Barium	**0.15**	**J**	0.95	0.010	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Cadmium	**0.023**	**J**	0.095	0.0067	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Calcium	**270**		48	1.3	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Chromium	**1.8**		0.19	0.0058	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Cobalt	**0.31**		0.048	0.0014	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Copper	**1.7**		0.19	0.031	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Iron	**220**		4.8	0.34	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Silver	**0.0059**	**J**	0.095	0.0037	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Potassium	**2500**		48	1.3	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Magnesium	**690**		48	0.18	mg/Kg		06/22/15 07:17	06/29/15 23:24	1
Sodium	**4500**		48	1.3	mg/Kg		06/22/15 07:17	06/29/15 23:24	1
Nickel	**0.90**		0.095	0.011	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Lead	**0.16**		0.095	0.0036	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Antimony	ND		0.19	0.0025	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Selenium	**0.25**	**J**	0.48	0.048	mg/Kg		06/22/15 07:17	06/29/15 23:24	1
Thallium	ND		0.095	0.0019	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Vanadium	**0.34**	**B**	0.095	0.0075	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Zinc	**12**		0.48	0.062	mg/Kg		06/22/15 07:17	06/29/15 04:54	1
Manganese	**2.1**		0.48	0.0098	mg/Kg		06/22/15 07:17	06/29/15 04:54	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: SRM 1
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-37
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	46		3.0	0.28	mg/Kg		06/22/15 07:17	06/29/15 23:29	1
Arsenic	6.9		0.10	0.018	mg/Kg		06/22/15 07:17	06/29/15 23:29	1
Barium	5.9		1.0	0.011	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Cadmium	2.3		0.10	0.0070	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Calcium	690		50	1.3	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Chromium	0.39		0.20	0.0061	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Cobalt	0.35		0.050	0.0015	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Copper	68		0.20	0.033	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Iron	180		5.0	0.35	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Silver	0.57		0.10	0.0039	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Potassium	5500		50	1.4	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Magnesium	1200		50	0.19	mg/Kg		06/22/15 07:17	06/29/15 23:29	1
Sodium	3800		50	1.4	mg/Kg		06/22/15 07:17	06/29/15 23:29	1
Nickel	0.98		0.10	0.011	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Lead	0.27		0.10	0.0038	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Antimony	0.011	J	0.20	0.0026	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Selenium	2.0		0.50	0.050	mg/Kg		06/22/15 07:17	06/29/15 23:29	1
Thallium	ND		0.10	0.0020	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Vanadium	0.46	B	0.10	0.0079	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Zinc	1500		0.50	0.065	mg/Kg		06/22/15 07:17	06/29/15 04:59	1
Manganese	18		0.50	0.010	mg/Kg		06/22/15 07:17	06/29/15 04:59	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: SRM 2
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-38
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	43	B	2.9	0.28	mg/Kg		06/19/15 09:13	07/03/15 03:08	1
Arsenic	6.5		0.098	0.018	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Barium	5.7		0.98	0.010	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Cadmium	2.2		0.098	0.0069	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Calcium	670		49	1.3	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Chromium	0.35	B	0.20	0.0060	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Cobalt	0.34	B	0.049	0.0015	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Copper	64		0.20	0.032	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Iron	160		4.9	0.35	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Silver	0.56		0.098	0.0038	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Potassium	5400		49	1.3	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Magnesium	1200	B	49	0.18	mg/Kg		06/19/15 09:13	07/03/15 03:08	1
Sodium	4100	B	49	1.3	mg/Kg		06/19/15 09:13	07/03/15 03:08	1
Nickel	0.97	B	0.098	0.011	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Lead	0.28		0.098	0.0037	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Antimony	0.0096	J	0.20	0.0025	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Selenium	1.8		0.49	0.049	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Thallium	ND		0.098	0.0020	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Vanadium	0.44		0.098	0.0077	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Zinc	1400	B	0.49	0.064	mg/Kg		06/19/15 09:13	07/01/15 22:50	1
Manganese	17		0.49	0.010	mg/Kg		06/19/15 09:13	07/01/15 22:50	1

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-081 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 13:59	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-081 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 14:01	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-081 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.054	mg/Kg		06/30/15 10:59	07/01/15 09:52	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-081 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/30/15 10:59	07/01/15 09:54	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-081 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.055	mg/Kg		06/30/15 10:59	07/01/15 09:56	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-082 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/26/15 09:45	06/27/15 09:25	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-082 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.054	mg/Kg		06/26/15 09:45	06/27/15 09:27	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-082 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.051	mg/Kg		06/26/15 09:45	06/27/15 09:29	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-082 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.047	mg/Kg		06/26/15 09:45	06/27/15 09:35	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-082 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.052	mg/Kg		06/26/15 09:45	06/27/15 09:37	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-083 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.050	mg/Kg		06/30/15 11:00	07/01/15 10:04	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-083 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.049	mg/Kg		06/30/15 11:00	07/01/15 10:08	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-083 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/30/15 11:00	07/01/15 10:10	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-083 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.050	mg/Kg		06/30/15 11:00	07/01/15 10:15	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-083 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.052	mg/Kg		06/30/15 11:00	07/01/15 10:17	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-084 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.048	mg/Kg		06/30/15 11:00	07/01/15 10:19	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-084 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.054	mg/Kg		06/30/15 11:00	07/01/15 10:25	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-084 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/30/15 11:00	07/01/15 10:27	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-084 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/30/15 11:00	07/01/15 10:29	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-084 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.055	mg/Kg		06/30/15 11:00	07/01/15 10:31	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-085 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.053	mg/Kg		06/30/15 11:00	07/01/15 10:33	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-085 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.053	mg/Kg		06/30/15 11:00	07/01/15 10:34	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-085 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/30/15 11:00	07/01/15 10:36	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-085 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.051	mg/Kg		06/30/15 11:00	07/01/15 10:38	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-085 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/30/15 11:00	07/01/15 10:40	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-086 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.13	0.046	mg/Kg		06/30/15 11:00	07/01/15 10:42	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-086 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-27
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/30/15 11:00	07/01/15 10:48	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-086 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-28
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.15	0.052	mg/Kg		06/30/15 11:00	07/01/15 10:50	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-086 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-29
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.055	mg/Kg		06/30/15 11:00	07/01/15 10:52	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-086 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-30
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 10:33	06/27/15 09:38	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-087 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-31
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.081	J F1 H	0.17	0.057	mg/Kg		06/25/15 10:33	06/27/15 07:07	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-087 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-32
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 10:33	06/27/15 07:18	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-087 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-33
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 10:33	06/27/15 07:20	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-087 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-34
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 10:33	06/27/15 07:21	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-087 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-35
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.061	J H	0.17	0.057	mg/Kg		06/25/15 10:33	06/27/15 07:23	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-088 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-36
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 10:33	06/27/15 07:25	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: SRM 1
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-37
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 10:33	06/27/15 07:27	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: SRM 2
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-38
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.16	0.055	mg/Kg		06/30/15 10:59	07/01/15 10:02	5

General Chemistry

Client Sample ID: AT5-081 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/27/15 05:44	1
Percent Lipids	**0.58**		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-081 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/27/15 06:41	1
Percent Lipids	**0.82**		0.19	0.057	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-081 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/27/15 07:39	1
Percent Lipids	1.1		0.20	0.058	%		06/29/15 05:05	06/29/15 05:05	1

General Chemistry

Client Sample ID: AT5-081 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/27/15 08:36	1
Percent Lipids	**0.62**		0.20	0.058	%		06/29/15 05:05	06/29/15 05:05	1

General Chemistry

Client Sample ID: AT5-081 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/27/15 04:46	1
Percent Lipids	**0.74**		0.20	0.059	%		06/29/15 05:05	06/29/15 05:05	1

General Chemistry

Client Sample ID: AT5-082 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/27/15 08:00	1
Percent Lipids	**0.59**		0.19	0.057	%		06/27/15 03:35	06/27/15 03:35	1

General Chemistry

Client Sample ID: AT5-082 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/27/15 08:56	1
Percent Lipids	**0.94**		0.20	0.058	%		06/27/15 03:35	06/27/15 03:35	1

General Chemistry

Client Sample ID: AT5-082 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	82		0.10	0.10	%			06/26/15 13:50	1
Percent Lipids	0.59		0.20	0.059	%		06/27/15 03:35	06/27/15 03:35	1

General Chemistry

Client Sample ID: AT5-082 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/26/15 15:40	1
Percent Lipids	**0.72**		0.20	0.058	%		06/27/15 03:35	06/27/15 03:35	1

General Chemistry

Client Sample ID: AT5-082 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/26/15 16:35	1
Percent Lipids	**0.52**		0.20	0.059	%		06/27/15 03:35	06/27/15 03:35	1

General Chemistry

Client Sample ID: AT5-083 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/27/15 09:20	1
Percent Lipids	**0.74**		0.20	0.059	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-083 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/26/15 15:37	1
Percent Lipids	**0.91**		0.20	0.058	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-083 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**82**		0.10	0.10	%			06/26/15 17:20	1
Percent Lipids	**0.53**		0.20	0.059	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-083 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/26/15 18:11	1
Percent Lipids	**0.71**		0.20	0.058	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-083 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/26/15 19:02	1
Percent Lipids	**0.90**		0.20	0.059	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-084 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/26/15 19:53	1
Percent Lipids	0.63		0.20	0.059	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-084 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/26/15 20:44	1
Percent Lipids	**0.80**		0.20	0.058	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-084 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/26/15 21:35	1
Percent Lipids	**0.73**		0.20	0.059	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-084 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/26/15 22:26	1
Percent Lipids	**0.99**		0.20	0.059	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-084 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/26/15 23:18	1
Percent Lipids	**0.70**		0.20	0.058	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-085 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/27/15 00:09	1
Percent Lipids	1.1		0.20	0.059	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-085 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/27/15 01:00	1
Percent Lipids	**1.0**		0.20	0.059	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-085 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/27/15 01:51	1
Percent Lipids	**0.79**		0.20	0.059	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-085 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/27/15 02:42	1
Percent Lipids	**0.73**		0.19	0.057	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-085 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/27/15 03:33	1
Percent Lipids	**0.85**		0.20	0.058	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-086 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/27/15 04:24	1
Percent Lipids	**0.83**		0.20	0.059	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-086 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-27
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/27/15 05:16	1
Percent Lipids	**0.65**		0.20	0.059	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-086 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-28
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/27/15 06:07	1
Percent Lipids	**0.46**		0.20	0.058	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-086 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-29
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/27/15 06:58	1
Percent Lipids	**0.76**		0.20	0.059	%		06/29/15 03:30	06/29/15 03:30	1

General Chemistry

Client Sample ID: AT5-086 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-30
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/26/15 22:36	1
Percent Lipids	**0.76**		0.19	0.057	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-087 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-31
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/26/15 23:29	1
Percent Lipids	**0.76**		0.19	0.057	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-087 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-32
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/27/15 00:23	1
Percent Lipids	**0.93**		0.19	0.056	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-087 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-33
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	83		0.10	0.10	%			06/27/15 01:17	1
Percent Lipids	0.82		0.20	0.059	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-087 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-34
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	82		0.10	0.10	%			06/27/15 02:10	1
Percent Lipids	1.1		0.19	0.055	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-087 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-35
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	83		0.10	0.10	%			06/27/15 03:04	1
Percent Lipids	1.1		0.19	0.055	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-088 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44667-36
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/27/15 03:58	1
Percent Lipids	**0.79**		0.20	0.058	%		06/23/15 03:35	06/23/15 03:35	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
Acenaphthene	6.7	0.64	ug/Kg	8270D LL
Acenaphthylene	6.7	0.76	ug/Kg	8270D LL
Anthracene	6.7	0.65	ug/Kg	8270D LL
Benzo[a]anthracene	6.7	0.84	ug/Kg	8270D LL
Benzo[a]pyrene	6.7	0.67	ug/Kg	8270D LL
Benzo[b]fluoranthene	6.7	1.0	ug/Kg	8270D LL
Benzo[g,h,i]perylene	6.7	0.66	ug/Kg	8270D LL
Benzo[k]fluoranthene	6.7	1.3	ug/Kg	8270D LL
Bis(2-ethylhexyl) phthalate	67	5.4	ug/Kg	8270D LL
Chrysene	6.7	0.79	ug/Kg	8270D LL
Dibenz(a,h)anthracene	6.7	0.74	ug/Kg	8270D LL
Fluoranthene	6.7	0.71	ug/Kg	8270D LL
Fluorene	6.7	0.88	ug/Kg	8270D LL
Indeno[1,2,3-cd]pyrene	6.7	0.69	ug/Kg	8270D LL
Naphthalene	6.7	0.58	ug/Kg	8270D LL
Phenanthrene	6.7	1.1	ug/Kg	8270D LL
Phenol	6.7	0.79	ug/Kg	8270D LL
Pyrene	6.7	0.67	ug/Kg	8270D LL

Method: 6020A - Metals (ICP/MS)

Analyte	RL	MDL	Units	Method
Aluminum	3.0	0.28	mg/Kg	6020A
Antimony	0.20	0.0026	mg/Kg	6020A
Arsenic	0.10	0.018	mg/Kg	6020A
Barium	1.0	0.011	mg/Kg	6020A
Beryllium	0.10	0.0075	mg/Kg	6020A
Cadmium	0.10	0.0070	mg/Kg	6020A
Calcium	50	1.3	mg/Kg	6020A
Chromium	0.20	0.0061	mg/Kg	6020A
Cobalt	0.050	0.0015	mg/Kg	6020A
Copper	0.20	0.033	mg/Kg	6020A
Iron	5.0	0.35	mg/Kg	6020A
Lead	0.10	0.0038	mg/Kg	6020A
Magnesium	50	0.19	mg/Kg	6020A
Manganese	0.50	0.010	mg/Kg	6020A
Nickel	0.10	0.011	mg/Kg	6020A
Potassium	50	1.4	mg/Kg	6020A
Selenium	0.50	0.050	mg/Kg	6020A
Silver	0.10	0.0039	mg/Kg	6020A
Sodium	50	1.4	mg/Kg	6020A
Thallium	0.10	0.0020	mg/Kg	6020A
Vanadium	0.10	0.0079	mg/Kg	6020A
Zinc	0.50	0.065	mg/Kg	6020A

Method: 7471B - Mercury (CVAA)

Analyte	RL	MDL	Units	Method
Mercury	0.033	0.011	mg/Kg	7471B

General Chemistry

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44667-1

General Chemistry

Analyte	RL	MDL	Units	Method
Percent Moisture	0.10	0.10	%	2540G
Percent Lipids	0.10	0.030	%	Lipids

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44667-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Tissue **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		2FP	TBP	PHL	FBP	NBZ	TPH
Lab Sample ID	Client Sample ID	(34-103)	(20-113)	(35-103)	(38-103)	(41-108)	(28-109)
180-44667-6	AT5-082 A-W	34	61	38	46	39 X	58
180-44667-7	AT5-082 B-W	47	66	50	51	50	59
180-44667-8	AT5-082 C-W	39	59	39	44	41	58
180-44667-9	AT5-082 D-W	41	69	48	49	45	58
180-44667-10	AT5-082 E-W	34	50	38	41	41	47
180-44667-11	AT5-083 A-W	74	118 X	86	100	83	110 X
180-44667-12	AT5-083 B-W	82	111	82	83	82	92
180-44667-12 MS	AT5-083 B-W	76	94	78	83	78	90
180-44667-12 MSD	AT5-083 B-W	76	102	76	80	81	92
180-44667-13	AT5-083 C-W	67	92	69	74	72	79
180-44667-14	AT5-083 D-W	57	83	62	59	65	73
180-44667-15	AT5-083 E-W	78	94	79	75	78	83
180-44667-16	AT5-084 A-W	80	98	81	83	77	82
180-44667-17	AT5-084 B-W	76	91	74	80	85	81
180-44667-18	AT5-084 C-W	44	58	45	50	50	54
180-44667-19	AT5-084 D-W	43	56	42	46	44	53
180-44667-20	AT5-084 E-W	49	88	60	67	58	81
180-44667-21	AT5-085 A-W	62	82	66	65	68	74
180-44667-22	AT5-085 B-W	56	72	60	63	63	67
180-44667-23	AT5-085 C-W	57	61	59	55	58	58
180-44667-24	AT5-085 D-W	58	71	64	59	63	66
180-44667-25	AT5-085 E-W	72	85	76	71	77	72
180-44667-26	AT5-086 A-W	61	66	65	55	59	59
180-44667-27	AT5-086 B-W	53	63	55	50	56	59
180-44667-28	AT5-086 C-W	53	62	51	50	53	54
180-44667-29	AT5-086 D-W	48	54	48	43	47	53
180-44667-30	AT5-086 E-W	40	98	51	71	55	98
180-44667-30 MS	AT5-086 E-W	46	85	54	65	53	85
180-44667-30 MSD	AT5-086 E-W	60	82	61	67	61	79
180-44667-31	AT5-087 A-W	62	99	69	76	73	93
180-44667-32	AT5-087 B-W	19 X	78	34 X	48	31 X	64
180-44667-33	AT5-087 C-W	58	89	63	71	65	88
180-44667-34	AT5-087 D-W	70	118 X	77	94	82	109
180-44667-35	AT5-087 E-W	53	84	59	62	59	73
180-44667-36	AT5-088 A-W	75	111	80	88	82	98
LCS 180-145792/2-B	Lab Control Sample	62	73	67	65	62	78
LCS 180-146269/2-B	Lab Control Sample	45	57	49	46	45	55
LCS 180-146324/2-B	Lab Control Sample	96	96	94	91	94	93
MB 180-145792/1-B	Method Blank	71	53	79	73	71	86
MB 180-146269/1-B	Method Blank	44	51	45	43	45	60
MB 180-146324/1-B	Method Blank	88	85	88	86	86	98

Surrogate Legend

2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
PHL = Phenol-d5 (Surr)
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-145792/1-B
Matrix: Tissue
Analysis Batch: 146321

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145792

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40	3.8	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Acenaphthylene	ND		40	4.6	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Anthracene	ND		40	3.9	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Benzo[a]anthracene	ND		40	5.0	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Benzo[b]fluoranthene	ND		40	6.3	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Benzo[k]fluoranthene	ND		40	8.1	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Benzo[g,h,i]perylene	ND		40	4.0	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Benzo[a]pyrene	ND		40	4.0	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Bis(2-ethylhexyl) phthalate	ND		400	32	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Chrysene	ND		40	4.8	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Dibenz(a,h)anthracene	ND		40	4.5	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Fluoranthene	ND		40	4.3	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Fluorene	ND		40	5.3	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Indeno[1,2,3-cd]pyrene	ND		40	4.1	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Naphthalene	ND		40	3.5	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Phenanthrene	ND		40	6.4	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Phenol	ND		40	4.7	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Pyrene	ND		40	4.0	ug/Kg		06/23/15 03:33	06/28/15 23:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*71*		*34 - 103*	*06/23/15 03:33*	*06/28/15 23:14*	*1*
2,4,6-Tribromophenol (Surr)	*53*		*20 - 113*	*06/23/15 03:33*	*06/28/15 23:14*	*1*
Phenol-d5 (Surr)	*79*		*35 - 103*	*06/23/15 03:33*	*06/28/15 23:14*	*1*
2-Fluorobiphenyl	*73*		*38 - 103*	*06/23/15 03:33*	*06/28/15 23:14*	*1*
Nitrobenzene-d5 (Surr)	*71*		*41 - 108*	*06/23/15 03:33*	*06/28/15 23:14*	*1*
Terphenyl-d14 (Surr)	*86*		*28 - 109*	*06/23/15 03:33*	*06/28/15 23:14*	*1*

Lab Sample ID: LCS 180-145792/2-B
Matrix: Tissue
Analysis Batch: 146321

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145792

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2000	1340		ug/Kg		67	34 - 100
Acenaphthylene	2000	1330		ug/Kg		66	34 - 100
Anthracene	2000	1490		ug/Kg		74	35 - 100
Benzo[a]anthracene	2000	1540		ug/Kg		77	37 - 100
Benzo[b]fluoranthene	2000	1510		ug/Kg		76	31 - 100
Benzo[k]fluoranthene	2000	1630		ug/Kg		82	34 - 100
Benzo[g,h,i]perylene	2000	1660		ug/Kg		83	29 - 106
Benzo[a]pyrene	2000	1620		ug/Kg		81	36 - 100
Bis(2-ethylhexyl) phthalate	2000	1660		ug/Kg		83	32 - 106
Chrysene	2000	1520		ug/Kg		76	37 - 100
Dibenz(a,h)anthracene	2000	1830		ug/Kg		91	31 - 106
Fluoranthene	2000	1600		ug/Kg		80	36 - 100
Fluorene	2000	1400		ug/Kg		70	35 - 100
Indeno[1,2,3-cd]pyrene	2000	1760		ug/Kg		88	31 - 103
Naphthalene	2000	1250		ug/Kg		62	32 - 100
Phenanthrene	2000	1440		ug/Kg		72	33 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-145792/2-B
Matrix: Tissue
Analysis Batch: 146321

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145792

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Phenol			2000	1380		ug/Kg		69	34 - 100		
Pyrene			2000	1510		ug/Kg		75	32 - 100		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*62*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*73*		*20 - 113*
Phenol-d5 (Surr)	*67*		*35 - 103*
2-Fluorobiphenyl	*65*		*38 - 103*
Nitrobenzene-d5 (Surr)	*62*		*41 - 108*
Terphenyl-d14 (Surr)	*78*		*28 - 109*

Lab Sample ID: 180-44667-30 MS
Matrix: Tissue
Analysis Batch: 146321

Client Sample ID: AT5-086 E-W
Prep Type: Total/NA
Prep Batch: 145792

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acenaphthene	ND		12900	8890		ug/Kg	☼	69	34 - 100		
Acenaphthylene	ND		12900	8760		ug/Kg	☼	68	34 - 100		
Anthracene	ND		12900	10400		ug/Kg	☼	81	35 - 100		
Benzo[a]anthracene	ND		12900	11600		ug/Kg	☼	91	37 - 100		
Benzo[b]fluoranthene	ND		12900	10700		ug/Kg	☼	84	31 - 100		
Benzo[k]fluoranthene	ND		12900	10700		ug/Kg	☼	83	34 - 100		
Benzo[g,h,i]perylene	ND	F2	12900	12200		ug/Kg	☼	95	29 - 106		
Benzo[a]pyrene	ND		12900	11400		ug/Kg	☼	88	36 - 100		
Bis(2-ethylhexyl) phthalate	ND		12900	12500		ug/Kg	☼	97	32 - 106		
Chrysene	ND		12900	11300		ug/Kg	☼	88	37 - 100		
Dibenz(a,h)anthracene	ND		12900	13200		ug/Kg	☼	102	31 - 106		
Fluoranthene	ND		12900	11000		ug/Kg	☼	86	36 - 100		
Fluorene	ND		12900	9430		ug/Kg	☼	73	35 - 100		
Indeno[1,2,3-cd]pyrene	ND		12900	12600		ug/Kg	☼	98	31 - 103		
Naphthalene	ND		12900	7210		ug/Kg	☼	56	32 - 100		
Phenanthrene	ND		12900	10500		ug/Kg	☼	82	33 - 100		
Phenol	240	J	12900	6960		ug/Kg	☼	52	34 - 100		
Pyrene	ND		12900	10300		ug/Kg	☼	81	32 - 100		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*46*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*85*		*20 - 113*
Phenol-d5 (Surr)	*54*		*35 - 103*
2-Fluorobiphenyl	*65*		*38 - 103*
Nitrobenzene-d5 (Surr)	*53*		*41 - 108*
Terphenyl-d14 (Surr)	*85*		*28 - 109*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-44667-30 MSD
Matrix: Tissue
Analysis Batch: 146321

Client Sample ID: AT5-086 E-W
Prep Type: Total/NA
Prep Batch: 145792

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		13100	9280		ug/Kg	☼	71	34 - 100	4	23
Acenaphthylene	ND		13100	9030		ug/Kg	☼	69	34 - 100	3	23
Anthracene	ND		13100	10600		ug/Kg	☼	81	35 - 100	1	20
Benzo[a]anthracene	ND		13100	11700		ug/Kg	☼	89	37 - 100	1	20
Benzo[b]fluoranthene	ND		13100	10700		ug/Kg	☼	81	31 - 100	1	22
Benzo[k]fluoranthene	ND		13100	11100		ug/Kg	☼	85	34 - 100	4	21
Benzo[g,h,i]perylene	ND	F2	13100	8430	F2	ug/Kg	☼	64	29 - 106	36	20
Benzo[a]pyrene	ND		13100	11600		ug/Kg	☼	89	36 - 100	2	21
Bis(2-ethylhexyl) phthalate	ND		13100	12000		ug/Kg	☼	91	32 - 106	4	20
Chrysene	ND		13100	11200		ug/Kg	☼	85	37 - 100	1	20
Dibenz(a,h)anthracene	ND		13100	13400		ug/Kg	☼	102	31 - 106	2	26
Fluoranthene	ND		13100	11200		ug/Kg	☼	85	36 - 100	2	20
Fluorene	ND		13100	10100		ug/Kg	☼	77	35 - 100	7	21
Indeno[1,2,3-cd]pyrene	ND		13100	13000		ug/Kg	☼	99	31 - 103	3	25
Naphthalene	ND		13100	8160		ug/Kg	☼	62	32 - 100	12	20
Phenanthrene	ND		13100	11400		ug/Kg	☼	87	33 - 100	8	20
Phenol	240	J	13100	8240		ug/Kg	☼	61	34 - 100	17	20
Pyrene	ND		13100	10700		ug/Kg	☼	81	32 - 100	3	21

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorophenol (Surr)	*60*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*82*		*20 - 113*
Phenol-d5 (Surr)	*61*		*35 - 103*
2-Fluorobiphenyl	*67*		*38 - 103*
Nitrobenzene-d5 (Surr)	*61*		*41 - 108*
Terphenyl-d14 (Surr)	*79*		*28 - 109*

Lab Sample ID: MB 180-146269/1-B
Matrix: Tissue
Analysis Batch: 146844

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40	3.8	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Acenaphthylene	ND		40	4.6	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Anthracene	ND		40	3.9	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Benzo[a]anthracene	ND		40	5.0	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Benzo[b]fluoranthene	ND		40	6.3	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Benzo[k]fluoranthene	ND		40	8.1	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Benzo[g,h,i]perylene	ND		40	4.0	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Benzo[a]pyrene	ND		40	4.0	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Bis(2-ethylhexyl) phthalate	ND		400	32	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Chrysene	ND		40	4.8	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Dibenz(a,h)anthracene	ND		40	4.5	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Fluoranthene	ND		40	4.3	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Fluorene	ND		40	5.3	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Indeno[1,2,3-cd]pyrene	ND		40	4.1	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Naphthalene	ND		40	3.5	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Phenanthrene	ND		40	6.4	ug/Kg		06/27/15 03:15	07/05/15 23:22	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-146269/1-B
Matrix: Tissue
Analysis Batch: 146844

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		40	4.7	ug/Kg		06/27/15 03:15	07/05/15 23:22	1
Pyrene	ND		40	4.0	ug/Kg		06/27/15 03:15	07/05/15 23:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*44*		*34 - 103*	*06/27/15 03:15*	*07/05/15 23:22*	*1*
2,4,6-Tribromophenol (Surr)	*51*		*20 - 113*	*06/27/15 03:15*	*07/05/15 23:22*	*1*
Phenol-d5 (Surr)	*45*		*35 - 103*	*06/27/15 03:15*	*07/05/15 23:22*	*1*
2-Fluorobiphenyl	*43*		*38 - 103*	*06/27/15 03:15*	*07/05/15 23:22*	*1*
Nitrobenzene-d5 (Surr)	*45*		*41 - 108*	*06/27/15 03:15*	*07/05/15 23:22*	*1*
Terphenyl-d14 (Surr)	*60*		*28 - 109*	*06/27/15 03:15*	*07/05/15 23:22*	*1*

Lab Sample ID: LCS 180-146269/2-B
Matrix: Tissue
Analysis Batch: 146844

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146269

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2000	905		ug/Kg		45	34 - 100
Acenaphthylene	2000	907		ug/Kg		45	34 - 100
Anthracene	2000	984		ug/Kg		49	35 - 100
Benzo[a]anthracene	2000	1100		ug/Kg		55	37 - 100
Benzo[b]fluoranthene	2000	1060		ug/Kg		53	31 - 100
Benzo[k]fluoranthene	2000	1100		ug/Kg		55	34 - 100
Benzo[g,h,i]perylene	2000	997		ug/Kg		50	29 - 106
Benzo[a]pyrene	2000	1130		ug/Kg		57	36 - 100
Bis(2-ethylhexyl) phthalate	2000	1260		ug/Kg		63	32 - 106
Chrysene	2000	1070		ug/Kg		54	37 - 100
Dibenz(a,h)anthracene	2000	1180		ug/Kg		59	31 - 106
Fluoranthene	2000	1120		ug/Kg		56	36 - 100
Fluorene	2000	946		ug/Kg		47	35 - 100
Indeno[1,2,3-cd]pyrene	2000	1170		ug/Kg		59	31 - 103
Naphthalene	2000	849		ug/Kg		42	32 - 100
Phenanthrene	2000	979		ug/Kg		49	33 - 100
Phenol	2000	972		ug/Kg		49	34 - 100
Pyrene	2000	1030		ug/Kg		51	32 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*45*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*57*		*20 - 113*
Phenol-d5 (Surr)	*49*		*35 - 103*
2-Fluorobiphenyl	*46*		*38 - 103*
Nitrobenzene-d5 (Surr)	*45*		*41 - 108*
Terphenyl-d14 (Surr)	*55*		*28 - 109*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-146324/1-B
Matrix: Tissue
Analysis Batch: 147069

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146324

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40	3.8	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Acenaphthylene	ND		40	4.6	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Anthracene	ND		40	3.9	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Benzo[a]anthracene	ND		40	5.0	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Benzo[b]fluoranthene	ND		40	6.3	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Benzo[k]fluoranthene	ND		40	8.1	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Benzo[g,h,i]perylene	ND		40	4.0	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Benzo[a]pyrene	ND		40	4.0	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Bis(2-ethylhexyl) phthalate	ND		400	32	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Chrysene	ND		40	4.8	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Dibenz(a,h)anthracene	ND		40	4.5	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Fluoranthene	ND		40	4.3	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Fluorene	ND		40	5.3	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Indeno[1,2,3-cd]pyrene	ND		40	4.1	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Naphthalene	ND		40	3.5	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Phenanthrene	ND		40	6.4	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Phenol	ND		40	4.7	ug/Kg		06/29/15 03:10	07/07/15 23:47	1
Pyrene	ND		40	4.0	ug/Kg		06/29/15 03:10	07/07/15 23:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*88*		*34 - 103*	*06/29/15 03:10*	*07/07/15 23:47*	*1*
2,4,6-Tribromophenol (Surr)	*85*		*20 - 113*	*06/29/15 03:10*	*07/07/15 23:47*	*1*
Phenol-d5 (Surr)	*88*		*35 - 103*	*06/29/15 03:10*	*07/07/15 23:47*	*1*
2-Fluorobiphenyl	*86*		*38 - 103*	*06/29/15 03:10*	*07/07/15 23:47*	*1*
Nitrobenzene-d5 (Surr)	*86*		*41 - 108*	*06/29/15 03:10*	*07/07/15 23:47*	*1*
Terphenyl-d14 (Surr)	*98*		*28 - 109*	*06/29/15 03:10*	*07/07/15 23:47*	*1*

Lab Sample ID: LCS 180-146324/2-B
Matrix: Tissue
Analysis Batch: 147069

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146324

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2000	1720		ug/Kg		86	34 - 100
Acenaphthylene	2000	1700		ug/Kg		85	34 - 100
Anthracene	2000	1790		ug/Kg		89	35 - 100
Benzo[a]anthracene	2000	1790		ug/Kg		90	37 - 100
Benzo[b]fluoranthene	2000	1820		ug/Kg		91	31 - 100
Benzo[k]fluoranthene	2000	1880		ug/Kg		94	34 - 100
Benzo[g,h,i]perylene	2000	1670		ug/Kg		84	29 - 106
Benzo[a]pyrene	2000	1890		ug/Kg		94	36 - 100
Bis(2-ethylhexyl) phthalate	2000	1970		ug/Kg		98	32 - 106
Chrysene	2000	1760		ug/Kg		88	37 - 100
Dibenz(a,h)anthracene	2000	2070		ug/Kg		104	31 - 106
Fluoranthene	2000	1960		ug/Kg		98	36 - 100
Fluorene	2000	1750		ug/Kg		88	35 - 100
Indeno[1,2,3-cd]pyrene	2000	2010		ug/Kg		100	31 - 103
Naphthalene	2000	1670		ug/Kg		84	32 - 100
Phenanthrene	2000	1740		ug/Kg		87	33 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-146324/2-B
Matrix: Tissue
Analysis Batch: 147069

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146324

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	2000	1790		ug/Kg		89	34 - 100
Pyrene	2000	1740		ug/Kg		87	32 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*96*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*96*		*20 - 113*
Phenol-d5 (Surr)	*94*		*35 - 103*
2-Fluorobiphenyl	*91*		*38 - 103*
Nitrobenzene-d5 (Surr)	*94*		*41 - 108*
Terphenyl-d14 (Surr)	*93*		*28 - 109*

Lab Sample ID: 180-44667-12 MS
Matrix: Tissue
Analysis Batch: 147069

Client Sample ID: AT5-083 B-W
Prep Type: Total/NA
Prep Batch: 146324

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		12100	10300		ug/Kg	☼	85	34 - 100
Acenaphthylene	ND		12100	9800		ug/Kg	☼	81	34 - 100
Anthracene	ND		12100	11400		ug/Kg	☼	94	35 - 100
Benzo[a]anthracene	ND		12100	11700		ug/Kg	☼	97	37 - 100
Benzo[b]fluoranthene	ND		12100	10600		ug/Kg	☼	88	31 - 100
Benzo[k]fluoranthene	ND		12100	10700		ug/Kg	☼	89	34 - 100
Benzo[g,h,i]perylene	ND		12100	10200		ug/Kg	☼	85	29 - 106
Benzo[a]pyrene	ND		12100	11500		ug/Kg	☼	95	36 - 100
Bis(2-ethylhexyl) phthalate	ND	F1	12100	13500	F1	ug/Kg	☼	112	32 - 106
Chrysene	ND		12100	11000		ug/Kg	☼	91	37 - 100
Dibenz(a,h)anthracene	ND		12100	12100		ug/Kg	☼	100	31 - 106
Fluoranthene	ND	F1	12100	13800	F1	ug/Kg	☼	113	36 - 100
Fluorene	ND		12100	10800		ug/Kg	☼	89	35 - 100
Indeno[1,2,3-cd]pyrene	ND		12100	12000		ug/Kg	☼	99	31 - 103
Naphthalene	ND		12100	8630		ug/Kg	☼	71	32 - 100
Phenanthrene	ND		12100	10900		ug/Kg	☼	90	33 - 100
Phenol	280	J	12100	9060		ug/Kg	☼	72	34 - 100
Pyrene	ND		12100	10800		ug/Kg	☼	89	32 - 100

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*76*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*94*		*20 - 113*
Phenol-d5 (Surr)	*78*		*35 - 103*
2-Fluorobiphenyl	*83*		*38 - 103*
Nitrobenzene-d5 (Surr)	*78*		*41 - 108*
Terphenyl-d14 (Surr)	*90*		*28 - 109*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-44667-12 MSD
Matrix: Tissue
Analysis Batch: 147069

Client Sample ID: AT5-083 B-W
Prep Type: Total/NA
Prep Batch: 146324

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		12400	10200		ug/Kg	☼	83	34 - 100	1	23
Acenaphthylene	ND		12400	9980		ug/Kg	☼	81	34 - 100	2	23
Anthracene	ND		12400	11800		ug/Kg	☼	95	35 - 100	3	20
Benzo[a]anthracene	ND		12400	11600		ug/Kg	☼	94	37 - 100	1	20
Benzo[b]fluoranthene	ND		12400	10700		ug/Kg	☼	87	31 - 100	1	22
Benzo[k]fluoranthene	ND		12400	11300		ug/Kg	☼	91	34 - 100	5	21
Benzo[g,h,i]perylene	ND		12400	11000		ug/Kg	☼	89	29 - 106	7	20
Benzo[a]pyrene	ND		12400	11300		ug/Kg	☼	92	36 - 100	1	21
Bis(2-ethylhexyl) phthalate	ND	F1	12400	14100	F1	ug/Kg	☼	114	32 - 106	4	20
Chrysene	ND		12400	11300		ug/Kg	☼	92	37 - 100	3	20
Dibenz(a,h)anthracene	ND		12400	12900		ug/Kg	☼	105	31 - 106	7	26
Fluoranthene	ND	F1	12400	13600	F1	ug/Kg	☼	110	36 - 100	1	20
Fluorene	ND		12400	10400		ug/Kg	☼	84	35 - 100	4	21
Indeno[1,2,3-cd]pyrene	ND		12400	12600		ug/Kg	☼	102	31 - 103	5	25
Naphthalene	ND		12400	9330		ug/Kg	☼	75	32 - 100	8	20
Phenanthrene	ND		12400	10900		ug/Kg	☼	88	33 - 100	0	20
Phenol	280	J	12400	9230		ug/Kg	☼	72	34 - 100	2	20
Pyrene	ND		12400	11000		ug/Kg	☼	89	32 - 100	1	21

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorophenol (Surr)	*76*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*102*		*20 - 113*
Phenol-d5 (Surr)	*76*		*35 - 103*
2-Fluorobiphenyl	*80*		*38 - 103*
Nitrobenzene-d5 (Surr)	*81*		*41 - 108*
Terphenyl-d14 (Surr)	*92*		*28 - 109*

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-145549/1-A
Matrix: Tissue
Analysis Batch: 146793

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145549

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.099	0.018	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Barium	ND		0.99	0.011	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Cadmium	ND		0.099	0.0069	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Calcium	ND		50	1.3	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Chromium	0.0158	J	0.20	0.0060	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Cobalt	0.00238	J	0.050	0.0015	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Copper	ND		0.20	0.033	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Iron	ND		5.0	0.35	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Silver	ND		0.099	0.0039	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Potassium	ND		50	1.3	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Nickel	0.0161	J	0.099	0.011	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Lead	ND		0.099	0.0038	mg/Kg		06/19/15 09:13	07/01/15 22:11	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-145549/1-A
Matrix: Tissue
Analysis Batch: 146793

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145549

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.0026	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Selenium	ND		0.50	0.050	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Thallium	ND		0.099	0.0020	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Vanadium	ND		0.099	0.0078	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Zinc	0.193	J	0.50	0.064	mg/Kg		06/19/15 09:13	07/01/15 22:11	1
Manganese	ND		0.50	0.010	mg/Kg		06/19/15 09:13	07/01/15 22:11	1

Lab Sample ID: MB 180-145549/1-A
Matrix: Tissue
Analysis Batch: 146830

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145549

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.399	J	3.0	0.28	mg/Kg		06/19/15 09:13	07/03/15 02:30	1
Magnesium	1.31	J	50	0.19	mg/Kg		06/19/15 09:13	07/03/15 02:30	1
Sodium	2.61	J	50	1.4	mg/Kg		06/19/15 09:13	07/03/15 02:30	1

Lab Sample ID: LCS 180-145549/2-A
Matrix: Tissue
Analysis Batch: 146793

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145549

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.96	3.78		mg/Kg		96	80 - 120
Barium	198	182		mg/Kg		92	80 - 120
Beryllium	4.95	4.77		mg/Kg		96	80 - 120
Cadmium	4.95	4.92		mg/Kg		99	80 - 120
Calcium	4950	4390		mg/Kg		89	80 - 120
Chromium	19.8	21.1		mg/Kg		106	80 - 120
Cobalt	49.5	52.4		mg/Kg		106	80 - 120
Copper	24.8	24.5		mg/Kg		99	80 - 120
Iron	99.0	97.5		mg/Kg		98	80 - 120
Silver	4.95	4.64		mg/Kg		94	80 - 120
Potassium	4950	4340		mg/Kg		88	80 - 120
Nickel	49.5	51.3		mg/Kg		104	80 - 120
Lead	1.98	2.06		mg/Kg		104	80 - 120
Antimony	49.5	48.2		mg/Kg		97	80 - 120
Selenium	0.990	1.05		mg/Kg		106	80 - 120
Thallium	4.95	5.03		mg/Kg		102	80 - 120
Vanadium	49.5	52.7		mg/Kg		107	80 - 120
Zinc	49.5	49.9		mg/Kg		101	80 - 120
Manganese	49.5	51.5		mg/Kg		104	80 - 120

Lab Sample ID: LCS 180-145549/2-A
Matrix: Tissue
Analysis Batch: 146830

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145549

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	198	218		mg/Kg		110	80 - 120
Magnesium	4950	5250		mg/Kg		106	80 - 120
Sodium	4950	5760		mg/Kg		116	80 - 120

Lab Sample ID: LCSD 180-145549/3-A
Matrix: Tissue
Analysis Batch: 146793

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145549

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.96	3.80		mg/Kg		96	80 - 120	0	20
Barium	198	180		mg/Kg		91	80 - 120	1	20
Beryllium	4.95	4.72		mg/Kg		95	80 - 120	1	20
Cadmium	4.95	4.75		mg/Kg		96	80 - 120	3	20
Calcium	4950	4610		mg/Kg		93	80 - 120	5	20
Chromium	19.8	20.9		mg/Kg		106	80 - 120	1	20
Cobalt	49.5	51.7		mg/Kg		104	80 - 120	1	20
Copper	24.8	24.4		mg/Kg		98	80 - 120	1	20
Iron	99.0	96.6		mg/Kg		98	80 - 120	1	20
Silver	4.95	4.55		mg/Kg		92	80 - 120	2	20
Potassium	4950	4540		mg/Kg		92	80 - 120	4	20
Nickel	49.5	50.8		mg/Kg		103	80 - 120	1	20
Lead	1.98	2.05		mg/Kg		104	80 - 120	1	20
Antimony	49.5	48.1		mg/Kg		97	80 - 120	0	20
Selenium	0.990	1.03		mg/Kg		104	80 - 120	2	20
Thallium	4.95	4.95		mg/Kg		100	80 - 120	2	20
Vanadium	49.5	52.4		mg/Kg		106	80 - 120	1	20
Zinc	49.5	49.4		mg/Kg		100	80 - 120	1	20
Manganese	49.5	51.0		mg/Kg		103	80 - 120	1	20

Lab Sample ID: LCSD 180-145549/3-A
Matrix: Tissue
Analysis Batch: 146830

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145549

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	198	210		mg/Kg		106	80 - 120	4	20
Magnesium	4950	5360		mg/Kg		108	80 - 120	2	20
Sodium	4950	5870		mg/Kg		118	80 - 120	2	20

Lab Sample ID: MB 180-145552/1-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.095	0.017	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Barium	ND		0.95	0.010	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Cadmium	ND		0.095	0.0067	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Calcium	ND		48	1.3	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Chromium	0.0151	J	0.19	0.0058	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Cobalt	ND		0.048	0.0014	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Copper	ND		0.19	0.031	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Iron	1.19	J	4.8	0.34	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Silver	ND		0.095	0.0037	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Potassium	3.25	J	48	1.3	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Nickel	ND		0.095	0.011	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Lead	ND		0.095	0.0036	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Antimony	ND		0.19	0.0025	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Selenium	ND		0.48	0.048	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Thallium	ND		0.095	0.0019	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Vanadium	0.0182	J	0.095	0.0075	mg/Kg		06/19/15 09:16	06/24/15 16:46	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-145552/1-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		0.48	0.062	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Manganese	ND		0.48	0.0098	mg/Kg		06/19/15 09:16	06/24/15 16:46	1

Lab Sample ID: MB 180-145552/1-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		2.9	0.27	mg/Kg		06/19/15 09:16	06/25/15 16:46	1
Magnesium	0.349	J	48	0.18	mg/Kg		06/19/15 09:16	06/25/15 16:46	1
Sodium	4.37	J	48	1.3	mg/Kg		06/19/15 09:16	06/25/15 16:46	1

Lab Sample ID: LCS 180-145552/2-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.85	3.58		mg/Kg		93	80 - 120
Barium	192	176		mg/Kg		92	80 - 120
Beryllium	4.81	4.11		mg/Kg		85	80 - 120
Cadmium	4.81	4.67		mg/Kg		97	80 - 120
Calcium	4810	4330		mg/Kg		90	80 - 120
Chromium	19.2	19.8		mg/Kg		103	80 - 120
Cobalt	48.1	49.1		mg/Kg		102	80 - 120
Copper	24.0	23.4		mg/Kg		97	80 - 120
Iron	96.2	110		mg/Kg		115	80 - 120
Silver	4.81	4.65		mg/Kg		97	80 - 120
Potassium	4810	4320		mg/Kg		90	80 - 120
Nickel	48.1	48.9		mg/Kg		102	80 - 120
Lead	1.92	2.11		mg/Kg		110	80 - 120
Antimony	48.1	46.5		mg/Kg		97	80 - 120
Selenium	0.962	1.03		mg/Kg		107	80 - 120
Thallium	4.81	5.01		mg/Kg		104	80 - 120
Vanadium	48.1	49.2		mg/Kg		102	80 - 120
Zinc	48.1	48.2		mg/Kg		100	80 - 120
Manganese	48.1	51.1		mg/Kg		106	80 - 120

Lab Sample ID: LCS 180-145552/2-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	192	206		mg/Kg		107	80 - 120
Magnesium	4810	5630		mg/Kg		117	80 - 120
Sodium	4810	5440		mg/Kg		113	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 180-145552/3-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145552

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.85	3.61		mg/Kg		94	80 - 120	1	20
Barium	192	169		mg/Kg		88	80 - 120	4	20
Beryllium	4.81	4.00		mg/Kg		83	80 - 120	3	20
Cadmium	4.81	4.46		mg/Kg		93	80 - 120	5	20
Calcium	4810	4210		mg/Kg		88	80 - 120	3	20
Chromium	19.2	19.6		mg/Kg		102	80 - 120	1	20
Cobalt	48.1	49.3		mg/Kg		102	80 - 120	0	20
Copper	24.0	23.5		mg/Kg		98	80 - 120	0	20
Iron	96.2	113		mg/Kg		117	80 - 120	2	20
Silver	4.81	4.33		mg/Kg		90	80 - 120	7	20
Potassium	4810	4200		mg/Kg		87	80 - 120	3	20
Nickel	48.1	48.9		mg/Kg		102	80 - 120	0	20
Lead	1.92	1.99		mg/Kg		103	80 - 120	6	20
Antimony	48.1	43.9		mg/Kg		91	80 - 120	6	20
Selenium	0.962	0.876		mg/Kg		91	80 - 120	16	20
Thallium	4.81	4.71		mg/Kg		98	80 - 120	6	20
Vanadium	48.1	48.9		mg/Kg		102	80 - 120	1	20
Zinc	48.1	48.8		mg/Kg		102	80 - 120	1	20
Manganese	48.1	50.8		mg/Kg		106	80 - 120	1	20

Lab Sample ID: LCSD 180-145552/3-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145552

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	192	195		mg/Kg		102	80 - 120	5	20
Magnesium	4810	5300		mg/Kg		110	80 - 120	6	20
Sodium	4810	5200		mg/Kg		108	80 - 120	4	20

Lab Sample ID: MB 180-145685/1-A
Matrix: Tissue
Analysis Batch: 146456

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145685

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.97	0.010	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Cadmium	ND		0.097	0.0068	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Calcium	ND		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Chromium	ND		0.19	0.0059	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Cobalt	ND		0.049	0.0015	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Copper	ND		0.19	0.032	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Iron	ND		4.9	0.34	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Silver	ND		0.097	0.0038	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Potassium	ND		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Nickel	ND		0.097	0.011	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Lead	ND		0.097	0.0037	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Antimony	ND		0.19	0.0025	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Thallium	ND		0.097	0.0019	mg/Kg		06/22/15 07:17	06/29/15 03:30	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-145685/1-A
Matrix: Tissue
Analysis Batch: 146456

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145685

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium	0.0186	J	0.097	0.0077	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Zinc	ND		0.49	0.063	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Manganese	ND		0.49	0.010	mg/Kg		06/22/15 07:17	06/29/15 03:30	1

Lab Sample ID: MB 180-145685/1-A
Matrix: Tissue
Analysis Batch: 146543

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145685

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		2.9	0.28	mg/Kg		06/22/15 07:17	06/29/15 21:58	1
Arsenic	ND		0.097	0.018	mg/Kg		06/22/15 07:17	06/29/15 21:58	1
Magnesium	ND		49	0.18	mg/Kg		06/22/15 07:17	06/29/15 21:58	1
Sodium	ND		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 21:58	1
Selenium	ND		0.49	0.049	mg/Kg		06/22/15 07:17	06/29/15 21:58	1

Lab Sample ID: LCS 180-145685/2-A
Matrix: Tissue
Analysis Batch: 146456

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145685

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	196	187		mg/Kg		95	80 - 120
Beryllium	4.90	4.81		mg/Kg		98	80 - 120
Cadmium	4.90	4.96		mg/Kg		101	80 - 120
Calcium	4900	4640		mg/Kg		95	80 - 120
Chromium	19.6	20.6		mg/Kg		105	80 - 120
Cobalt	49.0	51.9		mg/Kg		106	80 - 120
Copper	24.5	24.3		mg/Kg		99	80 - 120
Iron	98.0	110		mg/Kg		112	80 - 120
Silver	4.90	4.75		mg/Kg		97	80 - 120
Potassium	4900	4490		mg/Kg		92	80 - 120
Nickel	49.0	50.7		mg/Kg		103	80 - 120
Lead	1.96	2.10		mg/Kg		107	80 - 120
Antimony	49.0	48.4		mg/Kg		99	80 - 120
Thallium	4.90	5.11		mg/Kg		104	80 - 120
Vanadium	49.0	51.0		mg/Kg		104	80 - 120
Zinc	49.0	50.4		mg/Kg		103	80 - 120
Manganese	49.0	51.8		mg/Kg		106	80 - 120

Lab Sample ID: LCS 180-145685/2-A
Matrix: Tissue
Analysis Batch: 146543

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145685

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	196	207		mg/Kg		105	80 - 120
Arsenic	3.92	3.78		mg/Kg		96	80 - 120
Barium	196	190		mg/Kg		97	80 - 120
Magnesium	4900	5480		mg/Kg		112	80 - 120
Sodium	4900	5590		mg/Kg		114	80 - 120
Selenium	0.980	0.912		mg/Kg		93	80 - 120

Lab Sample ID: 180-44667-31 MS
Matrix: Tissue
Analysis Batch: 146456

Client Sample ID: AT5-087 A-W
Prep Type: Total/NA
Prep Batch: 145685

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	ND		192	176		mg/Kg		92	75 - 125
Beryllium	ND		4.81	4.51		mg/Kg		94	75 - 125
Cadmium	0.0085	J	4.81	4.78		mg/Kg		99	75 - 125
Calcium	160		4810	4580		mg/Kg		92	75 - 125
Chromium	0.33		19.2	20.5		mg/Kg		105	75 - 125
Cobalt	0.33		48.1	49.8		mg/Kg		103	75 - 125
Copper	1.4		24.0	24.8		mg/Kg		97	75 - 125
Iron	56		96.2	173		mg/Kg		123	75 - 125
Silver	ND		4.81	4.34		mg/Kg		90	75 - 125
Potassium	2500		4810	7050		mg/Kg		94	75 - 125
Nickel	0.60		48.1	48.4		mg/Kg		99	75 - 125
Lead	0.072	J	1.92	2.05		mg/Kg		103	75 - 125
Antimony	0.035	J	48.1	45.9		mg/Kg		95	75 - 125
Thallium	0.0032	J	4.81	4.72		mg/Kg		98	75 - 125
Vanadium	0.18	B	48.1	49.4		mg/Kg		102	75 - 125
Zinc	33		48.1	87.9		mg/Kg		114	75 - 125
Manganese	0.82		48.1	49.3		mg/Kg		101	75 - 125

Lab Sample ID: 180-44667-31 MS
Matrix: Tissue
Analysis Batch: 146543

Client Sample ID: AT5-087 A-W
Prep Type: Total/NA
Prep Batch: 145685

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	3.3		192	200		mg/Kg		103	75 - 125
Arsenic	2.0		3.85	5.79		mg/Kg		99	75 - 125
Magnesium	650		4810	6030		mg/Kg		112	75 - 125
Sodium	4500		4810	10200		mg/Kg		119	75 - 125
Selenium	0.27	J	0.962	1.27		mg/Kg		104	75 - 125

Lab Sample ID: 180-44667-31 MSD
Matrix: Tissue
Analysis Batch: 146456

Client Sample ID: AT5-087 A-W
Prep Type: Total/NA
Prep Batch: 145685

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	ND		198	180		mg/Kg		91	75 - 125	2	20
Beryllium	ND		4.95	4.51		mg/Kg		91	75 - 125	0	20
Cadmium	0.0085	J	4.95	4.74		mg/Kg		96	75 - 125	1	20
Calcium	160		4950	4650		mg/Kg		91	75 - 125	2	20
Chromium	0.33		19.8	20.0		mg/Kg		100	75 - 125	2	20
Cobalt	0.33		49.5	50.5		mg/Kg		101	75 - 125	1	20
Copper	1.4		24.8	25.2		mg/Kg		96	75 - 125	2	20
Iron	56		99.0	164		mg/Kg		110	75 - 125	5	20
Silver	ND		4.95	4.45		mg/Kg		90	75 - 125	3	20
Potassium	2500		4950	6860		mg/Kg		88	75 - 125	3	20
Nickel	0.60		49.5	49.0		mg/Kg		98	75 - 125	1	20
Lead	0.072	J	1.98	2.07		mg/Kg		101	75 - 125	1	20
Antimony	0.035	J	49.5	46.7		mg/Kg		94	75 - 125	2	20
Thallium	0.0032	J	4.95	4.79		mg/Kg		97	75 - 125	1	20
Vanadium	0.18	B	49.5	49.7		mg/Kg		100	75 - 125	0	20
Zinc	33		49.5	94.5		mg/Kg		124	75 - 125	7	20
Manganese	0.82		49.5	51.4		mg/Kg		102	75 - 125	4	20

Lab Sample ID: 180-44667-31 MSD
Matrix: Tissue
Analysis Batch: 146543

Client Sample ID: AT5-087 A-W
Prep Type: Total/NA
Prep Batch: 145685

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	3.3		198	211		mg/Kg		105	75 - 125	5	20
Arsenic	2.0		3.96	5.73		mg/Kg		95	75 - 125	1	20
Magnesium	650		4950	6150		mg/Kg		111	75 - 125	2	20
Sodium	4500		4950	10000		mg/Kg		111	75 - 125	2	20
Selenium	0.27	J	0.990	1.19		mg/Kg		93	75 - 125	7	20

Lab Sample ID: MB 180-145709/1-A
Matrix: Tissue
Analysis Batch: 146839

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145709

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		2.9	0.28	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Arsenic	ND		0.098	0.018	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Barium	0.0161	J	0.98	0.010	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Cadmium	ND		0.098	0.0069	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Calcium	ND		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Chromium	0.0245	J	0.20	0.0060	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Cobalt	0.00804	J	0.049	0.0015	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Copper	ND		0.20	0.032	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Iron	ND		4.9	0.35	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Silver	ND		0.098	0.0038	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Potassium	ND		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Magnesium	0.731	J	49	0.18	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Sodium	ND		49	1.3	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Nickel	0.0126	J	0.098	0.011	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Lead	ND		0.098	0.0037	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Antimony	0.0599	J	0.20	0.0025	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Selenium	ND		0.49	0.049	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Thallium	0.00569	J	0.098	0.0020	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Vanadium	0.0155	J	0.098	0.0077	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Zinc	ND		0.49	0.064	mg/Kg		06/22/15 08:55	07/04/15 16:16	1
Manganese	0.0122	J	0.49	0.010	mg/Kg		06/22/15 08:55	07/04/15 16:16	1

Lab Sample ID: LCS 180-145709/2-A
Matrix: Tissue
Analysis Batch: 146839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145709

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	200	220		mg/Kg		110	80 - 120
Arsenic	4.00	3.93		mg/Kg		98	80 - 120
Barium	200	190		mg/Kg		95	80 - 120
Beryllium	5.00	4.13		mg/Kg		83	80 - 120
Cadmium	5.00	5.08		mg/Kg		102	80 - 120
Calcium	5000	4590		mg/Kg		92	80 - 120
Chromium	20.0	21.0		mg/Kg		105	80 - 120
Cobalt	50.0	52.3		mg/Kg		105	80 - 120
Copper	25.0	24.3		mg/Kg		97	80 - 120
Iron	100	98.0		mg/Kg		98	80 - 120
Silver	5.00	5.01		mg/Kg		100	80 - 120
Potassium	5000	4510		mg/Kg		90	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-145709/2-A
Matrix: Tissue
Analysis Batch: 146839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145709

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	5000	5510		mg/Kg		110	80 - 120
Sodium	5000	5850		mg/Kg		117	80 - 120
Nickel	50.0	51.0		mg/Kg		102	80 - 120
Lead	2.00	2.23		mg/Kg		112	80 - 120
Antimony	50.0	50.6		mg/Kg		101	80 - 120
Selenium	1.00	0.975		mg/Kg		98	80 - 120
Thallium	5.00	5.40		mg/Kg		108	80 - 120
Vanadium	50.0	52.0		mg/Kg		104	80 - 120
Zinc	50.0	51.8		mg/Kg		104	80 - 120
Manganese	50.0	52.6		mg/Kg		105	80 - 120

Lab Sample ID: 180-44667-13 MS
Matrix: Tissue
Analysis Batch: 146839

Client Sample ID: AT5-083 C-W
Prep Type: Total/NA
Prep Batch: 145709

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	230	F1	196	1060	F1	mg/Kg		422	75 - 125
Arsenic	2.8	F1	3.92	5.66	F1	mg/Kg		72	75 - 125
Barium	0.87	J B	196	154		mg/Kg		78	75 - 125
Beryllium	0.0073	J	4.90	3.72		mg/Kg		76	75 - 125
Cadmium	0.041	J	4.90	4.18		mg/Kg		84	75 - 125
Calcium	3000		4900	7530		mg/Kg		92	75 - 125
Chromium	2.3	B	19.6	17.6		mg/Kg		78	75 - 125
Cobalt	0.48	B	49.0	40.7		mg/Kg		82	75 - 125
Copper	1.5		24.5	20.1		mg/Kg		76	75 - 125
Iron	670		98.0	854	4	mg/Kg		190	75 - 125
Silver	0.013	J	4.90	3.85		mg/Kg		78	75 - 125
Potassium	2400	F1	4900	6010	F1	mg/Kg		74	75 - 125
Magnesium	800	B	4900	5650		mg/Kg		99	75 - 125
Sodium	5000		4900	9940		mg/Kg		101	75 - 125
Nickel	1.4	B	49.0	40.2		mg/Kg		79	75 - 125
Lead	0.30		1.96	2.07		mg/Kg		90	75 - 125
Antimony	0.016	J B	49.0	41.8		mg/Kg		85	75 - 125
Selenium	0.22	J	0.980	0.976		mg/Kg		77	75 - 125
Thallium	0.0042	J B	4.90	4.17		mg/Kg		85	75 - 125
Vanadium	0.86	B	49.0	41.0		mg/Kg		82	75 - 125
Zinc	12		49.0	52.1		mg/Kg		82	75 - 125
Manganese	9.3	B	49.0	54.1		mg/Kg		91	75 - 125

Lab Sample ID: 180-44667-13 MSD
Matrix: Tissue
Analysis Batch: 146839

Client Sample ID: AT5-083 C-W
Prep Type: Total/NA
Prep Batch: 145709

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	230	F1	198	1130	F1	mg/Kg		454	75 - 125	6	20
Arsenic	2.8	F1	3.96	6.46		mg/Kg		92	75 - 125	13	20
Barium	0.87	J B	198	166		mg/Kg		84	75 - 125	8	20
Beryllium	0.0073	J	4.95	3.82		mg/Kg		77	75 - 125	2	20
Cadmium	0.041	J	4.95	4.48		mg/Kg		90	75 - 125	7	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-44667-13 MSD
Matrix: Tissue
Analysis Batch: 146839

Client Sample ID: AT5-083 C-W
Prep Type: Total/NA
Prep Batch: 145709

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	3000		4950	7430		mg/Kg		89	75 - 125	1	20
Chromium	2.3	B	19.8	19.9		mg/Kg		89	75 - 125	12	20
Cobalt	0.48	B	49.5	45.8		mg/Kg		91	75 - 125	12	20
Copper	1.5		24.8	22.7		mg/Kg		85	75 - 125	12	20
Iron	670		99.0	923	4	mg/Kg		258	75 - 125	8	20
Silver	0.013	J	4.95	4.24		mg/Kg		85	75 - 125	9	20
Potassium	2400	F1	4950	6510		mg/Kg		83	75 - 125	8	20
Magnesium	800	B	4950	5870		mg/Kg		102	75 - 125	4	20
Sodium	5000		4950	10700		mg/Kg		115	75 - 125	7	20
Nickel	1.4	B	49.5	45.1		mg/Kg		88	75 - 125	11	20
Lead	0.30		1.98	2.20		mg/Kg		96	75 - 125	6	20
Antimony	0.016	J B	49.5	43.1		mg/Kg		87	75 - 125	3	20
Selenium	0.22	J	0.990	1.20		mg/Kg		99	75 - 125	20	20
Thallium	0.0042	J B	4.95	4.42		mg/Kg		89	75 - 125	6	20
Vanadium	0.86	B	49.5	46.2		mg/Kg		92	75 - 125	12	20
Zinc	12		49.5	58.7		mg/Kg		95	75 - 125	12	20
Manganese	9.3	B	49.5	54.8		mg/Kg		92	75 - 125	1	20

Lab Sample ID: MB 180-145802/1-A
Matrix: Tissue
Analysis Batch: 146456

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145802

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		1.0	0.011	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Beryllium	ND		0.10	0.0076	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Cadmium	ND		0.10	0.0071	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Calcium	ND		51	1.3	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Chromium	ND		0.20	0.0062	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Cobalt	ND		0.051	0.0015	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Copper	ND		0.20	0.033	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Iron	0.756	J	5.1	0.36	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Silver	ND		0.10	0.0039	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Potassium	ND		51	1.4	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Nickel	ND		0.10	0.011	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Lead	ND		0.10	0.0038	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Antimony	0.00768	J	0.20	0.0026	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Thallium	ND		0.10	0.0020	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Vanadium	0.0196	J	0.10	0.0080	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Zinc	ND		0.51	0.065	mg/Kg		06/23/15 06:55	06/29/15 00:29	1
Manganese	ND		0.51	0.010	mg/Kg		06/23/15 06:55	06/29/15 00:29	1

Lab Sample ID: MB 180-145802/1-A
Matrix: Tissue
Analysis Batch: 146543

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145802

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.828	J	3.0	0.29	mg/Kg		06/23/15 06:55	06/29/15 18:57	1
Arsenic	ND		0.10	0.018	mg/Kg		06/23/15 06:55	06/29/15 18:57	1
Magnesium	1.43	J	51	0.19	mg/Kg		06/23/15 06:55	06/29/15 18:57	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-145802/1-A
Matrix: Tissue
Analysis Batch: 146543

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145802

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	5.83	J	51	1.4	mg/Kg		06/23/15 06:55	06/29/15 18:57	1
Selenium	ND		0.51	0.051	mg/Kg		06/23/15 06:55	06/29/15 18:57	1

Lab Sample ID: LCS 180-145802/2-A
Matrix: Tissue
Analysis Batch: 146456

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145802

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	200	191		mg/Kg		96	80 - 120
Beryllium	5.00	4.30		mg/Kg		86	80 - 120
Cadmium	5.00	5.03		mg/Kg		101	80 - 120
Calcium	5000	4480		mg/Kg		90	80 - 120
Chromium	20.0	19.4		mg/Kg		97	80 - 120
Cobalt	50.0	49.3		mg/Kg		99	80 - 120
Copper	25.0	23.7		mg/Kg		95	80 - 120
Iron	100	108		mg/Kg		108	80 - 120
Silver	5.00	4.78		mg/Kg		96	80 - 120
Potassium	5000	4340		mg/Kg		87	80 - 120
Nickel	50.0	48.6		mg/Kg		97	80 - 120
Lead	2.00	2.09		mg/Kg		104	80 - 120
Antimony	50.0	48.5		mg/Kg		97	80 - 120
Thallium	5.00	5.07		mg/Kg		101	80 - 120
Vanadium	50.0	48.5		mg/Kg		97	80 - 120
Zinc	50.0	48.0		mg/Kg		96	80 - 120
Manganese	50.0	48.4		mg/Kg		97	80 - 120

Lab Sample ID: LCS 180-145802/2-A
Matrix: Tissue
Analysis Batch: 146543

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145802

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	200	212		mg/Kg		106	80 - 120
Arsenic	4.00	3.87		mg/Kg		97	80 - 120
Magnesium	5000	5670		mg/Kg		113	80 - 120
Sodium	5000	5690		mg/Kg		114	80 - 120
Selenium	1.00	0.984		mg/Kg		98	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 180-146075/1-A
Matrix: Tissue
Analysis Batch: 146254

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146075

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/25/15 09:45	06/26/15 10:34	1

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 180-146075/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146254 — **Prep Batch: 146075**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.417	0.410		mg/Kg		98	80 - 120		

Lab Sample ID: LCSD 180-146075/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146254 — **Prep Batch: 146075**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.417	0.420		mg/Kg		101	80 - 120	2	20

Lab Sample ID: MB 180-146088/1-A — **Client Sample ID: Method Blank**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146287 — **Prep Batch: 146088**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/25/15 10:33	06/27/15 06:54	1

Lab Sample ID: LCS 180-146088/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146287 — **Prep Batch: 146088**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.417	0.405		mg/Kg		97	80 - 120		

Lab Sample ID: 180-44667-31 MS — **Client Sample ID: AT5-087 A-W**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146287 — **Prep Batch: 146088**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.081	J F1 H	0.169	0.203	F1 H	mg/Kg		72	75 - 125		

Lab Sample ID: 180-44667-31 MSD — **Client Sample ID: AT5-087 A-W**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146287 — **Prep Batch: 146088**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.081	J F1 H	0.167	0.186	F1 H	mg/Kg		63	75 - 125	9	20

Lab Sample ID: MB 180-146215/1-A — **Client Sample ID: Method Blank**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146287 — **Prep Batch: 146215**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/26/15 09:45	06/27/15 06:57	1

Lab Sample ID: LCS 180-146215/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146287 — **Prep Batch: 146215**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.417	0.404		mg/Kg		97	80 - 120		

Lab Sample ID: MB 180-146512/1-A
Matrix: Tissue
Analysis Batch: 146672

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146512

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/30/15 10:59	07/01/15 09:43	1

Lab Sample ID: LCS 180-146512/2-A
Matrix: Tissue
Analysis Batch: 146672

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146512

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.433		mg/Kg		104	80 - 120

Lab Sample ID: LCSD 180-146512/3-A
Matrix: Tissue
Analysis Batch: 146672

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 146512

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.417	0.399		mg/Kg		96	80 - 120	8	20

Lab Sample ID: MB 180-146513/1-A
Matrix: Tissue
Analysis Batch: 146672

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146513

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/30/15 11:00	07/01/15 09:45	1

Lab Sample ID: LCS 180-146513/2-A
Matrix: Tissue
Analysis Batch: 146672

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.405		mg/Kg		97	80 - 120

Lab Sample ID: 180-44667-13 MS
Matrix: Tissue
Analysis Batch: 146672

Client Sample ID: AT5-083 C-W
Prep Type: Total/NA
Prep Batch: 146513

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	H	0.154	0.175	H	mg/Kg		114	75 - 125

Lab Sample ID: 180-44667-13 MSD
Matrix: Tissue
Analysis Batch: 146672

Client Sample ID: AT5-083 C-W
Prep Type: Total/NA
Prep Batch: 146513

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	H	0.156	0.170	H	mg/Kg		109	75 - 125	3	20

Method: 2540G - SM 2540G

Lab Sample ID: 180-44667-8 DU
Matrix: Tissue
Analysis Batch: 146251

Client Sample ID: AT5-082 C-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	82		83		%		1	20

Lab Sample ID: 180-44667-12 DU
Matrix: Tissue
Analysis Batch: 146259

Client Sample ID: AT5-083 B-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	84		83		%		0.9	20

Lab Sample ID: 180-44667-23 DU
Matrix: Tissue
Analysis Batch: 146259

Client Sample ID: AT5-085 C-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	84		85		%		0.7	20

Method: Lipids - Percent Lipids

Lab Sample ID: MB 180-145793/1-A
Matrix: Tissue
Analysis Batch: 146219

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145793

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/23/15 03:35	06/23/15 03:35	1

Lab Sample ID: LCS 180-145793/2-A
Matrix: Tissue
Analysis Batch: 146219

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145793

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Percent Lipids	19.7	19.3		%		98	30 - 150

Lab Sample ID: LCSD 180-145793/3-A
Matrix: Tissue
Analysis Batch: 146219

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145793

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids	19.4	19.1		%		98	30 - 150	1	25

Lab Sample ID: 180-44667-32 DU
Matrix: Tissue
Analysis Batch: 146219

Client Sample ID: AT5-087 B-W
Prep Type: Total/NA
Prep Batch: 145793

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Lipids	0.93		1.04		%		11	25

Method: Lipids - Percent Lipids (Continued)

Lab Sample ID: MB 180-145928/1-A
Matrix: Tissue
Analysis Batch: 146250

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145928

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

Lab Sample ID: LCS 180-145928/2-A
Matrix: Tissue
Analysis Batch: 146250

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145928

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Percent Lipids	17.1	15.7		%		92	30 - 150

Lab Sample ID: LCSD 180-145928/3-A
Matrix: Tissue
Analysis Batch: 146250

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145928

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids	16.8	15.8		%		94	30 - 150	1	25

Lab Sample ID: MB 180-146270/1-A
Matrix: Tissue
Analysis Batch: 146308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146270

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/27/15 03:35	06/27/15 03:35	1

Lab Sample ID: LCS 180-146270/2-A
Matrix: Tissue
Analysis Batch: 146308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146270

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Percent Lipids	19.1	17.2		%		90	30 - 150

Lab Sample ID: LCSD 180-146270/3-A
Matrix: Tissue
Analysis Batch: 146308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 146270

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids	18.1	16.9		%		93	30 - 150	2	25

Lab Sample ID: MB 180-146328/1-A
Matrix: Tissue
Analysis Batch: 146693

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146328

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/29/15 03:30	06/29/15 03:30	1

Lab Sample ID: LCS 180-146328/2-A
Matrix: Tissue
Analysis Batch: 146693

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146328

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Percent Lipids	17.5	17.3		%		99	30 - 150

Lab Sample ID: LCSD 180-146328/3-A
Matrix: Tissue
Analysis Batch: 146693

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 146328

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids			17.1	16.5		%		96	30 - 150	5	25

Lab Sample ID: 180-44667-14 DU
Matrix: Tissue
Analysis Batch: 146693

Client Sample ID: AT5-083 D-W
Prep Type: Total/NA
Prep Batch: 146328

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Lipids	0.71			0.698		%				1	25

Lab Sample ID: MB 180-146330/1-A
Matrix: Tissue
Analysis Batch: 146695

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 146330

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/29/15 05:05	06/29/15 05:05	1

Lab Sample ID: LCS 180-146330/2-A
Matrix: Tissue
Analysis Batch: 146695

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 146330

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Percent Lipids			19.2	18.3		%		95	30 - 150		

Lab Sample ID: LCSD 180-146330/3-A
Matrix: Tissue
Analysis Batch: 146695

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 146330

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids			20.2	19.0		%		94	30 - 150	4	25

Lab Sample ID: 180-44667-5 DU
Matrix: Tissue
Analysis Batch: 146695

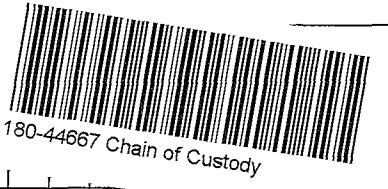
Client Sample ID: AT5-081 E-W
Prep Type: Total/NA
Prep Batch: 146330

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Lipids	0.74			0.792		%				7	25

Shipping and Receiving Documents

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick** Phone: **410.329.5126**		Laboratory: **TestAmerica - Pittsburgh** **301 Alpha Drive** **Pittsburgh, PA 15238**
225 Schilling Circle **Hunt Valley, MD 21031**	Project Contact: **Morgan Gelinas** Phone: **860.287.0745**		**phone: 412.963.2428** **fax: 412.963.2468**
Project Name: Parallel Thimble Shoal Tunnel Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 3 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-081A-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-081B-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-081C-W	1	X	
5/21/2015	1200	X		AT5-081D-W	1	X	
5/21/2015	1200	X		AT5-081E-W	1	X	
5/21/2015	1200	X		AT5-082A-W	1	X	
5/21/2015	1200	X		AT5-082B-W	1	X	
5/21/2015	1200	X		AT5-082C-W	1	X	
5/21/2015	1200	X		AT5-082D-W	1	X	
5/21/2015	1200	X		AT5-082E-W	1	X	
5/21/2015	1200	X		AT5-083A-W	1	X	
5/21/2015	1200	X		AT5-083B-W	1	X	
5/21/2015	1200	X		AT5-083C-W	1	X	
5/21/2015	1200	X		AT5-083D-W	1	X	
5/21/2015	1200	X		AT5-083E-W	1	X	
5/21/2015	1200	X		AT5-084A-W	1	X	
5/21/2015	1200	X		AT5-084B-W	1	X	
5/21/2015	1200	X		AT5-084C-W	1	X	



Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600			**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1700	Dellline Watson	5-29-15 8:50	

44467

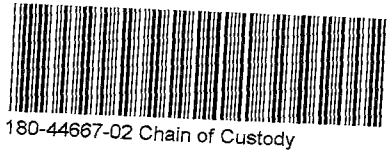
Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory:
	Phone: **410.329.5126**		**TestAmerica - Pittsburgh**
225 Schilling Circle	Project Contact:		**301 Alpha Drive**
Hunt Valley, MD 21031	**Morgan Gelinas**		**Pittsburgh, PA 15238**
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 4 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-084D-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-084E-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-085A-W	1	X	
5/21/2015	1200	X		AT5-085B-W	1	X	
5/21/2015	1200	X		AT5-085C-W	1	X	
5/21/2015	1200	X		AT5-085D-W	1	X	
5/21/2015	1200	X		AT5-085E-W	1	X	
5/21/2015	1200	X		AT5-086A-W	1	X	
5/21/2015	1200	X		AT5-086B-W	1	X	
5/21/2015	1200	X		AT5-086C-W	1	X	
5/21/2015	1200	X		AT5-086D-W	1	X	
5/21/2015	1200	X		AT5-086E-W	1	X	
5/21/2015	1200	X		AT5-087A-W	1	X	
5/21/2015	1200	X		AT5-087B-W	1	X	
5/21/2015	1200	X		AT5-087C-W	1	X	
5/21/2015	1200	X		AT5-087D-W	1	X	
5/21/2015	1200	X		AT5-087E-W	1	X	
5/21/2015	1200	X		AT5-088A-W	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600			**Parallel Thimble**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	**Shoal Tunnel Tissue**
	5/28/15 1700		5-29-15 8:50	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		**phone: 412.963.2428**
	Phone: **860.287.0745**		**fax: 412.963.2468**
Project Name: Parallel Thimble Shoal Tunnel			**ATTN: Carrie Gamber**
Project#: **15204.01**			
Page 3 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-081A-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-081B-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-081C-W	1	X	
5/21/2015	1200	X		AT5-081D-W	1	X	
5/21/2015	1200	X		AT5-081E-W	1	X	
5/21/2015	1200	X		AT5-082A-W	1	X	
5/21/2015	1200	X		AT5-082B-W	1	X	
5/21/2015	1200	X		AT5-082C-W	1	X	
5/21/2015	1200	X		AT5-082D-W	1	X	
5/21/2015	1200	X		AT5-082E-W	1	X	
5/21/2015	1200	X		AT5-083A-W	1	X	
5/21/2015	1200	X		AT5-083B-W	1	X	
5/21/2015	1200	X		AT5-083C-W	1	X	
5/21/2015	1200	X		AT5-083D-W	1	X	
5/21/2015	1200	X		AT5-083E-W	1	X	
5/21/2015	1200	X		AT5-084A-W	1	X	
5/21/2015	1200	X		AT5-084B-W	1	X	
5/21/2015	1200	X		AT5-084C-W	1	X	



Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1000		6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	**Date/Time**	**Received by Laboratory: (Signature)**	**Date/Time**	
	5/28/15 1700		6/1/15 1235	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory:
	Phone: **410.329.5126**		**TestAmerica - Pittsburgh**
225 Schilling Circle	Project Contact:		**301 Alpha Drive**
Hunt Valley, MD 21031	**Morgan Gelinas**		**Pittsburgh, PA 15238**
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 4 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-084D-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-084E-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-085A-W	1	X	
5/21/2015	1200	X		AT5-085B-W	1	X	
5/21/2015	1200	X		AT5-085C-W	1	X	
5/21/2015	1200	X		AT5-085D-W	1	X	
5/21/2015	1200	X		AT5-085E-W	1	X	
5/21/2015	1200	X		AT5-086A-W	1	X	
5/21/2015	1200	X		AT5-086B-W	1	X	
5/21/2015	1200	X		AT5-086C-W	1	X	
5/21/2015	1200	X		AT5-086D-W	1	X	
5/21/2015	1200	X		AT5-086E-W	1	X	
5/21/2015	1200	X		AT5-087A-W	1	X	
5/21/2015	1200	X		AT5-087B-W	1	X	
5/21/2015	1200	X		AT5-087C-W	1	X	
5/21/2015	1200	X		AT5-087D-W	1	X	
5/21/2015	1200	X		AT5-087E-W	1	X	
5/21/2015	1200	X		AT5-088A-W	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600		6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1700		6/1/15 1235	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC **225 Schilling Circle** **Hunt Valley, MD 21031**	**Peggy Derrick** Phone: **410.329.5126** Project Contact: **Morgan Gelinas** Phone: **860.287.0745**		Laboratory: **TestAmerica - Pittsburgh** **301 Alpha Drive** **Pittsburgh, PA 15238** **phone: 412.963.2428** **fax: 412.963.2468** **ATTN: Carrie Gamber**

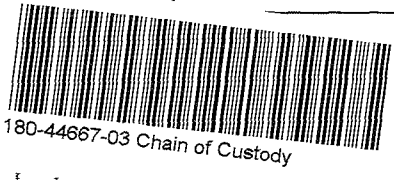
Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 3 of 6

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Mooisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-081A-W	1	X	X				X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-081B-W	1	X	X				X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-081C-W	1	X	X				X	X	X	
5/21/2015	1200	X		AT5-081D-W	1	X	X				X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
5/21/2015	1200	X		AT5-081E-W	1	X	X				X	X	X	
5/21/2015	1200	X		AT5-082A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082B-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082C-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082D-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082E-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083B-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083C-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083D-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083E-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-084A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-084B-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-084C-W	1	X	X	X		X	X	X	X	

180-44667-03 Chain of Custody



Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
Sanita Corum	6/10/15 1530	[signature]	6/13/15 [illegible]	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	

Client:	Project Manager:
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**
	Phone: **410.329.5126**
225 Schilling Circle	Project Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: **860.287.0745**

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 4 of 6

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Mooisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-084D-W	1	X	X	X		X	X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-084E-W	1	X	X	X		X	X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-085A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-085B-W	1	X	X	X		X	X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
5/21/2015	1200	X		AT5-085C-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-085D-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-085E-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086B-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086C-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086D-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086E-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087B-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087C-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087D-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087E-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-088A-W	1	X	X	X		X	X	X	X	

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
Sonita Corum	6/10/15 1530		06/13/15 0800	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	

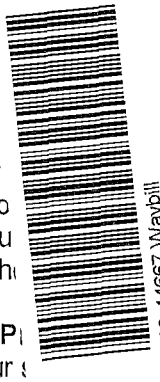
UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPI**
   UPS locations include ®, UPS drop boxes, UPS customer centers, authorized retail outlets and UPS (
   Schedule a same day or p to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any ur area.
   Take your package to any UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® o uthorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (inclu) are also accepted at Drop Boxes. To find the location nearest you, please visit th a of CampusShip and select UPS Locations.

   Customers with a Daily P
   Your driver will pickup your sual.



180-44667 Waybill

FOLD HERE

KATHRYN MINCZUK
4105847000 5206
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

45 LBS 1 OF 7

DWT: 24,18,18

SHIP TO:
CARRIE GAMBER
4129632428
TESTAMERICA
301 ALPHA DRIVE
PITTSBURGH PA 15238-2907

PA 152 9-22

UPS EARLY A.M. 1+

TRACKING #: 1Z 288 682 15 9407 7421

Uncorrected temp 2.7 °C
Thermometer ID 84

CF 0.0 Initials MAL

PT-WI-SR-001 effective 7/26/13

BILLING: P/P

6/2/15 Chest Drop off

Department Code: 2123
Project Phase AND Task: 1520401_0012
CS 17.2.07.

WNTNV50 63.0A 04/2015

UPS CampusShip: View/Print Label

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   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

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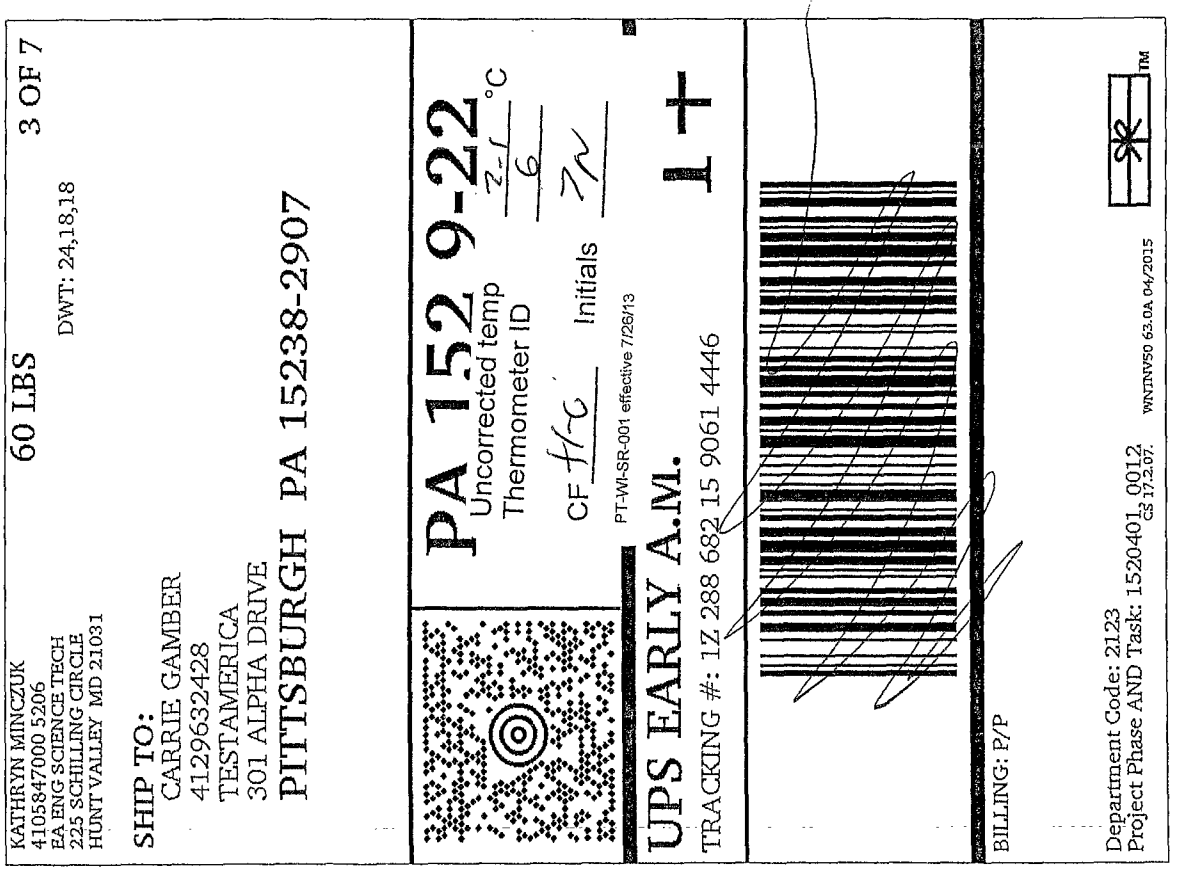

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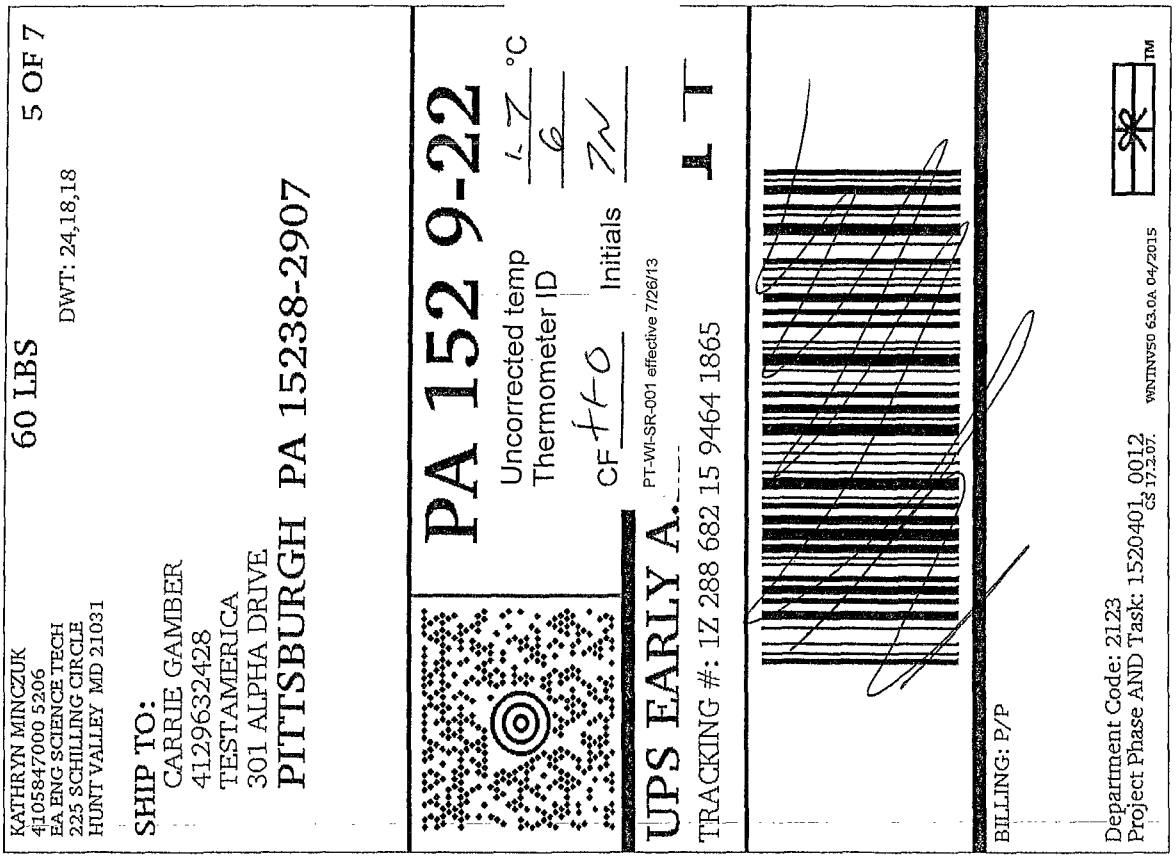

5/29

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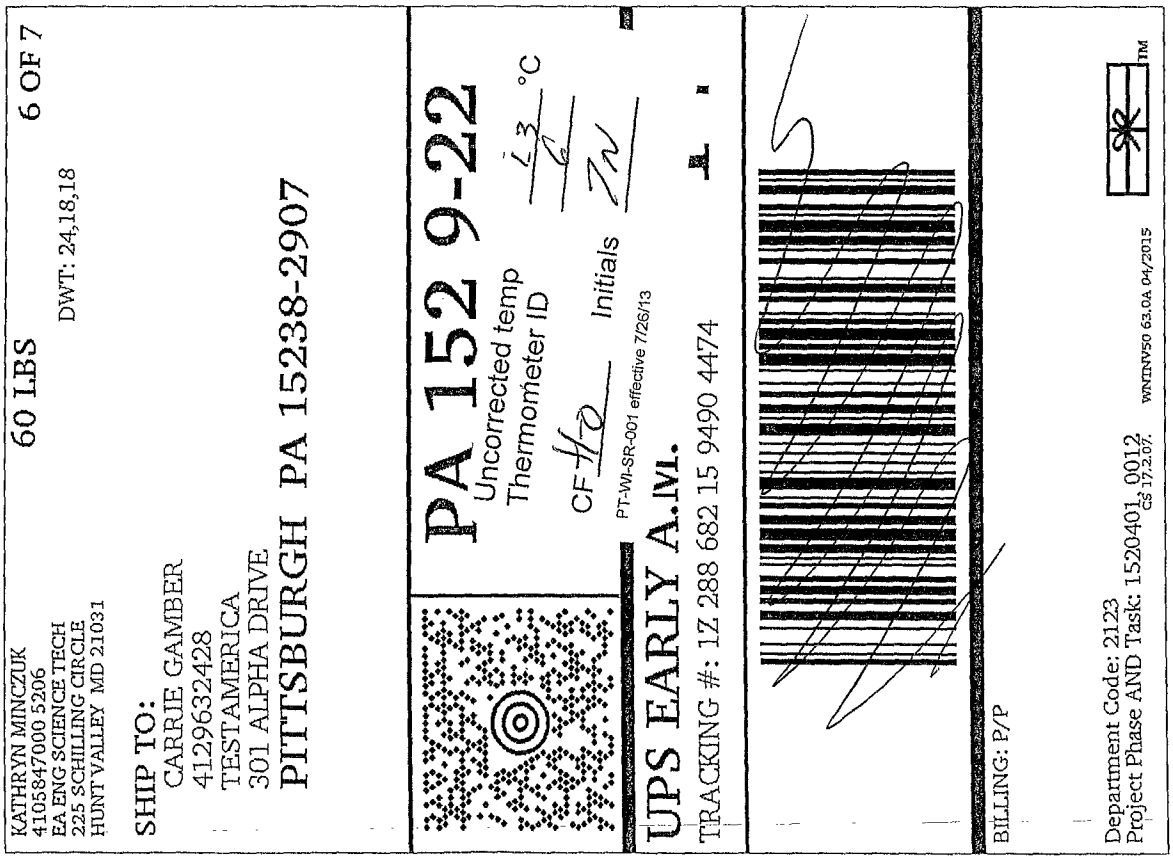

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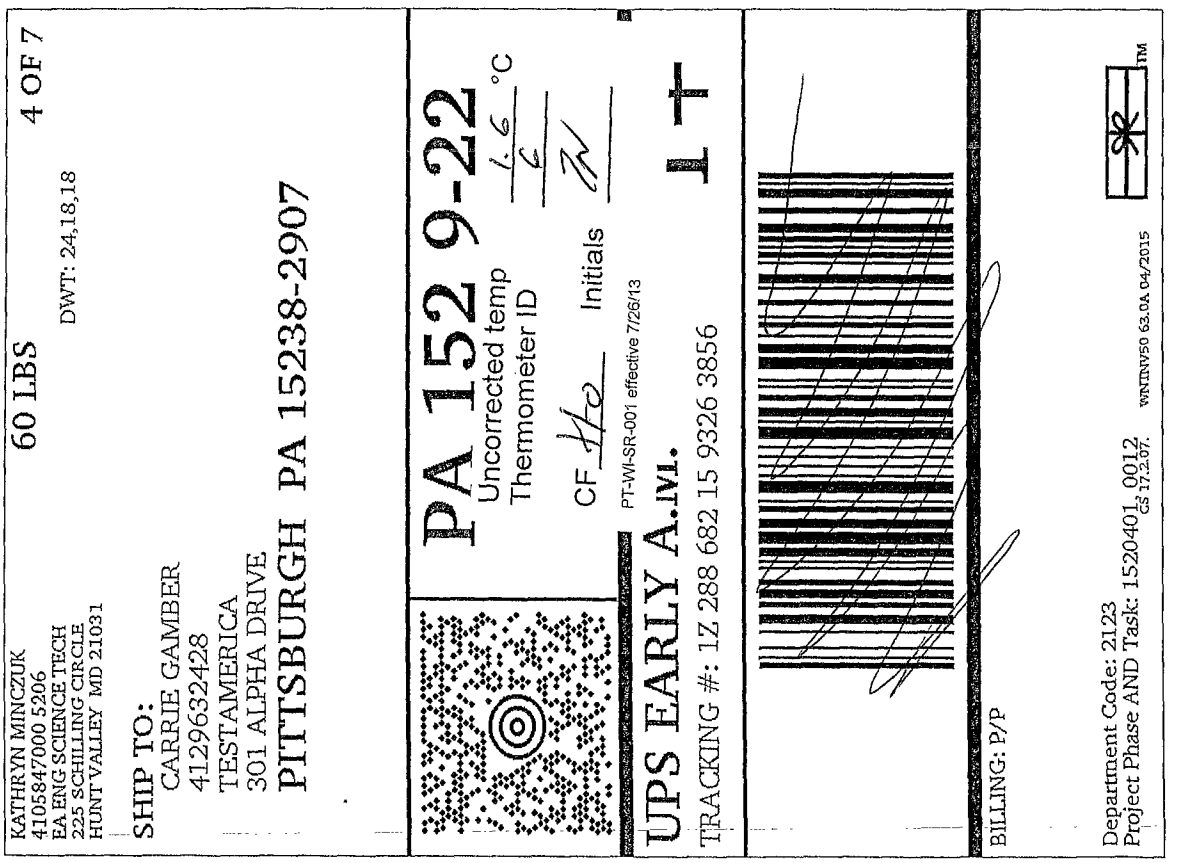

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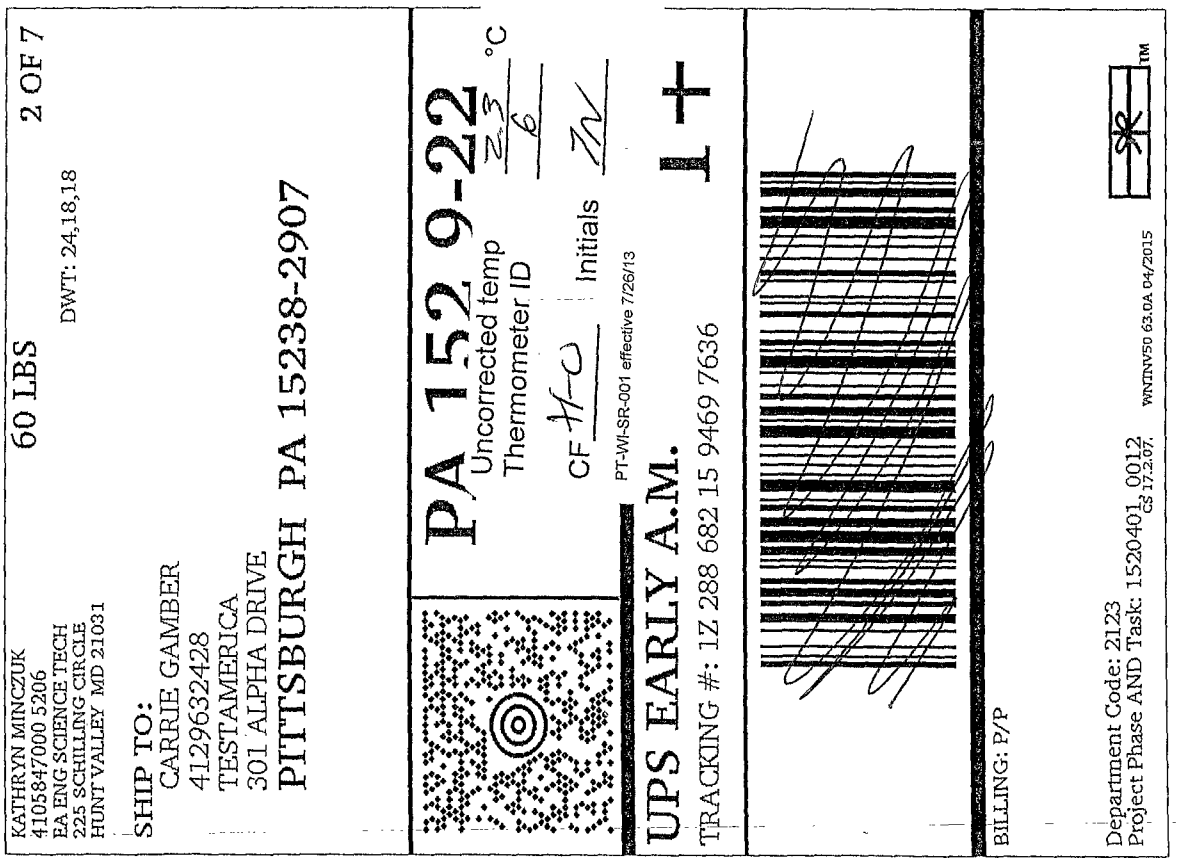

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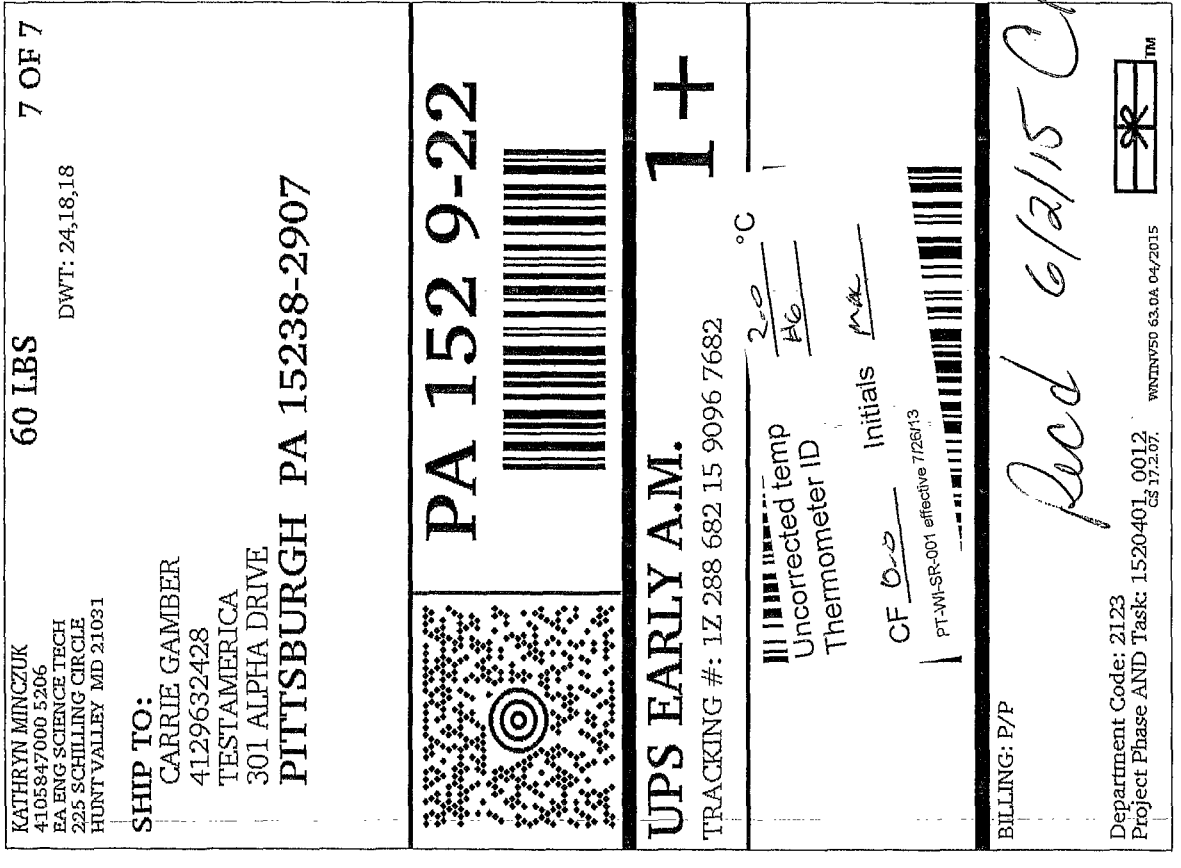

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-44667-1

Login Number: 44667
List Number: 1
Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 180-44667-2

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/16/2015 3:23 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/16/2015

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

Table of Contents

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- Detection Summary 4
- Certification Summary 7
- Sample Summary 8

Subcontracted Data 9

Shipping and Receiving Documents 2659

- Client Chain of Custody 2660
- Sample Receipt Checklist 2673

Job Narrative
180-44667-2

Comments
No additional comments.

Receipt
The samples were received on 5/29/2015 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 7 coolers at receipt time were 1.3º C, 1.6º C, 1.7º C, 2.0º C, 2.1º C, 2.3º C and 2.7º C.

Subcontract Work
Method 1613 B Dioxins/Furans + TEQs (EA criteria: This method was subcontracted to TestAmerica Knoxville. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44667-2

Client Sample ID: AT5-081 A-W — **Lab Sample ID: 180-44667-1**

No Detections.

Client Sample ID: AT5-081 B-W — **Lab Sample ID: 180-44667-2**

No Detections.

Client Sample ID: AT5-081 C-W — **Lab Sample ID: 180-44667-3**

No Detections.

Client Sample ID: AT5-081 D-W — **Lab Sample ID: 180-44667-4**

No Detections.

Client Sample ID: AT5-081 E-W — **Lab Sample ID: 180-44667-5**

No Detections.

Client Sample ID: AT5-082 A-W — **Lab Sample ID: 180-44667-6**

No Detections.

Client Sample ID: AT5-082 B-W — **Lab Sample ID: 180-44667-7**

No Detections.

Client Sample ID: AT5-082 C-W — **Lab Sample ID: 180-44667-8**

No Detections.

Client Sample ID: AT5-082 D-W — **Lab Sample ID: 180-44667-9**

No Detections.

Client Sample ID: AT5-082 E-W — **Lab Sample ID: 180-44667-10**

No Detections.

Client Sample ID: AT5-083 A-W — **Lab Sample ID: 180-44667-11**

No Detections.

Client Sample ID: AT5-083 B-W — **Lab Sample ID: 180-44667-12**

No Detections.

Client Sample ID: AT5-083 C-W — **Lab Sample ID: 180-44667-13**

No Detections.

Client Sample ID: AT5-083 D-W — **Lab Sample ID: 180-44667-14**

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44667-2

Client Sample ID: AT5-083 E-W — **Lab Sample ID: 180-44667-15**

No Detections.

Client Sample ID: AT5-084 A-W — **Lab Sample ID: 180-44667-16**

No Detections.

Client Sample ID: AT5-084 B-W — **Lab Sample ID: 180-44667-17**

No Detections.

Client Sample ID: AT5-084 C-W — **Lab Sample ID: 180-44667-18**

No Detections.

Client Sample ID: AT5-084 D-W — **Lab Sample ID: 180-44667-19**

No Detections.

Client Sample ID: AT5-084 E-W — **Lab Sample ID: 180-44667-20**

No Detections.

Client Sample ID: AT5-085 A-W — **Lab Sample ID: 180-44667-21**

No Detections.

Client Sample ID: AT5-085 B-W — **Lab Sample ID: 180-44667-22**

No Detections.

Client Sample ID: AT5-085 C-W — **Lab Sample ID: 180-44667-23**

No Detections.

Client Sample ID: AT5-085 D-W — **Lab Sample ID: 180-44667-24**

No Detections.

Client Sample ID: AT5-085 E-W — **Lab Sample ID: 180-44667-25**

No Detections.

Client Sample ID: AT5-086 A-W — **Lab Sample ID: 180-44667-26**

No Detections.

Client Sample ID: AT5-086 B-W — **Lab Sample ID: 180-44667-27**

No Detections.

Client Sample ID: AT5-086 C-W — **Lab Sample ID: 180-44667-28**

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44667-2

Client Sample ID: AT5-086 D-W — Lab Sample ID: 180-44667-29

No Detections.

Client Sample ID: AT5-086 E-W — Lab Sample ID: 180-44667-30

No Detections.

Client Sample ID: AT5-087 A-W — Lab Sample ID: 180-44667-31

No Detections.

Client Sample ID: AT5-087 B-W — Lab Sample ID: 180-44667-32

No Detections.

Client Sample ID: AT5-087 C-W — Lab Sample ID: 180-44667-33

No Detections.

Client Sample ID: AT5-087 D-W — Lab Sample ID: 180-44667-34

No Detections.

Client Sample ID: AT5-087 E-W — Lab Sample ID: 180-44667-35

No Detections.

Client Sample ID: AT5-088 A-W — Lab Sample ID: 180-44667-36

No Detections.

This Detection Summary does not include radiochemical test results.

Certification Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44667-2

Laboratory: TestAmerica Pittsburgh

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-16
California	State Program	9	2891	03-31-16
Connecticut	State Program	1	PH-0688	09-30-16
Florida	NELAP	4	E871008	06-30-16
Illinois	NELAP	5	002602	06-30-16
Kansas	NELAP	7	E-10350	07-31-15
Louisiana	NELAP	6	04041	06-30-16
New Hampshire	NELAP	1	203011	04-04-16
New Jersey	NELAP	2	PA005	09-30-15
New York	NELAP	2	11182	03-31-16
North Carolina (WW/SW)	State Program	4	434	12-31-15
Pennsylvania	NELAP	3	02-00416	04-30-16
South Carolina	State Program	4	89014	06-30-15 *
Texas	NELAP	6	T104704528	03-31-16
US Fish & Wildlife	Federal		LE94312A-1	11-30-15
USDA	Federal		P-Soil-01	05-23-16
Utah	NELAP	8	STLP	05-31-16
Virginia	NELAP	3	460189	09-14-15
West Virginia DEP	State Program	3	142	01-31-16
Wisconsin	State Program	5	998027800	08-31-15

* Certification renewal pending - certification considered valid.

Sample Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44667-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-44667-1	AT5-081 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-2	AT5-081 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-3	AT5-081 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-4	AT5-081 D-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-5	AT5-081 E-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-6	AT5-082 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-7	AT5-082 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-8	AT5-082 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-9	AT5-082 D-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-10	AT5-082 E-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-11	AT5-083 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-12	AT5-083 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-13	AT5-083 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-14	AT5-083 D-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-15	AT5-083 E-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-16	AT5-084 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-17	AT5-084 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-18	AT5-084 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-19	AT5-084 D-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-20	AT5-084 E-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-21	AT5-085 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-22	AT5-085 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-23	AT5-085 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-24	AT5-085 D-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-25	AT5-085 E-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-26	AT5-086 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-27	AT5-086 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-28	AT5-086 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-29	AT5-086 D-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-30	AT5-086 E-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-31	AT5-087 A-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-32	AT5-087 B-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-33	AT5-087 C-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-34	AT5-087 D-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-35	AT5-087 E-W	Tissue	05/21/15 12:00	05/29/15 08:50
180-44667-36	AT5-088 A-W	Tissue	05/21/15 12:00	05/29/15 08:50

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Sample Receipt Documentation 94

Trace Level Organics 100
Raw Sample Data 101
Standards Data 1664
Initial Calibration 140516iepa.pdf 1665
Continuing Calibration 150713s1.pdf 1922
Continuing Calibration 150713s2.pdf 2003
Continuing Calibration 150714s1.pdf 2087
Continuing Calibration 150714s2.pdf 2167
Continuing Calibration 150715s1.pdf 2247
Continuing Calibration 150715s2.pdf 2327
Raw QC Data 2407
Miscellaneous Data 2628

Sample Receipt Documentation 2643

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-44667-2

CBBT Thimble Shoal

Lot #: H5F190412

Carrie Gamber

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.

Bruce Wagner
Project Manager

July 16, 2015

ANALYTICAL METHODS SUMMARY

H5F190412

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

SAMPLE SUMMARY

H5F190412

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M64E8	001	AT5-081 A-W	05/21/15	12:00
M64E9	002	AT5-081 B-W	05/21/15	12:00
M64FA	003	AT5-081 C-W	05/21/15	12:00
M64FC	004	AT5-081 D-W	05/21/15	12:00
M64FD	005	AT5-081 E-W	05/21/15	12:00
M64FE	006	AT5-082 A-W	05/21/15	12:00
M64FF	007	AT5-082 B-W	05/21/15	12:00
M64FG	008	AT5-082 C-W	05/21/15	12:00
M64FH	009	AT5-082 D-W	05/21/15	12:00
M64FJ	010	AT5-082 E-W	05/21/15	12:00
M64FK	011	AT5-083 A-W	05/21/15	12:00
M64FL	012	AT5-083 B-W	05/21/15	12:00
M64FM	013	AT5-083 C-W	05/21/15	12:00
M64FN	014	AT5-083 D-W	05/21/15	12:00
M64FP	015	AT5-083 E-W	05/21/15	12:00
M64FQ	016	AT5-084 A-W	05/21/15	12:00
M64FR	017	AT5-084 B-W	05/21/15	12:00
M64FT	018	AT5-084 C-W	05/21/15	12:00
M64FV	019	AT5-084 D-W	05/21/15	12:00
M64FW	020	AT5-084 E-W	05/21/15	12:00
M64FX	021	AT5-085 A-W	05/21/15	12:00
M64F0	022	AT5-085 B-W	05/21/15	12:00
M64F1	023	AT5-085 C-W	05/21/15	12:00
M64F2	024	AT5-085 D-W	05/21/15	12:00
M64F3	025	AT5-085 E-W	05/21/15	12:00
M64F4	026	AT5-086 A-W	05/21/15	12:00
M64F5	027	AT5-086 B-W	05/21/15	12:00
M64F6	028	AT5-086 C-W	05/21/15	12:00
M64F7	029	AT5-086 D-W	05/21/15	12:00
M64F8	030	AT5-086 E-W	05/21/15	12:00
M64F9	031	AT5-087 A-W	05/21/15	12:00
M64GA	032	AT5-087 B-W	05/21/15	12:00
M64GC	033	AT5-087 C-W	05/21/15	12:00
M64GD	034	AT5-087 D-W	05/21/15	12:00
M64GE	035	AT5-087 E-W	05/21/15	12:00
M64GF	036	AT5-088 A-W	05/21/15	12:00

(Continued on next page)

SAMPLE SUMMARY

H5F190412

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
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The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

Comments:

All 2378-TCDF results which met all qualitative requirements and were reported from the Rtx-5 column are qualified with an "X". This was done to indicate that the Rtx-5 column is not isomer specific for 2378-TCDF.

All positive 2378-TCDF results at or above the minimum level were confirmed on a DB-225 column. Sample AT5-083 B-W exhibited a co-eluting non-2378-TCDF interference on the DB-225 column which falsely elevated the 2378-TCDF calculated amount. The lower 2378-TCDF result reported for this sample was from the Rtx-5 column. The Rtx-5 column is not isomer specific for 2378-TCDF and should be considered the highest amount possible. Please note that raw data is provided for reported results only.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample

PROJECT NARRATIVE
H5F190412

extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

PROJECT NARRATIVE
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S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated

PROJECT NARRATIVE
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estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of $\geq$2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: AT5-081 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 001	**Work Order #....:**	M64E81AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	9.2 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/13/15	1	ND	1.1	0.070	1.0	0.070
1,2,3,7,8-PeCDD	**7/13/15**	**1**	**0.28 Q B J**	**5.4**	**0.031**	**0.5**	**0.14**
1,2,3,4,7,8-HxCDD	7/13/15	1	ND	5.4	0.013	0.1	0.0013
1,2,3,6,7,8-HxCDD	**7/13/15**	**1**	**0.14 B J**	**5.4**	**0.013**	**0.1**	**0.014**
1,2,3,7,8,9-HxCDD	7/13/15	1	ND	5.4	0.012	0.1	0.0012
1,2,3,4,6,7,8-HpCDD	**7/13/15**	**1**	**0.66 J**	**5.4**	**0.018**	**0.01**	**0.0066**
OCDD	**7/13/15**	**1**	**2.7 B J**	**11**	**0.010**	**0.001**	**0.0027**
2,3,7,8-TCDF	**7/13/15**	**1**	**0.53 Q J**	**1.1**	**0.022**	**0.1**	**0.053**
1,2,3,7,8-PeCDF	7/13/15	1	ND	5.4	0.020	0.05	0.0010
2,3,4,7,8-PeCDF	**7/13/15**	**1**	**0.14 J**	**5.4**	**0.019**	**0.5**	**0.070**
1,2,3,4,7,8-HxCDF	**7/13/15**	**1**	**0.063 J**	**5.4**	**0.015**	**0.1**	**0.0063**
1,2,3,6,7,8-HxCDF	**7/13/15**	**1**	**0.67 Q B J**	**5.4**	**0.015**	**0.1**	**0.067**
2,3,4,6,7,8-HxCDF	**7/13/15**	**1**	**0.071 Q J**	**5.4**	**0.016**	**0.1**	**0.0071**
1,2,3,7,8,9-HxCDF	7/13/15	1	ND	5.4	0.020	0.1	0.0020
1,2,3,4,6,7,8-HpCDF	**7/13/15**	**1**	**0.26 Q B J**	**5.4**	**0.012**	**0.01**	**0.0026**
1,2,3,4,7,8,9-HpCDF	7/13/15	1	ND	5.4	0.017	0.01	0.00017
OCDF	**7/13/15**	**1**	**0.28 Q B J**	**11**	**0.0034**	**0.001**	**0.00028**
Total TEQ Concentration							**0.45**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	70	(25 - 164)
13C-1,2,3,7,8-PeCDD	72	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	74	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	75	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	82	(23 - 140)
13C-OCDD	76	(17 - 157)
13C-2,3,7,8-TCDF	68	(24 - 169)
13C-1,2,3,7,8-PeCDF	69	(24 - 185)
13C-2,3,4,7,8-PeCDF	70	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	76	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	71	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	73	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	71	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	78	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	78	(26 - 138)
13C-OCDF	70	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-081 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-081 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 002	**Work Order #....:**	M64E91AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	9.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**7/13/15**	**1**	**0.074 Q J**	**1.1**	**0.057**	**1.0**	**0.074**
1,2,3,7,8-PeCDD	**7/13/15**	**1**	**0.22 Q B J**	**5.5**	**0.025**	**0.5**	**0.11**
1,2,3,4,7,8-HxCDD	7/13/15	1	ND	5.5	0.016	0.1	0.0016
1,2,3,6,7,8-HxCDD	**7/13/15**	**1**	**0.20 Q B J**	**5.5**	**0.017**	**0.1**	**0.020**
1,2,3,7,8,9-HxCDD	**7/13/15**	**1**	**0.094 J**	**5.5**	**0.015**	**0.1**	**0.0094**
1,2,3,4,6,7,8-HpCDD	**7/13/15**	**1**	**0.81 J**	**5.5**	**0.017**	**0.01**	**0.0081**
OCDD	**7/13/15**	**1**	**3.6 B J**	**11**	**0.034**	**0.001**	**0.0036**
2,3,7,8-TCDF	**7/13/15**	**1**	**0.93 J**	**1.1**	**0.023**	**0.1**	**0.093**
1,2,3,7,8-PeCDF	**7/13/15**	**1**	**0.11 J**	**5.5**	**0.018**	**0.05**	**0.0055**
2,3,4,7,8-PeCDF	**7/13/15**	**1**	**0.16 Q J**	**5.5**	**0.017**	**0.5**	**0.080**
1,2,3,4,7,8-HxCDF	**7/13/15**	**1**	**0.12 Q J**	**5.5**	**0.013**	**0.1**	**0.012**
1,2,3,6,7,8-HxCDF	**7/13/15**	**1**	**0.42 Q B J**	**5.5**	**0.013**	**0.1**	**0.042**
2,3,4,6,7,8-HxCDF	7/13/15	1	ND	5.5	0.014	0.1	0.0014
1,2,3,7,8,9-HxCDF	7/13/15	1	ND	5.5	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDF	**7/13/15**	**1**	**0.38 Q B J**	**5.5**	**0.0076**	**0.01**	**0.0038**
1,2,3,4,7,8,9-HpCDF	**7/13/15**	**1**	**0.057 Q B J**	**5.5**	**0.011**	**0.01**	**0.00057**
OCDF	**7/13/15**	**1**	**0.38 Q B J**	**11**	**0.013**	**0.001**	**0.00038**
Total TEQ Concentration							**0.47**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	68	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	72	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	81	(23 - 140)
13C-OCDD	72	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	69	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	74	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	73	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	72	(26 - 138)
13C-OCDF	62	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-081 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	82	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-081 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 003	**Work Order #....:**	M64FA1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/13/15	1	ND	1.0	0.058	1.0	0.058
1,2,3,7,8-PeCDD	7/13/15	1	ND	5.0	0.021	0.5	0.010
1,2,3,4,7,8-HxCDD	7/13/15	1	ND	5.0	0.013	0.1	0.0013
1,2,3,6,7,8-HxCDD	**7/13/15**	**1**	**0.10 Q B J**	**5.0**	**0.013**	**0.1**	**0.010**
1,2,3,7,8,9-HxCDD	**7/13/15**	**1**	**0.031 Q J**	**5.0**	**0.012**	**0.1**	**0.0031**
1,2,3,4,6,7,8-HpCDD	**7/13/15**	**1**	**0.65 J**	**5.0**	**0.015**	**0.01**	**0.0065**
OCDD	**7/13/15**	**1**	**2.9 B J**	**10**	**0.021**	**0.001**	**0.0029**
2,3,7,8-TCDF	**7/13/15**	**1**	**0.74 Q J**	**1.0**	**0.023**	**0.1**	**0.074**
1,2,3,7,8-PeCDF	7/13/15	1	ND	5.0	0.024	0.05	0.0012
2,3,4,7,8-PeCDF	**7/13/15**	**1**	**0.18 Q J**	**5.0**	**0.023**	**0.5**	**0.090**
1,2,3,4,7,8-HxCDF	**7/13/15**	**1**	**0.21 Q J**	**5.0**	**0.017**	**0.1**	**0.021**
1,2,3,6,7,8-HxCDF	**7/13/15**	**1**	**0.57 Q B J**	**5.0**	**0.017**	**0.1**	**0.057**
2,3,4,6,7,8-HxCDF	**7/13/15**	**1**	**0.063 Q J**	**5.0**	**0.018**	**0.1**	**0.0063**
1,2,3,7,8,9-HxCDF	7/13/15	1	ND	5.0	0.022	0.1	0.0022
1,2,3,4,6,7,8-HpCDF	**7/13/15**	**1**	**0.25 Q B J**	**5.0**	**0.011**	**0.01**	**0.0025**
1,2,3,4,7,8,9-HpCDF	7/13/15	1	ND	5.0	0.016	0.01	0.00016
OCDF	**7/13/15**	**1**	**0.32 B J**	**10**	**0.013**	**0.001**	**0.00032**
Total TEQ Concentration							**0.35**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	68	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	71	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	76	(23 - 140)
13C-OCDD	70	(17 - 157)
13C-2,3,7,8-TCDF	65	(24 - 169)
13C-1,2,3,7,8-PeCDF	68	(24 - 185)
13C-2,3,4,7,8-PeCDF	67	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	69	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	69	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	71	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	72	(26 - 138)
13C-OCDF	62	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-081 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	81	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-081 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 004	Work Order #....:	M64FC1AA	Matrix.....:	TA
Date Sampled....:	05/21/15	Date Received....:	06/19/15	Units....:	pg/g
Prep Date....:	07/01/15			Dilution Factor:	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	10 g	Instrument ID....:	D2A	Method....:	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**7/13/15**	**1**	**0.10 Q J**	**1.0**	**0.063**	**1.0**	**0.10**
1,2,3,7,8-PeCDD	**7/13/15**	**1**	**0.18 Q B J**	**5.0**	**0.027**	**0.5**	**0.090**
1,2,3,4,7,8-HxCDD	7/13/15	1	ND	5.0	0.013	0.1	0.0013
1,2,3,6,7,8-HxCDD	**7/13/15**	**1**	**0.062 Q B J**	**5.0**	**0.013**	**0.1**	**0.0062**
1,2,3,7,8,9-HxCDD	7/13/15	1	ND	5.0	0.012	0.1	0.0012
1,2,3,4,6,7,8-HpCDD	**7/13/15**	**1**	**0.59 J**	**5.0**	**0.012**	**0.01**	**0.0059**
OCDD	**7/13/15**	**1**	**3.1 B J**	**10**	**0.029**	**0.001**	**0.0031**
2,3,7,8-TCDF	**7/13/15**	**1**	**0.53 Q J**	**1.0**	**0.018**	**0.1**	**0.053**
1,2,3,7,8-PeCDF	7/13/15	1	ND	5.0	0.016	0.05	0.00080
2,3,4,7,8-PeCDF	**7/13/15**	**1**	**0.13 Q J**	**5.0**	**0.015**	**0.5**	**0.065**
1,2,3,4,7,8-HxCDF	**7/13/15**	**1**	**0.054 Q J**	**5.0**	**0.011**	**0.1**	**0.0054**
1,2,3,6,7,8-HxCDF	**7/13/15**	**1**	**0.35 Q B J**	**5.0**	**0.011**	**0.1**	**0.035**
2,3,4,6,7,8-HxCDF	7/13/15	1	ND	5.0	0.011	0.1	0.0011
1,2,3,7,8,9-HxCDF	7/13/15	1	ND	5.0	0.015	0.1	0.0015
1,2,3,4,6,7,8-HpCDF	**7/13/15**	**1**	**0.30 Q B J**	**5.0**	**0.0064**	**0.01**	**0.0030**
1,2,3,4,7,8,9-HpCDF	7/13/15	1	ND	5.0	0.0091	0.01	0.000091
OCDF	**7/13/15**	**1**	**0.26 Q B J**	**10**	**0.012**	**0.001**	**0.00026**
Total TEQ Concentration							**0.37**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	68	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	79	(23 - 140)
13C-OCDD	71	(17 - 157)
13C-2,3,7,8-TCDF	64	(24 - 169)
13C-1,2,3,7,8-PeCDF	68	(24 - 185)
13C-2,3,4,7,8-PeCDF	69	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	69	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	72	(26 - 138)
13C-OCDF	63	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-081 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-081 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 005	Work Order #....:	M64FD1AA	Matrix.....:	TA
Date Sampled....:	05/21/15	Date Received....:	06/19/15	Units....:	pg/g
Prep Date....:	07/01/15			Dilution Factor:	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	10 g	Instrument ID....:	D2A	Method....:	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/13/15	1	ND	1.0	0.059	1.0	0.059
1,2,3,7,8-PeCDD	**7/13/15**	**1**	**0.039 Q B J**	**5.0**	**0.021**	**0.5**	**0.020**
1,2,3,4,7,8-HxCDD	7/13/15	1	ND	5.0	0.012	0.1	0.0012
1,2,3,6,7,8-HxCDD	**7/13/15**	**1**	**0.11 Q B J**	**5.0**	**0.012**	**0.1**	**0.011**
1,2,3,7,8,9-HxCDD	**7/13/15**	**1**	**0.032 Q J**	**5.0**	**0.011**	**0.1**	**0.0032**
1,2,3,4,6,7,8-HpCDD	**7/13/15**	**1**	**0.50 Q J**	**5.0**	**0.017**	**0.01**	**0.0050**
OCDD	**7/13/15**	**1**	**2.7 B J**	**10**	**0.012**	**0.001**	**0.0027**
2,3,7,8-TCDF	**7/13/15**	**1**	**0.56 Q J**	**1.0**	**0.022**	**0.1**	**0.056**
1,2,3,7,8-PeCDF	7/13/15	1	ND	5.0	0.018	0.05	0.00090
2,3,4,7,8-PeCDF	**7/13/15**	**1**	**0.079 Q J**	**5.0**	**0.017**	**0.5**	**0.040**
1,2,3,4,7,8-HxCDF	**7/13/15**	**1**	**0.16 J**	**5.0**	**0.015**	**0.1**	**0.016**
1,2,3,6,7,8-HxCDF	**7/13/15**	**1**	**0.41 Q B J**	**5.0**	**0.015**	**0.1**	**0.041**
2,3,4,6,7,8-HxCDF	7/13/15	1	ND	5.0	0.015	0.1	0.0015
1,2,3,7,8,9-HxCDF	7/13/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDF	**7/13/15**	**1**	**0.17 Q B J**	**5.0**	**0.0072**	**0.01**	**0.0017**
1,2,3,4,7,8,9-HpCDF	7/13/15	1	ND	5.0	0.010	0.01	0.00010
OCDF	**7/13/15**	**1**	**0.17 Q B J**	**10**	**0.0046**	**0.001**	**0.00017**
Total TEQ Concentration							**0.26**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	65	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	78	(23 - 140)
13C-OCDD	68	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	68	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	69	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	69	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	70	(26 - 138)
13C-OCDF	60	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-081 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-082 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 006	**Work Order #....:**	M64FE1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units.....:**	pg/g
Prep Date....:	07/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/13/15	1	ND	0.99	0.057	1.0	0.057
1,2,3,7,8-PeCDD	**7/13/15**	**1**	**0.12 Q B J**	**5.0**	**0.029**	**0.5**	**0.060**
1,2,3,4,7,8-HxCDD	7/13/15	1	ND	5.0	0.013	0.1	0.0013
1,2,3,6,7,8-HxCDD	**7/13/15**	**1**	**0.076 Q B J**	**5.0**	**0.013**	**0.1**	**0.0076**
1,2,3,7,8,9-HxCDD	**7/13/15**	**1**	**0.057 Q J**	**5.0**	**0.012**	**0.1**	**0.0057**
1,2,3,4,6,7,8-HpCDD	**7/13/15**	**1**	**0.70 J**	**5.0**	**0.015**	**0.01**	**0.0070**
OCDD	**7/13/15**	**1**	**3.2 B J**	**9.9**	**0.020**	**0.001**	**0.0032**
2,3,7,8-TCDF	**7/13/15**	**1**	**0.55 Q J**	**0.99**	**0.021**	**0.1**	**0.055**
1,2,3,7,8-PeCDF	7/13/15	1	ND	5.0	0.021	0.05	0.0010
2,3,4,7,8-PeCDF	**7/13/15**	**1**	**0.17 J**	**5.0**	**0.021**	**0.5**	**0.085**
1,2,3,4,7,8-HxCDF	**7/13/15**	**1**	**0.37 Q J**	**5.0**	**0.013**	**0.1**	**0.037**
1,2,3,6,7,8-HxCDF	**7/13/15**	**1**	**0.57 Q B J**	**5.0**	**0.013**	**0.1**	**0.057**
2,3,4,6,7,8-HxCDF	**7/13/15**	**1**	**0.094 Q J**	**5.0**	**0.013**	**0.1**	**0.0094**
1,2,3,7,8,9-HxCDF	7/13/15	1	ND	5.0	0.017	0.1	0.0017
1,2,3,4,6,7,8-HpCDF	**7/13/15**	**1**	**1.1 B J**	**5.0**	**0.0069**	**0.01**	**0.011**
1,2,3,4,7,8,9-HpCDF	**7/13/15**	**1**	**0.072 B J**	**5.0**	**0.0098**	**0.01**	**0.00072**
OCDF	**7/13/15**	**1**	**0.82 B J**	**9.9**	**0.0093**	**0.001**	**0.00082**
Total TEQ Concentration							**0.40**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	68	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	69	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	67	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	64	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	69	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	69	(26 - 138)
13C-OCDF	59	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-082 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	78	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-082 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 007	**Work Order #....:**	M64FF1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	9.2 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	1.1	0.070	1.0	0.070
1,2,3,7,8-PeCDD	**7/14/15**	**1**	**0.20 Q B J**	**5.4**	**0.030**	**0.5**	**0.10**
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	5.4	0.014	0.1	0.0014
1,2,3,6,7,8-HxCDD	**7/14/15**	**1**	**0.13 Q B J**	**5.4**	**0.015**	**0.1**	**0.013**
1,2,3,7,8,9-HxCDD	7/14/15	1	ND	5.4	0.014	0.1	0.0014
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.79 J**	**5.4**	**0.017**	**0.01**	**0.0079**
OCDD	**7/14/15**	**1**	**2.4 B J**	**11**	**0.0093**	**0.001**	**0.0024**
2,3,7,8-TCDF	**7/14/15**	**1**	**0.74 J**	**1.1**	**0.025**	**0.1**	**0.074**
1,2,3,7,8-PeCDF	7/14/15	1	ND	5.4	0.031	0.05	0.0015
2,3,4,7,8-PeCDF	**7/14/15**	**1**	**0.13 Q J**	**5.4**	**0.029**	**0.5**	**0.065**
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.31 J**	**5.4**	**0.015**	**0.1**	**0.031**
1,2,3,6,7,8-HxCDF	**7/14/15**	**1**	**0.92 Q B J**	**5.4**	**0.014**	**0.1**	**0.092**
2,3,4,6,7,8-HxCDF	**7/14/15**	**1**	**0.054 Q J**	**5.4**	**0.015**	**0.1**	**0.0054**
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.4	0.020	0.1	0.0020
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.28 Q B J**	**5.4**	**0.011**	**0.01**	**0.0028**
1,2,3,4,7,8,9-HpCDF	**7/14/15**	**1**	**0.080 B J**	**5.4**	**0.017**	**0.01**	**0.00080**
OCDF	**7/14/15**	**1**	**0.27 Q B J**	**11**	**0.0044**	**0.001**	**0.00027**
Total TEQ Concentration							**0.47**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	71	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	74	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	76	(23 - 140)
13C-OCDD	67	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	68	(24 - 185)
13C-2,3,4,7,8-PeCDF	70	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	69	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	68	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	73	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	69	(26 - 138)
13C-OCDF	61	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-082 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	85	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-082 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 008	**Work Order #....:**	M64FG1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	9.2 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID.....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	1.1	0.059	1.0	0.059
1,2,3,7,8-PeCDD	**7/14/15**	**1**	**0.22 Q B J**	**5.4**	**0.024**	**0.5**	**0.11**
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	5.4	0.012	0.1	0.0012
1,2,3,6,7,8-HxCDD	**7/14/15**	**1**	**0.10 B J**	**5.4**	**0.012**	**0.1**	**0.010**
1,2,3,7,8,9-HxCDD	**7/14/15**	**1**	**0.069 Q J**	**5.4**	**0.011**	**0.1**	**0.0069**
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.72 J**	**5.4**	**0.015**	**0.01**	**0.0072**
OCDD	**7/14/15**	**1**	**3.2 B J**	**11**	**0.011**	**0.001**	**0.0032**
2,3,7,8-TCDF	**7/14/15**	**1**	**0.38 Q J**	**1.1**	**0.016**	**0.1**	**0.038**
1,2,3,7,8-PeCDF	7/14/15	1	ND	5.4	0.017	0.05	0.00085
2,3,4,7,8-PeCDF	**7/14/15**	**1**	**0.11 J**	**5.4**	**0.017**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.14 Q J**	**5.4**	**0.014**	**0.1**	**0.014**
1,2,3,6,7,8-HxCDF	**7/14/15**	**1**	**0.66 Q B J**	**5.4**	**0.013**	**0.1**	**0.066**
2,3,4,6,7,8-HxCDF	7/14/15	1	ND	5.4	0.014	0.1	0.0014
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.4	0.017	0.1	0.0017
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.22 Q B J**	**5.4**	**0.0067**	**0.01**	**0.0022**
1,2,3,4,7,8,9-HpCDF	**7/14/15**	**1**	**0.032 Q B J**	**5.4**	**0.0096**	**0.01**	**0.00032**
OCDF	**7/14/15**	**1**	**0.22 B J**	**11**	**0.0069**	**0.001**	**0.00022**
Total TEQ Concentration							**0.38**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	76	(25 - 164)
13C-1,2,3,7,8-PeCDD	74	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	76	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	74	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	81	(23 - 140)
13C-OCDD	73	(17 - 157)
13C-2,3,7,8-TCDF	71	(24 - 169)
13C-1,2,3,7,8-PeCDF	74	(24 - 185)
13C-2,3,4,7,8-PeCDF	72	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	75	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	71	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	73	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	72	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	73	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	74	(26 - 138)
13C-OCDF	64	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-082 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	89	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-082 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 009	**Work Order #....:**	M64FH1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	9.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	1.1	0.062	1.0	0.062
1,2,3,7,8-PeCDD	**7/14/15**	**1**	**0.16 Q B J**	**5.5**	**0.031**	**0.5**	**0.080**
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	5.5	0.013	0.1	0.0013
1,2,3,6,7,8-HxCDD	**7/14/15**	**1**	**0.090 Q B J**	**5.5**	**0.014**	**0.1**	**0.0090**
1,2,3,7,8,9-HxCDD	7/14/15	1	ND	5.5	0.013	0.1	0.0013
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.51 Q J**	**5.5**	**0.015**	**0.01**	**0.0051**
OCDD	**7/14/15**	**1**	**2.7 B J**	**11**	**0.026**	**0.001**	**0.0027**
2,3,7,8-TCDF	**7/14/15**	**1**	**0.51 Q J**	**1.1**	**0.019**	**0.1**	**0.051**
1,2,3,7,8-PeCDF	7/14/15	1	ND	5.5	0.021	0.05	0.0010
2,3,4,7,8-PeCDF	**7/14/15**	**1**	**0.11 Q J**	**5.5**	**0.019**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.059 J**	**5.5**	**0.013**	**0.1**	**0.0059**
1,2,3,6,7,8-HxCDF	**7/14/15**	**1**	**0.45 Q B J**	**5.5**	**0.014**	**0.1**	**0.045**
2,3,4,6,7,8-HxCDF	**7/14/15**	**1**	**0.044 Q J**	**5.5**	**0.015**	**0.1**	**0.0044**
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.5	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.24 B J**	**5.5**	**0.0072**	**0.01**	**0.0024**
1,2,3,4,7,8,9-HpCDF	**7/14/15**	**1**	**0.062 Q B J**	**5.5**	**0.011**	**0.01**	**0.00062**
OCDF	**7/14/15**	**1**	**0.23 B J**	**11**	**0.011**	**0.001**	**0.00023**
Total TEQ Concentration							**0.33**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	71	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	80	(23 - 140)
13C-OCDD	71	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	69	(24 - 185)
13C-2,3,4,7,8-PeCDF	71	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	74	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	71	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	69	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	73	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	71	(26 - 138)
13C-OCDF	63	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-082 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	84	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-082 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 010	Work Order #....:	M64FJ1AA	Matrix.....:	TA
Date Sampled....:	05/21/15	Date Received....:	06/19/15	Units....:	pg/g
Prep Date....:	07/01/15			Dilution Factor:	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	9.1 g	Instrument ID....:	D2A	Method....:	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**7/14/15**	**1**	**0.084 Q J**	**1.1**	**0.053**	**1.0**	**0.084**
1,2,3,7,8-PeCDD	**7/14/15**	**1**	**0.23 Q B J**	**5.5**	**0.023**	**0.5**	**0.12**
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	5.5	0.012	0.1	0.0012
1,2,3,6,7,8-HxCDD	**7/14/15**	**1**	**0.070 Q B J**	**5.5**	**0.012**	**0.1**	**0.0070**
1,2,3,7,8,9-HxCDD	**7/14/15**	**1**	**0.062 J**	**5.5**	**0.011**	**0.1**	**0.0062**
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.47 J**	**5.5**	**0.016**	**0.01**	**0.0047**
OCDD	**7/14/15**	**1**	**1.9 B J**	**11**	**0.027**	**0.001**	**0.0019**
2,3,7,8-TCDF	**7/14/15**	**1**	**0.36 J**	**1.1**	**0.017**	**0.1**	**0.036**
1,2,3,7,8-PeCDF	**7/14/15**	**1**	**0.077 J**	**5.5**	**0.018**	**0.05**	**0.0038**
2,3,4,7,8-PeCDF	**7/14/15**	**1**	**0.083 J**	**5.5**	**0.016**	**0.5**	**0.042**
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.037 J**	**5.5**	**0.015**	**0.1**	**0.0037**
1,2,3,6,7,8-HxCDF	**7/14/15**	**1**	**0.38 Q B J**	**5.5**	**0.014**	**0.1**	**0.038**
2,3,4,6,7,8-HxCDF	7/14/15	1	ND	5.5	0.016	0.1	0.0016
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.5	0.019	0.1	0.0019
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.14 Q B J**	**5.5**	**0.0059**	**0.01**	**0.0014**
1,2,3,4,7,8,9-HpCDF	**7/14/15**	**1**	**0.044 Q B J**	**5.5**	**0.0086**	**0.01**	**0.00044**
OCDF	**7/14/15**	**1**	**0.15 Q B J**	**11**	**0.014**	**0.001**	**0.00015**
Total TEQ Concentration							**0.35**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	69	(25 - 164)
13C-1,2,3,7,8-PeCDD	68	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	68	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	65	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	69	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	66	(26 - 138)
13C-OCDF	58	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-082 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	79	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-083 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 011	Work Order #....:	M64FK1AA	Matrix.....:	TA
Date Sampled....:	05/21/15	Date Received....:	06/19/15	Units....:	pg/g
Prep Date....:	07/01/15			Dilution Factor:	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	10 g	Instrument ID....:	D2A	Method....:	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	1.0	0.060	1.0	0.060
1,2,3,7,8-PeCDD	**7/14/15**	**1**	**0.14 B J**	**5.0**	**0.028**	**0.5**	**0.070**
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	5.0	0.013	0.1	0.0013
1,2,3,6,7,8-HxCDD	**7/14/15**	**1**	**0.11 Q B J**	**5.0**	**0.014**	**0.1**	**0.011**
1,2,3,7,8,9-HxCDD	7/14/15	1	ND	5.0	0.013	0.1	0.0013
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.59 J**	**5.0**	**0.016**	**0.01**	**0.0059**
OCDD	**7/14/15**	**1**	**2.5 Q B J**	**10**	**0.015**	**0.001**	**0.0025**
2,3,7,8-TCDF	**7/14/15**	**1**	**0.68 J**	**1.0**	**0.024**	**0.1**	**0.068**
1,2,3,7,8-PeCDF	**7/14/15**	**1**	**0.11 J**	**5.0**	**0.021**	**0.05**	**0.0055**
2,3,4,7,8-PeCDF	**7/14/15**	**1**	**0.16 Q J**	**5.0**	**0.020**	**0.5**	**0.080**
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.051 Q J**	**5.0**	**0.013**	**0.1**	**0.0051**
1,2,3,6,7,8-HxCDF	**7/14/15**	**1**	**0.71 Q B J**	**5.0**	**0.012**	**0.1**	**0.071**
2,3,4,6,7,8-HxCDF	**7/14/15**	**1**	**0.079 Q J**	**5.0**	**0.014**	**0.1**	**0.0079**
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.27 Q B J**	**5.0**	**0.0089**	**0.01**	**0.0027**
1,2,3,4,7,8,9-HpCDF	7/14/15	1	ND	5.0	0.014	0.01	0.00014
OCDF	**7/14/15**	**1**	**0.29 Q B J**	**10**	**0.0086**	**0.001**	**0.00029**
Total TEQ Concentration							**0.39**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	64	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	64	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	72	(23 - 140)
13C-OCDD	64	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	67	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	62	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	65	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	61	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	62	(26 - 138)
13C-OCDF	57	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-083 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	72	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-083 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 012	Work Order #....:	M64FL1AA	Matrix.....:	TA
Date Sampled....:	05/21/15	Date Received....:	06/19/15	Units....:	pg/g
Prep Date....:	07/01/15			Dilution Factor:	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	9.7 g	Instrument ID....:	D2A	Method....:	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	1.0	0.066	1.0	0.066
1,2,3,7,8-PeCDD	7/14/15	1	ND	5.2	0.025	0.5	0.012
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	5.2	0.021	0.1	0.0021
1,2,3,6,7,8-HxCDD	**7/14/15**	**1**	**0.20 Q B J**	**5.2**	**0.021**	**0.1**	**0.020**
1,2,3,7,8,9-HxCDD	**7/14/15**	**1**	**0.13 Q J**	**5.2**	**0.020**	**0.1**	**0.013**
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.96 J**	**5.2**	**0.017**	**0.01**	**0.0096**
OCDD	**7/14/15**	**1**	**4.7 B J**	**10**	**0.034**	**0.001**	**0.0047**
2,3,7,8-TCDF	**7/14/15**	**1**	**1.1 X**	**1.0**	**0.037**	**0.1**	**0.11**
1,2,3,7,8-PeCDF	7/14/15	1	ND	5.2	0.030	0.05	0.0015
2,3,4,7,8-PeCDF	**7/14/15**	**1**	**0.29 Q J**	**5.2**	**0.027**	**0.5**	**0.14**
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.056 Q J**	**5.2**	**0.014**	**0.1**	**0.0056**
1,2,3,6,7,8-HxCDF	**7/14/15**	**1**	**0.96 Q B J**	**5.2**	**0.014**	**0.1**	**0.096**
2,3,4,6,7,8-HxCDF	**7/14/15**	**1**	**0.090 J**	**5.2**	**0.016**	**0.1**	**0.0090**
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.2	0.019	0.1	0.0019
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.36 B J**	**5.2**	**0.011**	**0.01**	**0.0036**
1,2,3,4,7,8,9-HpCDF	7/14/15	1	ND	5.2	0.015	0.01	0.00015
OCDF	**7/14/15**	**1**	**0.34 B J**	**10**	**0.017**	**0.001**	**0.00034**
Total TEQ Concentration							**0.50**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	70	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	73	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	79	(23 - 140)
13C-OCDD	69	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	71	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	71	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	70	(26 - 138)
13C-OCDF	61	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-083 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	83	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).
X	See project narrative.

TestAmerica Pittsburgh

Client Sample ID: AT5-083 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 013	**Work Order #....:**	M64FM1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	1.0	0.061	1.0	0.061
1,2,3,7,8-PeCDD	**7/14/15**	**1**	**0.18 Q B J**	**5.0**	**0.029**	**0.5**	**0.090**
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	5.0	0.013	0.1	0.0013
1,2,3,6,7,8-HxCDD	**7/14/15**	**1**	**0.10 Q B J**	**5.0**	**0.014**	**0.1**	**0.010**
1,2,3,7,8,9-HxCDD	**7/14/15**	**1**	**0.10 J**	**5.0**	**0.013**	**0.1**	**0.010**
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.80 J**	**5.0**	**0.013**	**0.01**	**0.0080**
OCDD	**7/14/15**	**1**	**6.5 B J**	**10**	**0.011**	**0.001**	**0.0065**
2,3,7,8-TCDF	**7/14/15**	**1**	**0.23 Q J**	**1.0**	**0.018**	**0.1**	**0.023**
1,2,3,7,8-PeCDF	7/14/15	1	ND	5.0	0.019	0.05	0.00095
2,3,4,7,8-PeCDF	**7/14/15**	**1**	**0.096 Q J**	**5.0**	**0.019**	**0.5**	**0.048**
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.079 Q J**	**5.0**	**0.021**	**0.1**	**0.0079**
1,2,3,6,7,8-HxCDF	**7/14/15**	**1**	**0.57 Q B J**	**5.0**	**0.021**	**0.1**	**0.057**
2,3,4,6,7,8-HxCDF	**7/14/15**	**1**	**0.10 Q J**	**5.0**	**0.022**	**0.1**	**0.010**
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.0	0.028	0.1	0.0028
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.29 Q B J**	**5.0**	**0.0076**	**0.01**	**0.0029**
1,2,3,4,7,8,9-HpCDF	**7/14/15**	**1**	**0.082 Q B J**	**5.0**	**0.011**	**0.01**	**0.00082**
OCDF	**7/14/15**	**1**	**0.32 Q B J**	**10**	**0.0038**	**0.001**	**0.00032**
Total TEQ Concentration							**0.34**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	72	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	78	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	76	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	82	(23 - 140)
13C-OCDD	72	(17 - 157)
13C-2,3,7,8-TCDF	69	(24 - 169)
13C-1,2,3,7,8-PeCDF	70	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	78	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	72	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	74	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	73	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	76	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	74	(26 - 138)
13C-OCDF	63	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-083 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	84	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-083 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 014	**Work Order #....:**	M64FN1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	0.99	0.071	1.0	0.071
1,2,3,7,8-PeCDD	**7/14/15**	**1**	**0.33 Q B J**	**5.0**	**0.042**	**0.5**	**0.16**
1,2,3,4,7,8-HxCDD	**7/14/15**	**1**	**0.052 Q B J**	**5.0**	**0.017**	**0.1**	**0.0052**
1,2,3,6,7,8-HxCDD	**7/14/15**	**1**	**0.092 B J**	**5.0**	**0.017**	**0.1**	**0.0092**
1,2,3,7,8,9-HxCDD	7/14/15	1	ND	5.0	0.016	0.1	0.0016
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.70 J**	**5.0**	**0.021**	**0.01**	**0.0070**
OCDD	**7/14/15**	**1**	**4.0 B J**	**9.9**	**0.048**	**0.001**	**0.0040**
2,3,7,8-TCDF	**7/14/15**	**1**	**0.43 Q J**	**0.99**	**0.026**	**0.1**	**0.043**
1,2,3,7,8-PeCDF	7/14/15	1	ND	5.0	0.027	0.05	0.0014
2,3,4,7,8-PeCDF	**7/14/15**	**1**	**0.16 J**	**5.0**	**0.026**	**0.5**	**0.080**
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.066 Q J**	**5.0**	**0.019**	**0.1**	**0.0066**
1,2,3,6,7,8-HxCDF	**7/14/15**	**1**	**0.92 Q B J**	**5.0**	**0.017**	**0.1**	**0.092**
2,3,4,6,7,8-HxCDF	7/14/15	1	ND	5.0	0.020	0.1	0.0020
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.0	0.026	0.1	0.0026
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.24 Q B J**	**5.0**	**0.010**	**0.01**	**0.0024**
1,2,3,4,7,8,9-HpCDF	**7/14/15**	**1**	**0.097 B J**	**5.0**	**0.015**	**0.01**	**0.00097**
OCDF	**7/14/15**	**1**	**0.34 B J**	**9.9**	**0.021**	**0.001**	**0.00034**
Total TEQ Concentration							**0.49**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	72	(23 - 140)
13C-OCDD	62	(17 - 157)
13C-2,3,7,8-TCDF	59	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	70	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	66	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	65	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	62	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	64	(26 - 138)
13C-OCDF	55	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-083 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	72	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-083 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 015	**Work Order #....:**	M64FP1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units.....:**	pg/g
Prep Date....:	07/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	1.0	0.052	1.0	0.052
1,2,3,7,8-PeCDD	**7/14/15**	**1**	**0.14 Q B J**	**5.0**	**0.020**	**0.5**	**0.070**
1,2,3,4,7,8-HxCDD	**7/14/15**	**1**	**0.045 B J**	**5.0**	**0.012**	**0.1**	**0.0045**
1,2,3,6,7,8-HxCDD	**7/14/15**	**1**	**0.12 Q B J**	**5.0**	**0.012**	**0.1**	**0.012**
1,2,3,7,8,9-HxCDD	7/14/15	1	ND	5.0	0.011	0.1	0.0011
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.65 J**	**5.0**	**0.015**	**0.01**	**0.0065**
OCDD	**7/14/15**	**1**	**3.0 B J**	**10**	**0.033**	**0.001**	**0.0030**
2,3,7,8-TCDF	**7/14/15**	**1**	**0.76 Q J**	**1.0**	**0.023**	**0.1**	**0.076**
1,2,3,7,8-PeCDF	**7/14/15**	**1**	**0.10 Q J**	**5.0**	**0.021**	**0.05**	**0.0050**
2,3,4,7,8-PeCDF	**7/14/15**	**1**	**0.15 Q J**	**5.0**	**0.021**	**0.5**	**0.075**
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.093 Q J**	**5.0**	**0.014**	**0.1**	**0.0093**
1,2,3,6,7,8-HxCDF	**7/14/15**	**1**	**0.68 Q B J**	**5.0**	**0.013**	**0.1**	**0.068**
2,3,4,6,7,8-HxCDF	7/14/15	1	ND	5.0	0.014	0.1	0.0014
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.29 B J**	**5.0**	**0.0072**	**0.01**	**0.0029**
1,2,3,4,7,8,9-HpCDF	7/14/15	1	ND	5.0	0.010	0.01	0.00010
OCDF	**7/14/15**	**1**	**0.32 B J**	**10**	**0.014**	**0.001**	**0.00032**
Total TEQ Concentration							**0.39**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	71	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	71	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	82	(23 - 140)
13C-OCDD	71	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	69	(24 - 185)
13C-2,3,4,7,8-PeCDF	69	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	71	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	77	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	75	(26 - 138)
13C-OCDF	62	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-083 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	82	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-084 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 016	**Work Order #....:**	M64FQ1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	9.7 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	1.0	0.062	1.0	0.062
1,2,3,7,8-PeCDD	**7/14/15**	**1**	**0.11 Q B J**	**5.2**	**0.028**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	5.2	0.014	0.1	0.0014
1,2,3,6,7,8-HxCDD	**7/14/15**	**1**	**0.083 Q B J**	**5.2**	**0.015**	**0.1**	**0.0083**
1,2,3,7,8,9-HxCDD	7/14/15	1	ND	5.2	0.014	0.1	0.0014
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.49 Q J**	**5.2**	**0.014**	**0.01**	**0.0049**
OCDD	**7/14/15**	**1**	**2.4 B J**	**10**	**0.031**	**0.001**	**0.0024**
2,3,7,8-TCDF	**7/14/15**	**1**	**0.52 J**	**1.0**	**0.019**	**0.1**	**0.052**
1,2,3,7,8-PeCDF	**7/14/15**	**1**	**0.070 Q J**	**5.2**	**0.023**	**0.05**	**0.0035**
2,3,4,7,8-PeCDF	**7/14/15**	**1**	**0.11 J**	**5.2**	**0.021**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.23 J**	**5.2**	**0.015**	**0.1**	**0.023**
1,2,3,6,7,8-HxCDF	**7/14/15**	**1**	**0.75 Q B J**	**5.2**	**0.015**	**0.1**	**0.075**
2,3,4,6,7,8-HxCDF	7/14/15	1	ND	5.2	0.015	0.1	0.0015
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.2	0.019	0.1	0.0019
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.15 Q B J**	**5.2**	**0.0083**	**0.01**	**0.0015**
1,2,3,4,7,8,9-HpCDF	**7/14/15**	**1**	**0.057 Q B J**	**5.2**	**0.011**	**0.01**	**0.00057**
OCDF	**7/14/15**	**1**	**0.16 Q B J**	**10**	**0.013**	**0.001**	**0.00016**
Total TEQ Concentration							**0.35**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	71	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	75	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	70	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	81	(23 - 140)
13C-OCDD	70	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	69	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	72	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	69	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	74	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	70	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	74	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	73	(26 - 138)
13C-OCDF	64	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-084 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	86	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-084 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 017	**Work Order #....:**	M64FR1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/01/15			**Dilution Factor:**	1
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	0.99	0.058	1.0	0.058
1,2,3,7,8-PeCDD	**7/14/15**	**1**	**0.19 Q B J**	**5.0**	**0.022**	**0.5**	**0.095**
1,2,3,4,7,8-HxCDD	**7/14/15**	**1**	**0.061 B J**	**5.0**	**0.013**	**0.1**	**0.0061**
1,2,3,6,7,8-HxCDD	**7/14/15**	**1**	**0.15 B J**	**5.0**	**0.013**	**0.1**	**0.015**
1,2,3,7,8,9-HxCDD	**7/14/15**	**1**	**0.057 Q J**	**5.0**	**0.012**	**0.1**	**0.0057**
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.66 Q J**	**5.0**	**0.017**	**0.01**	**0.0066**
OCDD	**7/14/15**	**1**	**2.4 B J**	**9.9**	**0.028**	**0.001**	**0.0024**
2,3,7,8-TCDF	**7/14/15**	**1**	**0.80 J**	**0.99**	**0.026**	**0.1**	**0.080**
1,2,3,7,8-PeCDF	7/14/15	1	ND	5.0	0.022	0.05	0.0011
2,3,4,7,8-PeCDF	**7/14/15**	**1**	**0.15 Q J**	**5.0**	**0.020**	**0.5**	**0.075**
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.34 Q J**	**5.0**	**0.016**	**0.1**	**0.034**
1,2,3,6,7,8-HxCDF	**7/14/15**	**1**	**1.3 Q B J**	**5.0**	**0.016**	**0.1**	**0.13**
2,3,4,6,7,8-HxCDF	**7/14/15**	**1**	**0.083 Q J**	**5.0**	**0.017**	**0.1**	**0.0083**
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.0	0.022	0.1	0.0022
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.29 Q B J**	**5.0**	**0.0076**	**0.01**	**0.0029**
1,2,3,4,7,8,9-HpCDF	**7/14/15**	**1**	**0.061 Q B J**	**5.0**	**0.011**	**0.01**	**0.00061**
OCDF	**7/14/15**	**1**	**0.26 Q B J**	**9.9**	**0.011**	**0.001**	**0.00026**
Total TEQ Concentration							**0.52**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	71	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	72	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	75	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	85	(23 - 140)
13C-OCDD	77	(17 - 157)
13C-2,3,7,8-TCDF	67	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	77	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	71	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	76	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	72	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	77	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	76	(26 - 138)
13C-OCDF	66	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-084 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	84	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-084 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 018	**Work Order #....:**	M64FT1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	0.99	0.075	1.0	0.075
1,2,3,7,8-PeCDD	**7/14/15**	**1**	**0.18 Q B J**	**5.0**	**0.025**	**0.5**	**0.090**
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	5.0	0.023	0.1	0.0023
1,2,3,6,7,8-HxCDD	**7/14/15**	**1**	**0.13 J**	**5.0**	**0.023**	**0.1**	**0.013**
1,2,3,7,8,9-HxCDD	7/14/15	1	ND	5.0	0.022	0.1	0.0022
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.49 Q B J**	**5.0**	**0.022**	**0.01**	**0.0049**
OCDD	**7/14/15**	**1**	**2.6 B J**	**9.9**	**0.056**	**0.001**	**0.0026**
2,3,7,8-TCDF	**7/14/15**	**1**	**0.15 Q J**	**0.99**	**0.019**	**0.1**	**0.015**
1,2,3,7,8-PeCDF	7/14/15	1	ND	5.0	0.019	0.05	0.00095
2,3,4,7,8-PeCDF	**7/14/15**	**1**	**0.084 Q B J**	**5.0**	**0.018**	**0.5**	**0.042**
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.043 Q J**	**5.0**	**0.020**	**0.1**	**0.0043**
1,2,3,6,7,8-HxCDF	**7/14/15**	**1**	**0.39 Q B J**	**5.0**	**0.020**	**0.1**	**0.039**
2,3,4,6,7,8-HxCDF	**7/14/15**	**1**	**0.095 Q J**	**5.0**	**0.020**	**0.1**	**0.0095**
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.0	0.024	0.1	0.0024
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.25 Q B J**	**5.0**	**0.0091**	**0.01**	**0.0025**
1,2,3,4,7,8,9-HpCDF	**7/14/15**	**1**	**0.067 B J**	**5.0**	**0.013**	**0.01**	**0.00067**
OCDF	**7/14/15**	**1**	**0.20 Q B J**	**9.9**	**0.024**	**0.001**	**0.00020**
Total TEQ Concentration							**0.31**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	55	(25 - 164)
13C-1,2,3,7,8-PeCDD	58	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	63	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	70	(23 - 140)
13C-OCDD	60	(17 - 157)
13C-2,3,7,8-TCDF	56	(24 - 169)
13C-1,2,3,7,8-PeCDF	60	(24 - 185)
13C-2,3,4,7,8-PeCDF	60	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	59	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	58	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	63	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	62	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	62	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	62	(26 - 138)
13C-OCDF	50	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-084 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	68	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-084 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 019	**Work Order #....:**	M64FV1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/14/15	1	ND	1.0	0.084	1.0	0.084
1,2,3,7,8-PeCDD	**7/14/15**	**1**	**0.096 Q B J**	**5.0**	**0.026**	**0.5**	**0.048**
1,2,3,4,7,8-HxCDD	7/14/15	1	ND	5.0	0.020	0.1	0.0020
1,2,3,6,7,8-HxCDD	**7/14/15**	**1**	**0.086 J**	**5.0**	**0.021**	**0.1**	**0.0086**
1,2,3,7,8,9-HxCDD	7/14/15	1	ND	5.0	0.019	0.1	0.0019
1,2,3,4,6,7,8-HpCDD	**7/14/15**	**1**	**0.46 Q B J**	**5.0**	**0.031**	**0.01**	**0.0046**
OCDD	**7/14/15**	**1**	**2.0 B J**	**10**	**0.028**	**0.001**	**0.0020**
2,3,7,8-TCDF	**7/14/15**	**1**	**0.65 J**	**1.0**	**0.027**	**0.1**	**0.065**
1,2,3,7,8-PeCDF	7/14/15	1	ND	5.0	0.027	0.05	0.0014
2,3,4,7,8-PeCDF	7/14/15	1	ND	5.0	0.025	0.5	0.012
1,2,3,4,7,8-HxCDF	**7/14/15**	**1**	**0.20 Q J**	**5.0**	**0.020**	**0.1**	**0.020**
1,2,3,6,7,8-HxCDF	**7/14/15**	**1**	**0.53 Q B J**	**5.0**	**0.021**	**0.1**	**0.053**
2,3,4,6,7,8-HxCDF	7/14/15	1	ND	5.0	0.021	0.1	0.0021
1,2,3,7,8,9-HxCDF	7/14/15	1	ND	5.0	0.025	0.1	0.0025
1,2,3,4,6,7,8-HpCDF	**7/14/15**	**1**	**0.16 Q B J**	**5.0**	**0.011**	**0.01**	**0.0016**
1,2,3,4,7,8,9-HpCDF	**7/14/15**	**1**	**0.055 B J**	**5.0**	**0.015**	**0.01**	**0.00055**
OCDF	**7/14/15**	**1**	**0.13 Q B J**	**10**	**0.019**	**0.001**	**0.00013**
Total TEQ Concentration							**0.31**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	57	(25 - 164)
13C-1,2,3,7,8-PeCDD	62	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	62	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	59	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	71	(23 - 140)
13C-OCDD	61	(17 - 157)
13C-2,3,7,8-TCDF	54	(24 - 169)
13C-1,2,3,7,8-PeCDF	60	(24 - 185)
13C-2,3,4,7,8-PeCDF	61	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	59	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	57	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	62	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	62	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	60	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	62	(26 - 138)
13C-OCDF	52	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

KNX_TEQ_V004.rpt Version 0.0.4, 05/01/2013

TestAmerica Pittsburgh

Client Sample ID: AT5-084 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	67	(35 - 197)

NOTES:

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When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-084 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 020	Work Order #....:	M64FW1AA	Matrix.....:	TA
Date Sampled....:	05/21/15	Date Received....:	06/19/15	Units....:	pg/g
Prep Date....:	07/06/15			Dilution Factor:	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10 g	Instrument ID....:	D2A	Method....:	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/15/15	1	ND	1.0	0.075	1.0	0.075
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.14 B J**	**5.0**	**0.024**	**0.5**	**0.070**
1,2,3,4,7,8-HxCDD	**7/15/15**	**1**	**0.039 Q J**	**5.0**	**0.012**	**0.1**	**0.0039**
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.10 J**	**5.0**	**0.012**	**0.1**	**0.010**
1,2,3,7,8,9-HxCDD	**7/15/15**	**1**	**0.078 B J**	**5.0**	**0.011**	**0.1**	**0.0078**
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.52 B J**	**5.0**	**0.023**	**0.01**	**0.0052**
OCDD	**7/15/15**	**1**	**2.2 B J**	**10**	**0.011**	**0.001**	**0.0022**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.26 Q J**	**1.0**	**0.020**	**0.1**	**0.026**
1,2,3,7,8-PeCDF	7/15/15	1	ND	5.0	0.024	0.05	0.0012
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.11 Q B J**	**5.0**	**0.022**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.062 Q J**	**5.0**	**0.016**	**0.1**	**0.0062**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.33 Q B J**	**5.0**	**0.014**	**0.1**	**0.033**
2,3,4,6,7,8-HxCDF	7/15/15	1	ND	5.0	0.015	0.1	0.0015
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.0	0.019	0.1	0.0019
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.20 Q B J**	**5.0**	**0.0076**	**0.01**	**0.0020**
1,2,3,4,7,8,9-HpCDF	**7/15/15**	**1**	**0.057 Q B J**	**5.0**	**0.011**	**0.01**	**0.00057**
OCDF	**7/15/15**	**1**	**0.23 Q B J**	**10**	**0.0065**	**0.001**	**0.00023**
Total TEQ Concentration							**0.30**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	58	(25 - 164)
13C-1,2,3,7,8-PeCDD	59	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	60	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	62	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	70	(23 - 140)
13C-OCDD	59	(17 - 157)
13C-2,3,7,8-TCDF	57	(24 - 169)
13C-1,2,3,7,8-PeCDF	57	(24 - 185)
13C-2,3,4,7,8-PeCDF	60	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	58	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	58	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	63	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	62	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	62	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	63	(26 - 138)
13C-OCDF	50	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-084 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	70	(35 - 197)

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When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-085 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 021	**Work Order #....:**	M64FX1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/15/15	1	ND	0.99	0.078	1.0	0.078
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.13 Q B J**	**5.0**	**0.026**	**0.5**	**0.065**
1,2,3,4,7,8-HxCDD	**7/15/15**	**1**	**0.053 Q J**	**5.0**	**0.014**	**0.1**	**0.0053**
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.14 Q J**	**5.0**	**0.014**	**0.1**	**0.014**
1,2,3,7,8,9-HxCDD	**7/15/15**	**1**	**0.048 Q B J**	**5.0**	**0.013**	**0.1**	**0.0048**
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.86 Q B J**	**5.0**	**0.031**	**0.01**	**0.0086**
OCDD	**7/15/15**	**1**	**3.8 B J**	**9.9**	**0.023**	**0.001**	**0.0038**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.46 Q J**	**0.99**	**0.030**	**0.1**	**0.046**
1,2,3,7,8-PeCDF	**7/15/15**	**1**	**0.14 Q J**	**5.0**	**0.026**	**0.05**	**0.0070**
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.17 Q B J**	**5.0**	**0.026**	**0.5**	**0.085**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.14 Q J**	**5.0**	**0.019**	**0.1**	**0.014**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.71 Q B J**	**5.0**	**0.019**	**0.1**	**0.071**
2,3,4,6,7,8-HxCDF	**7/15/15**	**1**	**0.069 Q J**	**5.0**	**0.017**	**0.1**	**0.0069**
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.0	0.022	0.1	0.0022
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.39 B J**	**5.0**	**0.011**	**0.01**	**0.0039**
1,2,3,4,7,8,9-HpCDF	7/15/15	1	ND	5.0	0.014	0.01	0.00014
OCDF	**7/15/15**	**1**	**0.20 Q B J**	**9.9**	**0.011**	**0.001**	**0.00020**
Total TEQ Concentration							**0.42**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	57	(25 - 164)
13C-1,2,3,7,8-PeCDD	57	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	61	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	58	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	70	(23 - 140)
13C-OCDD	60	(17 - 157)
13C-2,3,7,8-TCDF	56	(24 - 169)
13C-1,2,3,7,8-PeCDF	58	(24 - 185)
13C-2,3,4,7,8-PeCDF	58	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	57	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	56	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	64	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	64	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	59	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	64	(26 - 138)
13C-OCDF	52	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

KNL_PEC Vmdrpt Version 0.6.4, 05/01/2013

TestAmerica Pittsburgh

Client Sample ID: AT5-085 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	68	(35 - 197)

NOTES:

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When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-085 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 022	**Work Order #....:**	M64F01AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/15/15	1	ND	0.98	0.073	1.0	0.073
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.12 B J**	**4.9**	**0.020**	**0.5**	**0.060**
1,2,3,4,7,8-HxCDD	**7/15/15**	**1**	**0.069 Q J**	**4.9**	**0.016**	**0.1**	**0.0069**
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.088 Q J**	**4.9**	**0.018**	**0.1**	**0.0088**
1,2,3,7,8,9-HxCDD	**7/15/15**	**1**	**0.033 Q B J**	**4.9**	**0.016**	**0.1**	**0.0033**
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.63 B J**	**4.9**	**0.022**	**0.01**	**0.0063**
OCDD	**7/15/15**	**1**	**2.5 B J**	**9.8**	**0.025**	**0.001**	**0.0025**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.28 Q J**	**0.98**	**0.028**	**0.1**	**0.028**
1,2,3,7,8-PeCDF	**7/15/15**	**1**	**0.086 Q J**	**4.9**	**0.021**	**0.05**	**0.0043**
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.11 Q B J**	**4.9**	**0.019**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.049 Q J**	**4.9**	**0.020**	**0.1**	**0.0049**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.26 Q B J**	**4.9**	**0.017**	**0.1**	**0.026**
2,3,4,6,7,8-HxCDF	7/15/15	1	ND	4.9	0.018	0.1	0.0018
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	4.9	0.024	0.1	0.0024
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.25 Q B J**	**4.9**	**0.0082**	**0.01**	**0.0025**
1,2,3,4,7,8,9-HpCDF	**7/15/15**	**1**	**0.061 B J**	**4.9**	**0.011**	**0.01**	**0.00061**
OCDF	**7/15/15**	**1**	**0.17 Q B J**	**9.8**	**0.0091**	**0.001**	**0.00017**
Total TEQ Concentration							**0.29**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	62	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	60	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	58	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	68	(23 - 140)
13C-OCDD	59	(17 - 157)
13C-2,3,7,8-TCDF	57	(24 - 169)
13C-1,2,3,7,8-PeCDF	60	(24 - 185)
13C-2,3,4,7,8-PeCDF	62	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	58	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	59	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	62	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	60	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	61	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	63	(26 - 138)
13C-OCDF	53	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-085 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	72	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-085 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 023	Work Order #....:	M64F11AA	Matrix.....:	TA
Date Sampled....:	05/21/15	Date Received....:	06/19/15	Units....:	pg/g
Prep Date....:	07/06/15			Dilution Factor:	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10.1 g	Instrument ID....:	D2A	Method....:	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/15/15	1	ND	0.99	0.067	1.0	0.067
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.14 Q B J**	**5.0**	**0.020**	**0.5**	**0.070**
1,2,3,4,7,8-HxCDD	**7/15/15**	**1**	**0.053 Q J**	**5.0**	**0.012**	**0.1**	**0.0053**
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.081 Q J**	**5.0**	**0.011**	**0.1**	**0.0081**
1,2,3,7,8,9-HxCDD	**7/15/15**	**1**	**0.082 B J**	**5.0**	**0.011**	**0.1**	**0.0082**
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.51 B J**	**5.0**	**0.017**	**0.01**	**0.0051**
OCDD	**7/15/15**	**1**	**2.4 B J**	**9.9**	**0.018**	**0.001**	**0.0024**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.46 Q J**	**0.99**	**0.022**	**0.1**	**0.046**
1,2,3,7,8-PeCDF	7/15/15	1	ND	5.0	0.018	0.05	0.00090
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.066 Q B J**	**5.0**	**0.017**	**0.5**	**0.033**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.16 Q J**	**5.0**	**0.015**	**0.1**	**0.016**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.36 Q B J**	**5.0**	**0.014**	**0.1**	**0.036**
2,3,4,6,7,8-HxCDF	7/15/15	1	ND	5.0	0.014	0.1	0.0014
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.27 Q B J**	**5.0**	**0.0081**	**0.01**	**0.0027**
1,2,3,4,7,8,9-HpCDF	**7/15/15**	**1**	**0.040 Q B J**	**5.0**	**0.011**	**0.01**	**0.00040**
OCDF	**7/15/15**	**1**	**0.20 B J**	**9.9**	**0.0086**	**0.001**	**0.00020**
Total TEQ Concentration							**0.30**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	58	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	60	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	73	(23 - 140)
13C-OCDD	63	(17 - 157)
13C-2,3,7,8-TCDF	57	(24 - 169)
13C-1,2,3,7,8-PeCDF	60	(24 - 185)
13C-2,3,4,7,8-PeCDF	60	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	61	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	59	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	67	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	64	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	55	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-085 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	70	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-085 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 024	**Work Order #....:**	M64F21AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/15/15	1	ND	0.98	0.073	1.0	0.073
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.067 Q B J**	**4.9**	**0.021**	**0.5**	**0.034**
1,2,3,4,7,8-HxCDD	7/15/15	1	ND	4.9	0.012	0.1	0.0012
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.069 J**	**4.9**	**0.013**	**0.1**	**0.0069**
1,2,3,7,8,9-HxCDD	7/15/15	1	ND	4.9	0.012	0.1	0.0012
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.46 B J**	**4.9**	**0.016**	**0.01**	**0.0046**
OCDD	**7/15/15**	**1**	**2.5 B J**	**9.8**	**0.025**	**0.001**	**0.0025**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.34 J**	**0.98**	**0.014**	**0.1**	**0.034**
1,2,3,7,8-PeCDF	7/15/15	1	ND	4.9	0.017	0.05	0.00085
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.079 Q B J**	**4.9**	**0.016**	**0.5**	**0.040**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.13 Q J**	**4.9**	**0.013**	**0.1**	**0.013**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.32 Q B J**	**4.9**	**0.013**	**0.1**	**0.032**
2,3,4,6,7,8-HxCDF	7/15/15	1	ND	4.9	0.013	0.1	0.0013
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	4.9	0.016	0.1	0.0016
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.14 Q B J**	**4.9**	**0.0079**	**0.01**	**0.0014**
1,2,3,4,7,8,9-HpCDF	7/15/15	1	ND	4.9	0.011	0.01	0.00011
OCDF	**7/15/15**	**1**	**0.13 Q B J**	**9.8**	**0.018**	**0.001**	**0.00013**
Total TEQ Concentration							**0.25**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	65	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	77	(23 - 140)
13C-OCDD	66	(17 - 157)
13C-2,3,7,8-TCDF	65	(24 - 169)
13C-1,2,3,7,8-PeCDF	67	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	70	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	70	(26 - 138)
13C-OCDF	59	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-085 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	78	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-085 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 025	**Work Order #....:**	M64F31AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/15/15	1	ND	1.0	0.073	1.0	0.073
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.27 Q B J**	**5.0**	**0.027**	**0.5**	**0.14**
1,2,3,4,7,8-HxCDD	7/15/15	1	ND	5.0	0.014	0.1	0.0014
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.12 Q J**	**5.0**	**0.015**	**0.1**	**0.012**
1,2,3,7,8,9-HxCDD	**7/15/15**	**1**	**0.075 Q B J**	**5.0**	**0.014**	**0.1**	**0.0075**
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.54 B J**	**5.0**	**0.021**	**0.01**	**0.0054**
OCDD	**7/15/15**	**1**	**2.8 B J**	**10**	**0.043**	**0.001**	**0.0028**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.42 Q J**	**1.0**	**0.020**	**0.1**	**0.042**
1,2,3,7,8-PeCDF	**7/15/15**	**1**	**0.067 J**	**5.0**	**0.022**	**0.05**	**0.0034**
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.11 Q B J**	**5.0**	**0.020**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.044 Q J**	**5.0**	**0.018**	**0.1**	**0.0044**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.37 Q B J**	**5.0**	**0.017**	**0.1**	**0.037**
2,3,4,6,7,8-HxCDF	7/15/15	1	ND	5.0	0.017	0.1	0.0017
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.0	0.021	0.1	0.0021
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.18 Q B J**	**5.0**	**0.0077**	**0.01**	**0.0018**
1,2,3,4,7,8,9-HpCDF	7/15/15	1	ND	5.0	0.010	0.01	0.00010
OCDF	**7/15/15**	**1**	**0.15 Q B J**	**10**	**0.022**	**0.001**	**0.00015**
Total TEQ Concentration							**0.38**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	72	(23 - 140)
13C-OCDD	61	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	63	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	67	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	65	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	70	(26 - 138)
13C-OCDF	53	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-085 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	78	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-086 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 026	**Work Order #....:**	M64F41AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**7/15/15**	**1**	**0.075 J**	**0.99**	**0.064**	**1.0**	**0.075**
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.11 Q B J**	**5.0**	**0.018**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDD	7/15/15	1	ND	5.0	0.013	0.1	0.0013
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.055 Q J**	**5.0**	**0.013**	**0.1**	**0.0055**
1,2,3,7,8,9-HxCDD	**7/15/15**	**1**	**0.058 B J**	**5.0**	**0.012**	**0.1**	**0.0058**
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.60 B J**	**5.0**	**0.019**	**0.01**	**0.0060**
OCDD	**7/15/15**	**1**	**3.0 B J**	**9.9**	**0.031**	**0.001**	**0.0030**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.55 J**	**0.99**	**0.023**	**0.1**	**0.055**
1,2,3,7,8-PeCDF	7/15/15	1	ND	5.0	0.021	0.05	0.0010
2,3,4,7,8-PeCDF	7/15/15	1	ND	5.0	0.020	0.5	0.010
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.027 Q J**	**5.0**	**0.015**	**0.1**	**0.0027**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.29 Q B J**	**5.0**	**0.014**	**0.1**	**0.029**
2,3,4,6,7,8-HxCDF	7/15/15	1	ND	5.0	0.015	0.1	0.0015
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.15 Q B J**	**5.0**	**0.0082**	**0.01**	**0.0015**
1,2,3,4,7,8,9-HpCDF	7/15/15	1	ND	5.0	0.011	0.01	0.00011
OCDF	**7/15/15**	**1**	**0.17 B J**	**9.9**	**0.010**	**0.001**	**0.00017**
Total TEQ Concentration							**0.25**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	63	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	64	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	63	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	62	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	66	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	57	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

KNX_TEQ_V004.rpt Version 0.0.4, 05/01/2013

TestAmerica Pittsburgh

Client Sample ID: AT5-086 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	75	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-086 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 027	**Work Order #....:**	M64F51AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/15/15	1	ND	1.0	0.082	1.0	0.082
1,2,3,7,8-PeCDD	7/15/15	1	ND	5.0	0.027	0.5	0.014
1,2,3,4,7,8-HxCDD	7/15/15	1	ND	5.0	0.0099	0.1	0.00099
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.066 Q J**	**5.0**	**0.010**	**0.1**	**0.0066**
1,2,3,7,8,9-HxCDD	**7/15/15**	**1**	**0.021 Q B J**	**5.0**	**0.0094**	**0.1**	**0.0021**
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.55 Q B J**	**5.0**	**0.022**	**0.01**	**0.0055**
OCDD	**7/15/15**	**1**	**3.0 B J**	**10**	**0.026**	**0.001**	**0.0030**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.16 Q J**	**1.0**	**0.019**	**0.1**	**0.016**
1,2,3,7,8-PeCDF	**7/15/15**	**1**	**0.054 Q J**	**5.0**	**0.018**	**0.05**	**0.0027**
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.11 Q B J**	**5.0**	**0.018**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.052 Q J**	**5.0**	**0.022**	**0.1**	**0.0052**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.28 Q B J**	**5.0**	**0.019**	**0.1**	**0.028**
2,3,4,6,7,8-HxCDF	7/15/15	1	ND	5.0	0.020	0.1	0.0020
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.0	0.026	0.1	0.0026
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.19 B J**	**5.0**	**0.010**	**0.01**	**0.0019**
1,2,3,4,7,8,9-HpCDF	7/15/15	1	ND	5.0	0.014	0.01	0.00014
OCDF	**7/15/15**	**1**	**0.14 Q B J**	**10**	**0.011**	**0.001**	**0.00014**
Total TEQ Concentration							**0.23**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	64	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	71	(23 - 140)
13C-OCDD	62	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
13C-1,2,3,7,8-PeCDF	61	(24 - 185)
13C-2,3,4,7,8-PeCDF	59	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	64	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	64	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	66	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	65	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	65	(26 - 138)
13C-OCDF	52	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-086 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	70	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-086 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 028	**Work Order #....:**	M64F61AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**7/15/15**	**1**	**0.11 Q J**	**1.0**	**0.070**	**1.0**	**0.11**
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.12 Q B J**	**5.0**	**0.024**	**0.5**	**0.060**
1,2,3,4,7,8-HxCDD	**7/15/15**	**1**	**0.041 Q J**	**5.0**	**0.011**	**0.1**	**0.0041**
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.058 Q J**	**5.0**	**0.012**	**0.1**	**0.0058**
1,2,3,7,8,9-HxCDD	**7/15/15**	**1**	**0.053 Q B J**	**5.0**	**0.011**	**0.1**	**0.0053**
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.50 B J**	**5.0**	**0.021**	**0.01**	**0.0050**
OCDD	**7/15/15**	**1**	**2.0 B J**	**10**	**0.013**	**0.001**	**0.0020**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.40 J**	**1.0**	**0.021**	**0.1**	**0.040**
1,2,3,7,8-PeCDF	7/15/15	1	ND	5.0	0.021	0.05	0.0010
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.12 B J**	**5.0**	**0.021**	**0.5**	**0.060**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.061 J**	**5.0**	**0.017**	**0.1**	**0.0061**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.23 Q B J**	**5.0**	**0.017**	**0.1**	**0.023**
2,3,4,6,7,8-HxCDF	**7/15/15**	**1**	**0.069 Q J**	**5.0**	**0.017**	**0.1**	**0.0069**
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.0	0.022	0.1	0.0022
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.17 B J**	**5.0**	**0.011**	**0.01**	**0.0017**
1,2,3,4,7,8,9-HpCDF	**7/15/15**	**1**	**0.026 Q B J**	**5.0**	**0.016**	**0.01**	**0.00026**
OCDF	**7/15/15**	**1**	**0.26 B J**	**10**	**0.0064**	**0.001**	**0.00026**
Total TEQ Concentration							**0.33**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	59	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	65	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	70	(23 - 140)
13C-OCDD	61	(17 - 157)
13C-2,3,7,8-TCDF	59	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	59	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	64	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	60	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	64	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	66	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	64	(26 - 138)
13C-OCDF	52	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-086 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	73	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-086 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 029	**Work Order #....:**	M64F71AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	9 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/15/15	1	ND	1.1	0.072	1.0	0.072
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.16 Q B J**	**5.6**	**0.029**	**0.5**	**0.080**
1,2,3,4,7,8-HxCDD	7/15/15	1	ND	5.6	0.018	0.1	0.0018
1,2,3,6,7,8-HxCDD	7/15/15	1	ND	5.6	0.019	0.1	0.0019
1,2,3,7,8,9-HxCDD	**7/15/15**	**1**	**0.056 Q B J**	**5.6**	**0.018**	**0.1**	**0.0056**
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.52 B J**	**5.6**	**0.019**	**0.01**	**0.0052**
OCDD	**7/15/15**	**1**	**2.3 B J**	**11**	**0.027**	**0.001**	**0.0023**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.43 J**	**1.1**	**0.020**	**0.1**	**0.043**
1,2,3,7,8-PeCDF	7/15/15	1	ND	5.6	0.024	0.05	0.0012
2,3,4,7,8-PeCDF	7/15/15	1	ND	5.6	0.024	0.5	0.012
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.066 Q J**	**5.6**	**0.018**	**0.1**	**0.0066**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.46 Q B J**	**5.6**	**0.018**	**0.1**	**0.046**
2,3,4,6,7,8-HxCDF	7/15/15	1	ND	5.6	0.019	0.1	0.0019
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.6	0.022	0.1	0.0022
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.20 Q B J**	**5.6**	**0.0091**	**0.01**	**0.0020**
1,2,3,4,7,8,9-HpCDF	**7/15/15**	**1**	**0.070 Q B J**	**5.6**	**0.013**	**0.01**	**0.00070**
OCDF	**7/15/15**	**1**	**0.22 Q B J**	**11**	**0.015**	**0.001**	**0.00022**
Total TEQ Concentration							**0.28**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	63	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	62	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	62	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	66	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	63	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	67	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	68	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	57	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-086 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	75	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-086 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 030	**Work Order #....:**	M64F81AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	9.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	**7/15/15**	**1**	**0.092 Q J**	**1.1**	**0.074**	**1.0**	**0.092**
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.18 Q B J**	**5.5**	**0.024**	**0.5**	**0.090**
1,2,3,4,7,8-HxCDD	7/15/15	1	ND	5.5	0.018	0.1	0.0018
1,2,3,6,7,8-HxCDD	7/15/15	1	ND	5.5	0.018	0.1	0.0018
1,2,3,7,8,9-HxCDD	**7/15/15**	**1**	**0.11 B J**	**5.5**	**0.017**	**0.1**	**0.011**
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.60 B J**	**5.5**	**0.020**	**0.01**	**0.0060**
OCDD	**7/15/15**	**1**	**3.0 B J**	**11**	**0.042**	**0.001**	**0.0030**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.53 J**	**1.1**	**0.022**	**0.1**	**0.053**
1,2,3,7,8-PeCDF	7/15/15	1	ND	5.5	0.022	0.05	0.0011
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.079 Q B J**	**5.5**	**0.020**	**0.5**	**0.040**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.074 Q J**	**5.5**	**0.017**	**0.1**	**0.0074**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.42 Q B J**	**5.5**	**0.016**	**0.1**	**0.042**
2,3,4,6,7,8-HxCDF	**7/15/15**	**1**	**0.10 Q J**	**5.5**	**0.016**	**0.1**	**0.010**
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.5	0.020	0.1	0.0020
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.25 Q B J**	**5.5**	**0.0086**	**0.01**	**0.0025**
1,2,3,4,7,8,9-HpCDF	7/15/15	1	ND	5.5	0.012	0.01	0.00012
OCDF	**7/15/15**	**1**	**0.26 B J**	**11**	**0.023**	**0.001**	**0.00026**
Total TEQ Concentration							**0.36**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	63	(25 - 164)
13C-1,2,3,7,8-PeCDD	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	60	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	61	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	71	(23 - 140)
13C-OCDD	62	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	61	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	59	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	66	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	64	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	62	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	65	(26 - 138)
13C-OCDF	55	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-086 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	75	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-087 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 031	**Work Order #....:**	M64F91AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/15/15	1	ND	1.0	0.077	1.0	0.077
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.039 Q B J**	**5.0**	**0.028**	**0.5**	**0.020**
1,2,3,4,7,8-HxCDD	7/15/15	1	ND	5.0	0.015	0.1	0.0015
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.12 Q J**	**5.0**	**0.016**	**0.1**	**0.012**
1,2,3,7,8,9-HxCDD	**7/15/15**	**1**	**0.068 B J**	**5.0**	**0.015**	**0.1**	**0.0068**
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.83 B J**	**5.0**	**0.018**	**0.01**	**0.0083**
OCDD	**7/15/15**	**1**	**3.9 B J**	**10**	**0.030**	**0.001**	**0.0039**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.59 J**	**1.0**	**0.025**	**0.1**	**0.059**
1,2,3,7,8-PeCDF	**7/15/15**	**1**	**0.067 Q J**	**5.0**	**0.020**	**0.05**	**0.0034**
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.12 Q B J**	**5.0**	**0.019**	**0.5**	**0.060**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.10 Q J**	**5.0**	**0.022**	**0.1**	**0.010**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.56 Q B J**	**5.0**	**0.022**	**0.1**	**0.056**
2,3,4,6,7,8-HxCDF	7/15/15	1	ND	5.0	0.022	0.1	0.0022
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.0	0.028	0.1	0.0028
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.30 B J**	**5.0**	**0.011**	**0.01**	**0.0030**
1,2,3,4,7,8,9-HpCDF	7/15/15	1	ND	5.0	0.015	0.01	0.00015
OCDF	**7/15/15**	**1**	**0.23 Q B J**	**10**	**0.010**	**0.001**	**0.00023**
Total TEQ Concentration							**0.33**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	63	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	63	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	75	(23 - 140)
13C-OCDD	63	(17 - 157)
13C-2,3,7,8-TCDF	59	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	65	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	62	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	66	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	64	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	54	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-087 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	73	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-087 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 032	**Work Order #....:**	M64GA1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/15/15	1	ND	1.0	0.078	1.0	0.078
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.14 Q B J**	**5.0**	**0.024**	**0.5**	**0.070**
1,2,3,4,7,8-HxCDD	**7/15/15**	**1**	**0.051 Q J**	**5.0**	**0.013**	**0.1**	**0.0051**
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.087 Q J**	**5.0**	**0.014**	**0.1**	**0.0087**
1,2,3,7,8,9-HxCDD	7/15/15	1	ND	5.0	0.013	0.1	0.0013
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.63 Q B J**	**5.0**	**0.015**	**0.01**	**0.0063**
OCDD	**7/15/15**	**1**	**3.6 B J**	**10**	**0.055**	**0.001**	**0.0036**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.36 Q J**	**1.0**	**0.023**	**0.1**	**0.036**
1,2,3,7,8-PeCDF	7/15/15	1	ND	5.0	0.020	0.05	0.0010
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.15 B J**	**5.0**	**0.018**	**0.5**	**0.075**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.082 Q J**	**5.0**	**0.016**	**0.1**	**0.0082**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.48 Q B J**	**5.0**	**0.015**	**0.1**	**0.048**
2,3,4,6,7,8-HxCDF	7/15/15	1	ND	5.0	0.016	0.1	0.0016
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.0	0.020	0.1	0.0020
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.30 Q B J**	**5.0**	**0.011**	**0.01**	**0.0030**
1,2,3,4,7,8,9-HpCDF	7/15/15	1	ND	5.0	0.015	0.01	0.00015
OCDF	**7/15/15**	**1**	**0.13 Q B J**	**10**	**0.025**	**0.001**	**0.00013**
Total TEQ Concentration							**0.35**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	59	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	63	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	70	(23 - 140)
13C-OCDD	57	(17 - 157)
13C-2,3,7,8-TCDF	58	(24 - 169)
13C-1,2,3,7,8-PeCDF	61	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	63	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	60	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	65	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	61	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	66	(26 - 138)
13C-OCDF	51	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-087 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	70	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-087 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 033	**Work Order #....:**	M64GC1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/15/15	1	ND	1.0	0.081	1.0	0.081
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.11 Q B J**	**5.0**	**0.023**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDD	**7/15/15**	**1**	**0.037 Q J**	**5.0**	**0.012**	**0.1**	**0.0037**
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.089 Q J**	**5.0**	**0.012**	**0.1**	**0.0089**
1,2,3,7,8,9-HxCDD	**7/15/15**	**1**	**0.057 Q B J**	**5.0**	**0.012**	**0.1**	**0.0057**
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.58 Q B J**	**5.0**	**0.029**	**0.01**	**0.0058**
OCDD	**7/15/15**	**1**	**4.6 B J**	**10**	**0.029**	**0.001**	**0.0046**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.28 Q J**	**1.0**	**0.019**	**0.1**	**0.028**
1,2,3,7,8-PeCDF	7/15/15	1	ND	5.0	0.023	0.05	0.0012
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.12 B J**	**5.0**	**0.022**	**0.5**	**0.060**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.059 Q J**	**5.0**	**0.017**	**0.1**	**0.0059**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.39 Q B J**	**5.0**	**0.017**	**0.1**	**0.039**
2,3,4,6,7,8-HxCDF	7/15/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.0	0.022	0.1	0.0022
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.25 B J**	**5.0**	**0.0085**	**0.01**	**0.0025**
1,2,3,4,7,8,9-HpCDF	**7/15/15**	**1**	**0.021 Q B J**	**5.0**	**0.011**	**0.01**	**0.00021**
OCDF	**7/15/15**	**1**	**0.22 B J**	**10**	**0.016**	**0.001**	**0.00022**
Total TEQ Concentration							**0.31**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	58	(25 - 164)
13C-1,2,3,7,8-PeCDD	64	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	75	(23 - 140)
13C-OCDD	65	(17 - 157)
13C-2,3,7,8-TCDF	59	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	65	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	69	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	69	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	72	(26 - 138)
13C-OCDF	58	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-087 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	70	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-087 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 034	**Work Order #....:**	M64GD1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/15/15	1	ND	0.99	0.072	1.0	0.072
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.068 Q B J**	**5.0**	**0.023**	**0.5**	**0.034**
1,2,3,4,7,8-HxCDD	7/15/15	1	ND	5.0	0.015	0.1	0.0015
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.12 Q J**	**5.0**	**0.016**	**0.1**	**0.012**
1,2,3,7,8,9-HxCDD	**7/15/15**	**1**	**0.14 B J**	**5.0**	**0.014**	**0.1**	**0.014**
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.66 B J**	**5.0**	**0.014**	**0.01**	**0.0066**
OCDD	**7/15/15**	**1**	**3.1 B J**	**9.9**	**0.027**	**0.001**	**0.0031**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.48 Q J**	**0.99**	**0.030**	**0.1**	**0.048**
1,2,3,7,8-PeCDF	**7/15/15**	**1**	**0.065 Q J**	**5.0**	**0.020**	**0.05**	**0.0032**
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.11 Q B J**	**5.0**	**0.018**	**0.5**	**0.055**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.16 Q J**	**5.0**	**0.015**	**0.1**	**0.016**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.52 Q B J**	**5.0**	**0.014**	**0.1**	**0.052**
2,3,4,6,7,8-HxCDF	**7/15/15**	**1**	**0.065 Q J**	**5.0**	**0.015**	**0.1**	**0.0065**
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.0	0.018	0.1	0.0018
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.22 Q B J**	**5.0**	**0.0098**	**0.01**	**0.0022**
1,2,3,4,7,8,9-HpCDF	7/15/15	1	ND	5.0	0.013	0.01	0.00013
OCDF	**7/15/15**	**1**	**0.16 Q B J**	**9.9**	**0.016**	**0.001**	**0.00016**
Total TEQ Concentration							**0.33**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	58	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	61	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	60	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	67	(23 - 140)
13C-OCDD	58	(17 - 157)
13C-2,3,7,8-TCDF	56	(24 - 169)
13C-1,2,3,7,8-PeCDF	56	(24 - 185)
13C-2,3,4,7,8-PeCDF	60	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	59	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	57	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	63	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	61	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	61	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	64	(26 - 138)
13C-OCDF	52	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-087 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	69	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-087 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 035	**Work Order #....:**	M64GE1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	9 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/15/15	1	ND	1.1	0.082	1.0	0.082
1,2,3,7,8-PeCDD	**7/15/15**	**1**	**0.15 Q B J**	**5.6**	**0.026**	**0.5**	**0.075**
1,2,3,4,7,8-HxCDD	7/15/15	1	ND	5.6	0.017	0.1	0.0017
1,2,3,6,7,8-HxCDD	**7/15/15**	**1**	**0.096 Q J**	**5.6**	**0.017**	**0.1**	**0.0096**
1,2,3,7,8,9-HxCDD	7/15/15	1	ND	5.6	0.016	0.1	0.0016
1,2,3,4,6,7,8-HpCDD	**7/15/15**	**1**	**0.71 Q B J**	**5.6**	**0.018**	**0.01**	**0.0071**
OCDD	**7/15/15**	**1**	**3.5 B J**	**11**	**0.023**	**0.001**	**0.0035**
2,3,7,8-TCDF	**7/15/15**	**1**	**0.84 Q J**	**1.1**	**0.022**	**0.1**	**0.084**
1,2,3,7,8-PeCDF	7/15/15	1	ND	5.6	0.021	0.05	0.0010
2,3,4,7,8-PeCDF	**7/15/15**	**1**	**0.15 B J**	**5.6**	**0.020**	**0.5**	**0.075**
1,2,3,4,7,8-HxCDF	**7/15/15**	**1**	**0.16 Q J**	**5.6**	**0.019**	**0.1**	**0.016**
1,2,3,6,7,8-HxCDF	**7/15/15**	**1**	**0.54 Q B J**	**5.6**	**0.019**	**0.1**	**0.054**
2,3,4,6,7,8-HxCDF	7/15/15	1	ND	5.6	0.019	0.1	0.0019
1,2,3,7,8,9-HxCDF	7/15/15	1	ND	5.6	0.023	0.1	0.0023
1,2,3,4,6,7,8-HpCDF	**7/15/15**	**1**	**0.27 B J**	**5.6**	**0.0084**	**0.01**	**0.0027**
1,2,3,4,7,8,9-HpCDF	7/15/15	1	ND	5.6	0.011	0.01	0.00011
OCDF	**7/15/15**	**1**	**0.19 B J**	**11**	**0.011**	**0.001**	**0.00019**
Total TEQ Concentration							**0.42**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	59	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	63	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	69	(23 - 140)
13C-OCDD	61	(17 - 157)
13C-2,3,7,8-TCDF	56	(24 - 169)
13C-1,2,3,7,8-PeCDF	59	(24 - 185)
13C-2,3,4,7,8-PeCDF	60	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	63	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	59	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	66	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	62	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	65	(26 - 138)
13C-OCDF	54	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-087 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	70	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-088 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190412 - 036	**Work Order #....:**	M64GF1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	07/06/15			**Dilution Factor:**	1
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	7/16/15	1	ND	1.0	0.065	1.0	0.065
1,2,3,7,8-PeCDD	**7/16/15**	**1**	**0.095 Q B J**	**5.0**	**0.023**	**0.5**	**0.048**
1,2,3,4,7,8-HxCDD	**7/16/15**	**1**	**0.064 J**	**5.0**	**0.013**	**0.1**	**0.0064**
1,2,3,6,7,8-HxCDD	**7/16/15**	**1**	**0.087 Q J**	**5.0**	**0.013**	**0.1**	**0.0087**
1,2,3,7,8,9-HxCDD	**7/16/15**	**1**	**0.10 Q B J**	**5.0**	**0.012**	**0.1**	**0.010**
1,2,3,4,6,7,8-HpCDD	**7/16/15**	**1**	**1.1 B J**	**5.0**	**0.021**	**0.01**	**0.011**
OCDD	**7/16/15**	**1**	**12 B**	**10**	**0.0094**	**0.001**	**0.012**
2,3,7,8-TCDF	**7/16/15**	**1**	**0.56 J**	**1.0**	**0.020**	**0.1**	**0.056**
1,2,3,7,8-PeCDF	**7/16/15**	**1**	**0.077 Q J**	**5.0**	**0.017**	**0.05**	**0.0038**
2,3,4,7,8-PeCDF	**7/16/15**	**1**	**0.17 Q B J**	**5.0**	**0.017**	**0.5**	**0.085**
1,2,3,4,7,8-HxCDF	**7/16/15**	**1**	**0.17 Q J**	**5.0**	**0.015**	**0.1**	**0.017**
1,2,3,6,7,8-HxCDF	**7/16/15**	**1**	**0.41 Q B J**	**5.0**	**0.013**	**0.1**	**0.041**
2,3,4,6,7,8-HxCDF	**7/16/15**	**1**	**0.070 Q J**	**5.0**	**0.014**	**0.1**	**0.0070**
1,2,3,7,8,9-HxCDF	7/16/15	1	ND	5.0	0.017	0.1	0.0017
1,2,3,4,6,7,8-HpCDF	**7/16/15**	**1**	**0.21 B J**	**5.0**	**0.0092**	**0.01**	**0.0021**
1,2,3,4,7,8,9-HpCDF	7/16/15	1	ND	5.0	0.013	0.01	0.00013
OCDF	**7/16/15**	**1**	**0.37 B J**	**10**	**0.0032**	**0.001**	**0.00037**
Total TEQ Concentration							0.37

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	63	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	72	(23 - 140)
13C-OCDD	67	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	61	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	61	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	66	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	63	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	66	(26 - 138)
13C-OCDF	56	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-088 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F300000 - 012B	**Work Order #....:**	M651J1AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	07/01/15	**Analysis Date....:**	07/13/15		
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.069	pg/g
1,2,3,7,8-PeCDD	**0.089**	**Q J**	**5.0**	**0.017**	**pg/g**
1,2,3,4,7,8-HxCDD	**0.056**	**J**	**5.0**	**0.0087**	**pg/g**
1,2,3,6,7,8-HxCDD	**0.035**	**Q J**	**5.0**	**0.0094**	**pg/g**
1,2,3,7,8,9-HxCDD	ND		5.0	0.0085	pg/g
1,2,3,4,6,7,8-HpCDD	ND		5.0	0.014	pg/g
OCDD	**0.35**	**J**	**10**	**0.0088**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.0060	pg/g
1,2,3,7,8-PeCDF	ND		5.0	0.0056	pg/g
2,3,4,7,8-PeCDF	ND		5.0	0.0054	pg/g
1,2,3,4,7,8-HxCDF	ND		5.0	0.010	pg/g
1,2,3,6,7,8-HxCDF	**0.059**	**J**	**5.0**	**0.0096**	**pg/g**
2,3,4,6,7,8-HxCDF	ND		5.0	0.012	pg/g
1,2,3,7,8,9-HxCDF	ND		5.0	0.015	pg/g
1,2,3,4,6,7,8-HpCDF	**0.049**	**Q J**	**5.0**	**0.0021**	**pg/g**
1,2,3,4,7,8,9-HpCDF	**0.015**	**Q J**	**5.0**	**0.0034**	**pg/g**
OCDF	**0.24**	**J**	**10**	**0.0067**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	51	25 - 164
13C-1,2,3,7,8-PeCDD	56	25 - 181
13C-1,2,3,4,7,8-HxCDD	58	32 - 141
13C-1,2,3,6,7,8-HxCDD	55	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	66	23 - 140
13C-OCDD	58	17 - 157
13C-2,3,7,8-TCDF	55	24 - 169
13C-1,2,3,7,8-PeCDF	56	24 - 185
13C-2,3,4,7,8-PeCDF	57	21 - 178
13C-1,2,3,4,7,8-HxCDF	57	26 - 152
13C-1,2,3,6,7,8-HxCDF	56	26 - 123
13C-2,3,4,6,7,8-HxCDF	54	28 - 136
13C-1,2,3,7,8,9-HxCDF	50	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	61	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	54	26 - 138
13C-OCDF	52	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F300000 - 012B	**Work Order #....:**	M651J1AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	07/01/15	**Analysis Date....:**	07/13/15		
Prep Batch # ....:	5181012				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	63	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190412	**Work Order # ...:**	M651J1AC-LCS	**Matrix .....:**	BIOLOGICA
LCS Lot-Sample# :	H5F300000 - 012				
Prep Date .....:	07/01/15	**Analysis Date ..:**	07/13/15		
Prep Batch # ...:	5181012				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**19.9**	**pg/g**	**100**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**99.3**	**pg/g**	**99**	**B**	**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**100**	**pg/g**	**100**	**B**	**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**97.6**	**pg/g**	**98**	**B**	**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**103**	**pg/g**	**103**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**96.1**	**pg/g**	**96**		**(70 - 140)**
OCDD	**200**	**182**	**pg/g**	**91**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**20.5**	**pg/g**	**102**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**92.2**	**pg/g**	**92**		**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**101**	**pg/g**	**101**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**98.2**	**pg/g**	**98**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**97.5**	**pg/g**	**98**	**B**	**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**101**	**pg/g**	**101**		**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**99.1**	**pg/g**	**99**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**98.5**	**pg/g**	**99**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**99.1**	**pg/g**	**99**	**B**	**(78 - 138)**
OCDF	**200**	**192**	**pg/g**	**96**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(20 - 175)
13C-1,2,3,7,8-PeCDD	65	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	70	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	66	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	75	(26 - 166)
13C-OCDD	72	(13 - 199)
13C-2,3,7,8-TCDF	60	(22 - 152)
13C-1,2,3,7,8-PeCDF	64	(21 - 192)
13C-2,3,4,7,8-PeCDF	62	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	68	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	64	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	64	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	63	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	68	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	69	(20 - 186)
13C-OCDF	64	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	71	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190412	**Work Order # ...:**	M64FK1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190412 - 011		M64FK1AD-MSD		
Prep Date .....:	07/01/15	**Analysis Date ..:**	07/14/15		
Prep Batch # ...:	5181012				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SAMPLE AMOUNT	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	**ND**	**21.1**	**22.1**	pg/g	105	(67 - 158)		
	ND	**21.1**	**21.0**	pg/g	100	(67 - 158)	4.7	(0 - 25)
1,2,3,7,8-PeCDD	**0.14**	**105**	**111**	pg/g	106 B	(70 - 142)		
	0.14	**105**	**111**	pg/g	106 B	(70 - 142)	0.17	(0 - 25)
1,2,3,4,7,8-HxCDD	**ND**	**105**	**110**	pg/g	104 B	(70 - 164)		
	ND	**105**	**110**	pg/g	104 B	(70 - 164)	0.20	(0 - 25)
1,2,3,6,7,8-HxCDD	**0.11**	**105**	**102**	pg/g	96 B	(76 - 134)		
	0.11	**105**	**105**	pg/g	100 B	(76 - 134)	3.3	(0 - 25)
1,2,3,7,8,9-HxCDD	**ND**	**105**	**109**	pg/g	104	(64 - 162)		
	ND	**105**	**108**	pg/g	103	(64 - 162)	0.92	(0 - 25)
1,2,3,4,6,7,8-HpCDD	**0.59**	**105**	**102**	pg/g	96	(70 - 140)		
	0.59	**105**	**104**	pg/g	98	(70 - 140)	1.6	(0 - 25)
OCDD	**2.5**	**211**	**199**	pg/g	94 B	(78 - 144)		
	2.5	**211**	**201**	pg/g	94 B	(78 - 144)	0.61	(0 - 25)
2,3,7,8-TCDF	**0.68**	**21.1**	**22.2**	pg/g	102 X	(75 - 158)		
	0.68	**21.1**	**21.5**	pg/g	99 X	(75 - 158)	3.5	(0 - 25)
1,2,3,7,8-PeCDF	**0.11**	**105**	**99.0**	pg/g	94	(80 - 134)		
	0.11	**105**	**99.9**	pg/g	95	(80 - 134)	0.96	(0 - 25)
2,3,4,7,8-PeCDF	**0.16**	**105**	**105**	pg/g	99	(68 - 160)		
	0.16	**105**	**110**	pg/g	104	(68 - 160)	4.9	(0 - 25)
1,2,3,4,7,8-HxCDF	**0.051**	**105**	**105**	pg/g	100	(72 - 134)		
	0.051	**105**	**106**	pg/g	101	(72 - 134)	0.53	(0 - 25)
1,2,3,6,7,8-HxCDF	**0.71**	**105**	**103**	pg/g	97 B	(84 - 130)		
	0.71	**105**	**104**	pg/g	98 B	(84 - 130)	1.2	(0 - 25)
2,3,4,6,7,8-HxCDF	**0.079**	**105**	**105**	pg/g	99	(70 - 156)		
	0.079	**105**	**102**	pg/g	97	(70 - 156)	2.4	(0 - 25)
1,2,3,7,8,9-HxCDF	**ND**	**105**	**100**	pg/g	95	(78 - 130)		
	ND	**105**	**102**	pg/g	97	(78 - 130)	2.0	(0 - 25)
1,2,3,4,6,7,8-HpCDF	**0.27**	**105**	**101**	pg/g	96 B	(82 - 122)		
	0.27	**105**	**102**	pg/g	97 B	(82 - 122)	0.45	(0 - 25)
1,2,3,4,7,8,9-HpCDF	**ND**	**105**	**103**	pg/g	98 B	(78 - 138)		
	ND	**105**	**107**	pg/g	102 B	(78 - 138)	3.6	(0 - 25)
OCDF	**0.29**	**211**	**204**	pg/g	97 B	(63 - 170)		
	0.29	**211**	**200**	pg/g	95 B	(63 - 170)	1.8	(0 - 25)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190412	**Work Order # ...:**	M64FK1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190412 - 011		M64FK1AD-MSD		
Prep Date .....:	07/01/15	**Analysis Date ..:**	07/14/15		
Prep Batch # ...:	5181012				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	67	(25 - 181)
	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	70	(28 - 130)
	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	77	(23 - 140)
	75	(23 - 140)
13C-OCDD	70	(17 - 157)
	67	(17 - 157)
13C-2,3,7,8-TCDF	65	(24 - 169)
	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	66	(24 - 185)
	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	68	(21 - 178)
	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	71	(26 - 152)
	69	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	67	(26 - 123)
	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	69	(28 - 136)
	69	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	68	(29 - 147)
	64	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	71	(28 - 143)
	70	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	71	(26 - 138)
	67	(26 - 138)
13C-OCDF	63	(17 - 157)
	63	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	81	(35 - 197)
	73	(35 - 197)

MATRIX/MATRIX SPIKE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190412	**Work Order # ...:**	M64FK1AC-MS	**Matrix .....:**	BIOLOGICAL
OS Lot-Sample# :	H5F190412 - 011		M64FK1AD-MSD		
Prep Date .....:	07/01/15	**Analysis Date ..:**	07/14/15		
Prep Batch # ...:	5181012				
Dilution Factor :	1				
Analyst ID.....:	Linda K. McWhirter	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

X See project narrative.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F300000 - 013B	**Work Order #....:**	M651K1AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	07/06/15	**Analysis Date....:**	07/14/15		
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.085	pg/g
1,2,3,7,8-PeCDD	**0.28**	**Q J**	**5.0**	**0.024**	**pg/g**
1,2,3,4,7,8-HxCDD	ND		5.0	0.018	pg/g
1,2,3,6,7,8-HxCDD	ND		5.0	0.021	pg/g
1,2,3,7,8,9-HxCDD	**0.15**	**J**	**5.0**	**0.018**	**pg/g**
1,2,3,4,6,7,8-HpCDD	**0.16**	**Q J**	**5.0**	**0.026**	**pg/g**
OCDD	**0.60**	**J**	**10**	**0.0091**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.010	pg/g
1,2,3,7,8-PeCDF	ND		5.0	0.013	pg/g
2,3,4,7,8-PeCDF	**0.11**	**Q J**	**5.0**	**0.012**	**pg/g**
1,2,3,4,7,8-HxCDF	ND		5.0	0.018	pg/g
1,2,3,6,7,8-HxCDF	**0.088**	**Q J**	**5.0**	**0.017**	**pg/g**
2,3,4,6,7,8-HxCDF	ND		5.0	0.018	pg/g
1,2,3,7,8,9-HxCDF	ND		5.0	0.022	pg/g
1,2,3,4,6,7,8-HpCDF	**0.12**	**J**	**5.0**	**0.0048**	**pg/g**
1,2,3,4,7,8,9-HpCDF	**0.074**	**J**	**5.0**	**0.0070**	**pg/g**
OCDF	**0.31**	**Q J**	**10**	**0.0052**	**pg/g**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	51	25 - 164
13C-1,2,3,7,8-PeCDD	54	25 - 181
13C-1,2,3,4,7,8-HxCDD	63	32 - 141
13C-1,2,3,6,7,8-HxCDD	60	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	69	23 - 140
13C-OCDD	62	17 - 157
13C-2,3,7,8-TCDF	50	24 - 169
13C-1,2,3,7,8-PeCDF	54	24 - 185
13C-2,3,4,7,8-PeCDF	54	21 - 178
13C-1,2,3,4,7,8-HxCDF	62	26 - 152
13C-1,2,3,6,7,8-HxCDF	60	26 - 123
13C-2,3,4,6,7,8-HxCDF	64	28 - 136
13C-1,2,3,7,8,9-HxCDF	63	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	64	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	61	26 - 138
13C-OCDF	55	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F300000 - 013B	**Work Order #....:**	M651K1AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	07/06/15	**Analysis Date....:**	07/14/15		
Prep Batch # ....:	5181013				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	D2A	**Method:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	59	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190412	**Work Order # ...:**	M651K1AC-LCS	**Matrix .....:**	BIOLOGICA
LCS Lot-Sample# :	H5F300000 - 013				
Prep Date .....:	07/06/15	**Analysis Date ..:**	07/14/15		
Prep Batch # ...:	5181013				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	D2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**20.7**	**pg/g**	**103**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**103**	**pg/g**	**103**	**B**	**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**99.0**	**pg/g**	**99**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**93.5**	**pg/g**	**93**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**111**	**pg/g**	**111**	**B**	**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**97.0**	**pg/g**	**97**	**B**	**(70 - 140)**
OCDD	**200**	**187**	**pg/g**	**93**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**20.6**	**pg/g**	**103**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**93.5**	**pg/g**	**94**		**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**104**	**pg/g**	**104**	**B**	**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**100**	**pg/g**	**100**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**96.9**	**pg/g**	**97**	**B**	**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**100**	**pg/g**	**100**		**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**99.8**	**pg/g**	**100**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**94.8**	**pg/g**	**95**	**B**	**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**97.4**	**pg/g**	**97**	**B**	**(78 - 138)**
OCDF	**200**	**199**	**pg/g**	**99**	**B**	**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	49	(20 - 175)
13C-1,2,3,7,8-PeCDD	56	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	57	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	59	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	69	(26 - 166)
13C-OCDD	61	(13 - 199)
13C-2,3,7,8-TCDF	48	(22 - 152)
13C-1,2,3,7,8-PeCDF	55	(21 - 192)
13C-2,3,4,7,8-PeCDF	55	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	54	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	54	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	58	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	56	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	59	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	60	(20 - 186)
13C-OCDF	49	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	59	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Sample Receipt Documentation

HSF190412

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 4
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-44667-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			Preservation Codes:
City: Knoxville	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-081 A-W (180-44667-1)	5/21/15	12:00 Eastern		Tissue			X	1	CUSTODY SEALS INTACT
AT5-081 B-W (180-44667-2)	5/21/15	12:00 Eastern		Tissue			X	1	RECEIVED AT
AT5-081 C-W (180-44667-3)	5/21/15	12:00 Eastern		Tissue			X	1	RT 0.4,0.2,0.2/CT 0.4,0.2,0.2
AT5-081 D-W (180-44667-4)	5/21/15	12:00 Eastern		Tissue			X	1	BKN 6-19-15
AT5-081 E-W (180-44667-5)	5/21/15	12:00 Eastern		Tissue			X	1	3 COOLERS FEDEX
AT5-082 A-W (180-44667-6)	5/21/15	12:00 Eastern		Tissue			X	1	568237263908 m
AT5-082 B-W (180-44667-7)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-082 C-W (180-44667-8)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-082 D-W (180-44667-9)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-082 E-W (180-44667-10)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-083 A-W (180-44667-11)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 6/19/15	Company	Received by:	Date/Time: 6-19-15 09:45	Company TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSF190412

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 180-203361.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 2 of 4
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 180-44667-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			Preservation Codes:
City: Knoxville	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: TN, 37921				Other:
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-083 A-W (180-44667-11MS)	5/21/15	12:00 Eastern	MS	Tissue			X	1	
AT5-083 A-W (180-44667-11MSD)	5/21/15	12:00 Eastern	MSD	Tissue			X	1	
AT5-083 B-W (180-44667-12)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-083 C-W (180-44667-13)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-083 D-W (180-44667-14)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-083 E-W (180-44667-15)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-084 A-W (180-44667-16)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-084 B-W (180-44667-17)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-084 C-W (180-44667-18)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-084 D-W (180-44667-19)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-084 E-W (180-44667-20)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/18/15			6-19-15 09:45	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSF 180412

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 3 of 4
Company: TestAmerica Laboratories, Inc.				Job #: 180-44667-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-085 A-W (180-44667-21)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-085 B-W (180-44667-22)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-085 C-W (180-44667-23)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-085 D-W (180-44667-24)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-085 E-W (180-44667-25)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-086 A-W (180-44667-26)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-086 B-W (180-44667-27)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-086 C-W (180-44667-28)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-086 D-W (180-44667-29)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-086 E-W (180-44667-30)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-087 A-W (180-44667-31)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		6/18/15			6-19-15 09:45	TA Knox
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSF190412

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.4
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 4 of 4
Company: TestAmerica Laboratories, Inc.				Job #: 180-44667-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-087 B-W (180-44667-32)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-087 C-W (180-44667-33)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-087 D-W (180-44667-34)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-087 E-W (180-44667-35)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-088 A-W (180-44667-36)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/1/15 [signature]		[signature]	6-19-15 09:45	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSF190412

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:	
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : 565 Correction factor: 0.0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.	
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:	
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:	
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC	
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken	
7. Were VOA samples received without headspace?	✓			☐ **7a** Headspace (VOA only)	
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container	
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:	✓		✓	☐ **9a** Could not be determined due to matrix interference	
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired	**Labeling Verified by:** **Date:**
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information	
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____	**pH test strip lot number:**
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished	
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information	
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information	
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information	
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information	
19. Was the sampler identified on the COC?		✓		☐ **19a** Other	

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: _____

Sample Receiving Associate: _____ Date: 6-19-15

QA026R29.doc, 041115

Trace Level Organics

Shipping and Receiving Documents

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory:
	Phone: **410.329.5126**		**TestAmerica - Pittsburgh**
225 Schilling Circle	Project Contact:		**301 Alpha Drive**
Hunt Valley, MD 21031	**Morgan Gelinas**		**Pittsburgh, PA 15238**
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 3 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-081A-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-081B-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-081C-W	1	X	
5/21/2015	1200	X		AT5-081D-W	1	X	
5/21/2015	1200	X		AT5-081E-W	1	X	
5/21/2015	1200	X		AT5-082A-W	1	X	
5/21/2015	1200	X		AT5-082B-W	1	X	
5/21/2015	1200	X		AT5-082C-W	1	X	
5/21/2015	1200	X		AT5-082D-W	1	X	
5/21/2015	1200	X		AT5-082E-W	1	X	
5/21/2015	1200	X		AT5-083A-W	1	X	
5/21/2015	1200	X		AT5-083B-W	1	X	
5/21/2015	1200	X		AT5-083C-W	1	X	
5/21/2015	1200	X		AT5-083D-W	1	X	
5/21/2015	1200	X		AT5-083E-W	1	X	
5/21/2015	1200	X		AT5-084A-W	1	X	
5/21/2015	1200	X		AT5-084B-W	1	X	
5/21/2015	1200	X		AT5-084C-W	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600			**Parallel Thimble**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	**Shoal Tunnel Tissue**
	5/28/15 1700	Dellline Watson	5-29-15 8:50	

44467

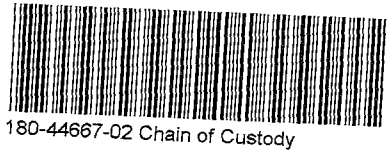
Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory:
	Phone: **410.329.5126**		**TestAmerica - Pittsburgh**
225 Schilling Circle	Project Contact:		**301 Alpha Drive**
Hunt Valley, MD 21031	**Morgan Gelinas**		**Pittsburgh, PA 15238**
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 4 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-084D-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-084E-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-085A-W	1	X	
5/21/2015	1200	X		AT5-085B-W	1	X	
5/21/2015	1200	X		AT5-085C-W	1	X	
5/21/2015	1200	X		AT5-085D-W	1	X	
5/21/2015	1200	X		AT5-085E-W	1	X	
5/21/2015	1200	X		AT5-086A-W	1	X	
5/21/2015	1200	X		AT5-086B-W	1	X	
5/21/2015	1200	X		AT5-086C-W	1	X	
5/21/2015	1200	X		AT5-086D-W	1	X	
5/21/2015	1200	X		AT5-086E-W	1	X	
5/21/2015	1200	X		AT5-087A-W	1	X	
5/21/2015	1200	X		AT5-087B-W	1	X	
5/21/2015	1200	X		AT5-087C-W	1	X	
5/21/2015	1200	X		AT5-087D-W	1	X	
5/21/2015	1200	X		AT5-087E-W	1	X	
5/21/2015	1200	X		AT5-088A-W	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600			**Parallel Thimble**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	**Shoal Tunnel Tissue**
	5/28/15 1700		5-29-15 8:50	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		**phone: 412.963.2428**
	Phone: **860.287.0745**		**fax: 412.963.2468**
Project Name: Parallel Thimble Shoal Tunnel			**ATTN: Carrie Gamber**
Project#: **15204.01**			
Page 3 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-081A-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-081B-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-081C-W	1	X	
5/21/2015	1200	X		AT5-081D-W	1	X	
5/21/2015	1200	X		AT5-081E-W	1	X	
5/21/2015	1200	X		AT5-082A-W	1	X	
5/21/2015	1200	X		AT5-082B-W	1	X	
5/21/2015	1200	X		AT5-082C-W	1	X	
5/21/2015	1200	X		AT5-082D-W	1	X	
5/21/2015	1200	X		AT5-082E-W	1	X	
5/21/2015	1200	X		AT5-083A-W	1	X	
5/21/2015	1200	X		AT5-083B-W	1	X	
5/21/2015	1200	X		AT5-083C-W	1	X	
5/21/2015	1200	X		AT5-083D-W	1	X	
5/21/2015	1200	X		AT5-083E-W	1	X	
5/21/2015	1200	X		AT5-084A-W	1	X	
5/21/2015	1200	X		AT5-084B-W	1	X	
5/21/2015	1200	X		AT5-084C-W	1	X	



Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1000		6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	**Date/Time**	**Received by Laboratory: (Signature)**	**Date/Time**	
	5/28/15 1700		6/1/15 1235	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 4 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-084D-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-084E-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-085A-W	1	X	
5/21/2015	1200	X		AT5-085B-W	1	X	
5/21/2015	1200	X		AT5-085C-W	1	X	
5/21/2015	1200	X		AT5-085D-W	1	X	
5/21/2015	1200	X		AT5-085E-W	1	X	
5/21/2015	1200	X		AT5-086A-W	1	X	
5/21/2015	1200	X		AT5-086B-W	1	X	
5/21/2015	1200	X		AT5-086C-W	1	X	
5/21/2015	1200	X		AT5-086D-W	1	X	
5/21/2015	1200	X		AT5-086E-W	1	X	
5/21/2015	1200	X		AT5-087A-W	1	X	
5/21/2015	1200	X		AT5-087B-W	1	X	
5/21/2015	1200	X		AT5-087C-W	1	X	
5/21/2015	1200	X		AT5-087D-W	1	X	
5/21/2015	1200	X		AT5-087E-W	1	X	
5/21/2015	1200	X		AT5-088A-W	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600		6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1700		6/1/15 1235	

Client:	Project Manager:
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**
	Phone: **410.329.5126**
225 Schilling Circle	Project Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: **860.287.0745**

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 3 of 6

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Moisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-081A-W	1	X	X				X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-081B-W	1	X	X				X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-081C-W	1	X	X				X	X	X	
5/21/2015	1200	X		AT5-081D-W	1	X	X				X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
5/21/2015	1200	X		AT5-081E-W	1	X	X				X	X	X	
5/21/2015	1200	X		AT5-082A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082B-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082C-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082D-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-082E-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083B-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083C-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083D-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-083E-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-084A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-084B-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-084C-W	1	X	X	X		X	X	X	X	

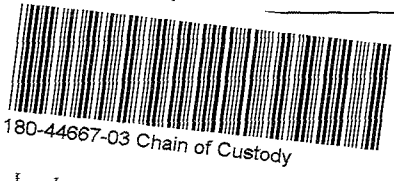
Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber



Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
Sarita Corum	6/10/15 1530		6/12/15 0800	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory:
	Phone: **410.329.5126**		**TestAmerica - Pittsburgh**
225 Schilling Circle	Project Contact:		**301 Alpha Drive**
Hunt Valley, MD 21031	**Morgan Gelinas**		**Pittsburgh, PA 15238**
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 4 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Moisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-084D-W	1	X	X	X		X	X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-084E-W	1	X	X	X		X	X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-085A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-085B-W	1	X	X	X		X	X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
5/21/2015	1200	X		AT5-085C-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-085D-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-085E-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086B-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086C-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086D-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-086E-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087B-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087C-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087D-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-087E-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-088A-W	1	X	X	X		X	X	X	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
Sonita Corum	6/10/15 1530		06/13/15 0800	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	

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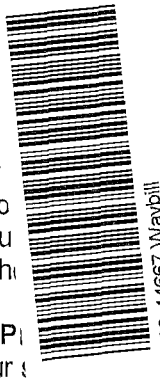
180-44667 Waybill



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KATHRYN MINCZUK
4105847000 5206
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

45 LBS 1 OF 7

DWT: 24,18,18

SHIP TO:
CARRIE GAMBER
4129632428
TESTAMERICA
301 ALPHA DRIVE
PITTSBURGH PA 15238-2907

PA 152 9-22

UPS EARLY A.M. 1+

TRACKING #: 1Z 288 682 15 9407 7421

Uncorrected temp 2.7 °C
Thermometer ID 84

CF 0.0 Initials MAL

PT-WI-SR-001 effective 7/26/13

BILLING: P/P

6/2/15 Chest Dropoff

Department Code: 2123
Project Phase AND Task: 1520401_0012
CS 17.2.07.

WNTNV50 63.0A 04/2015

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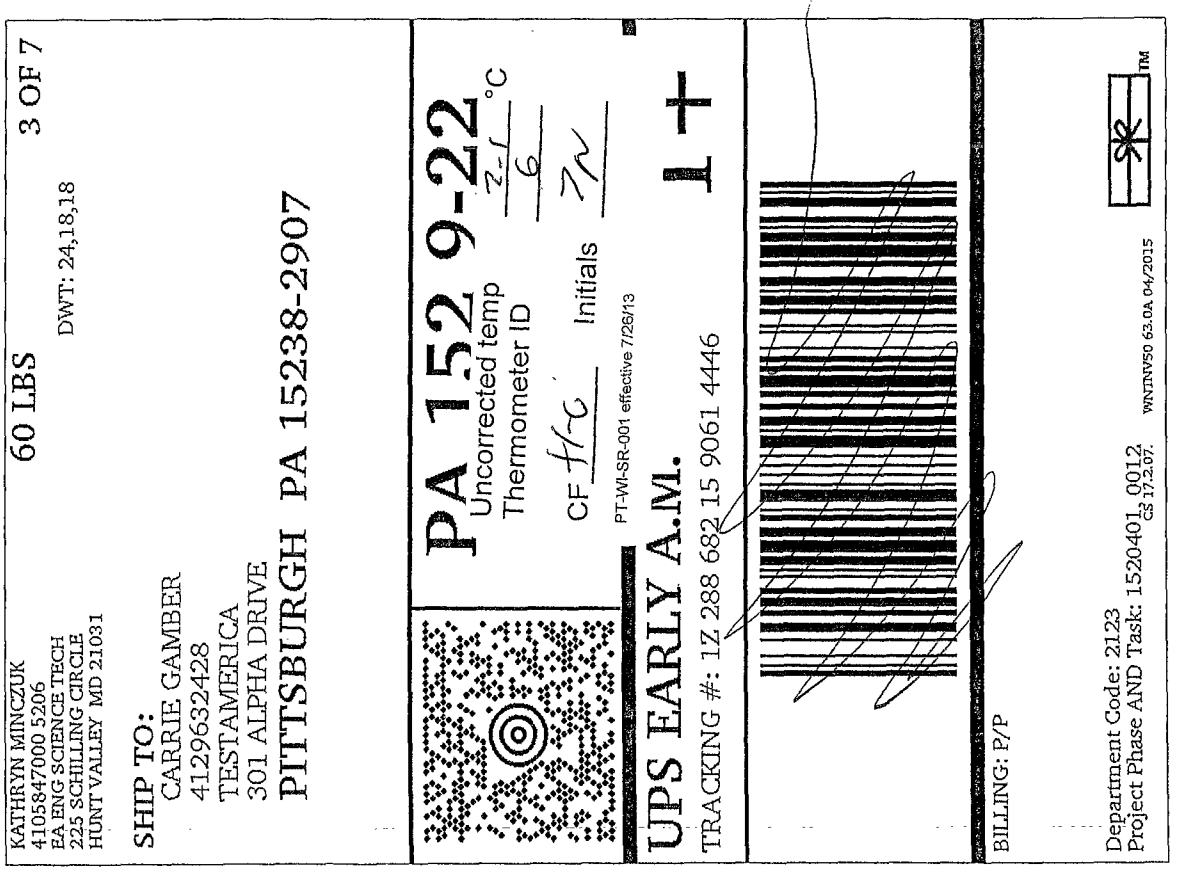

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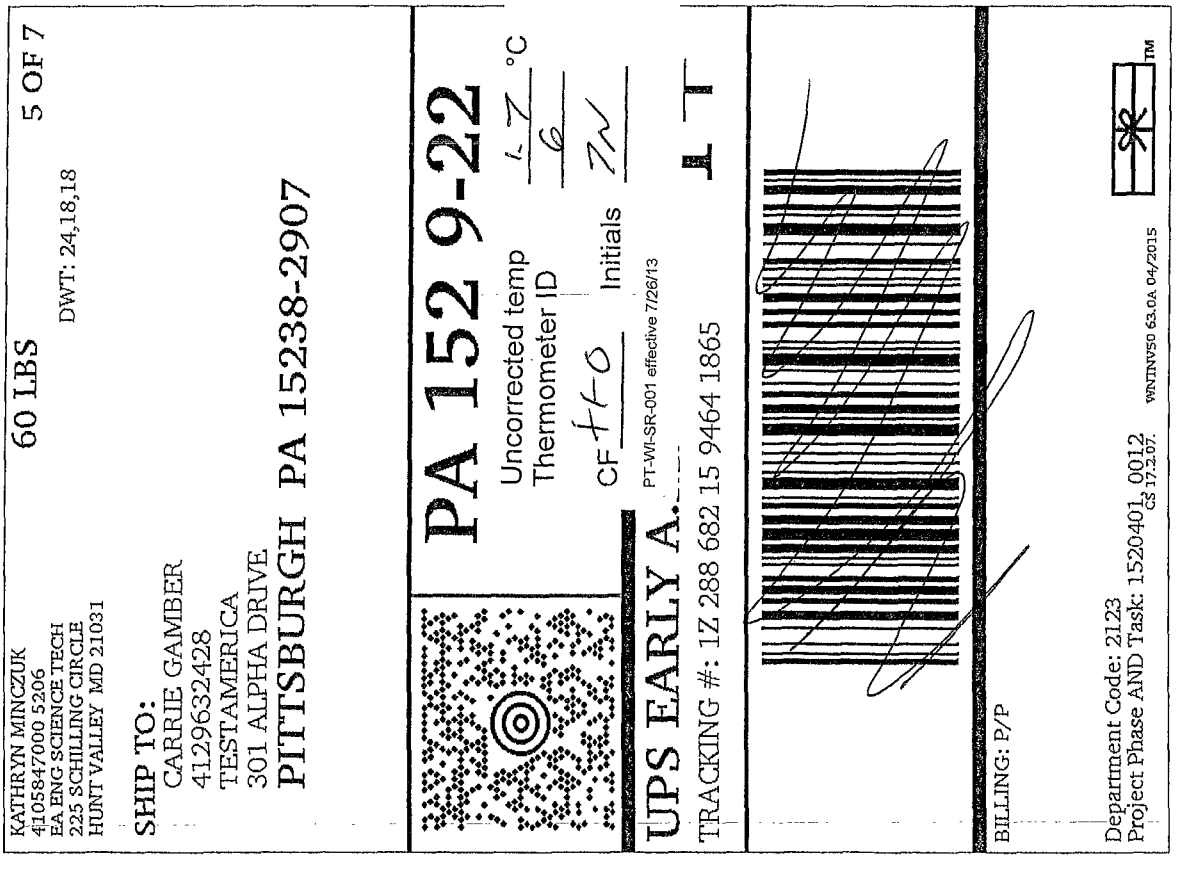

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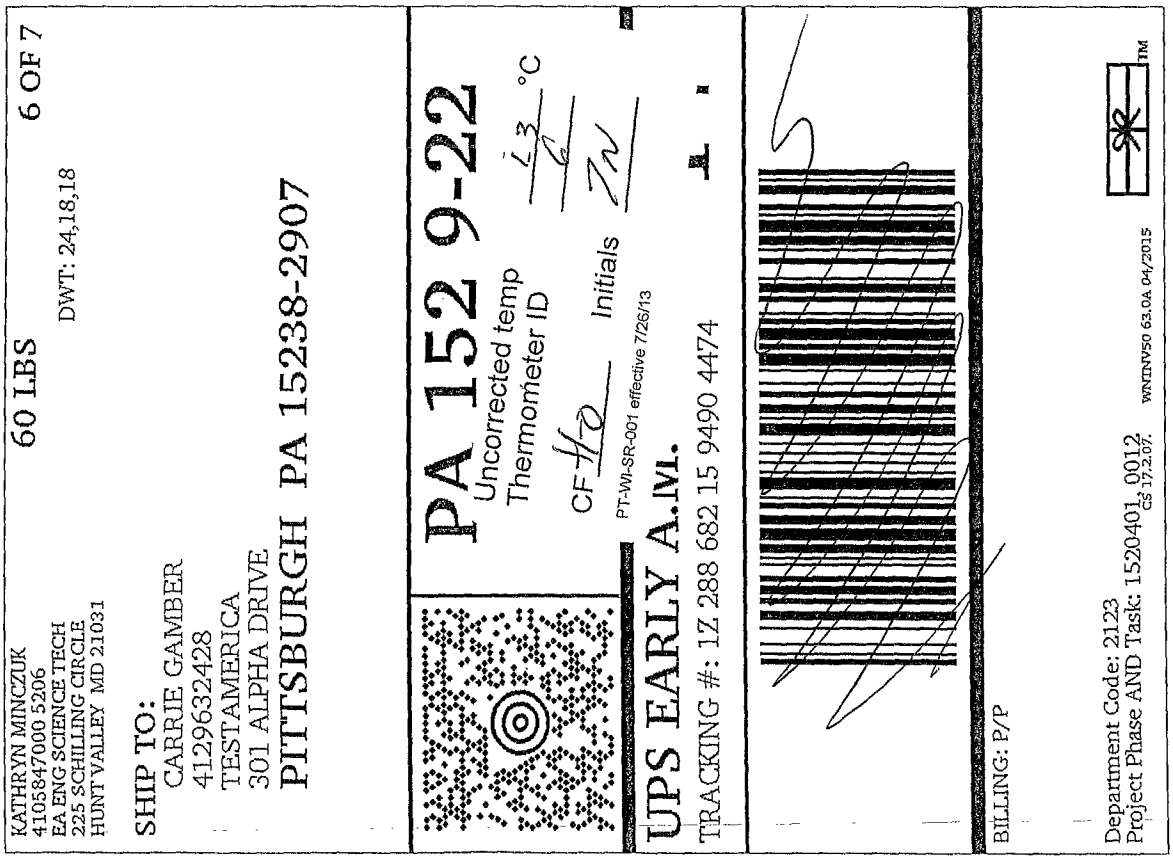

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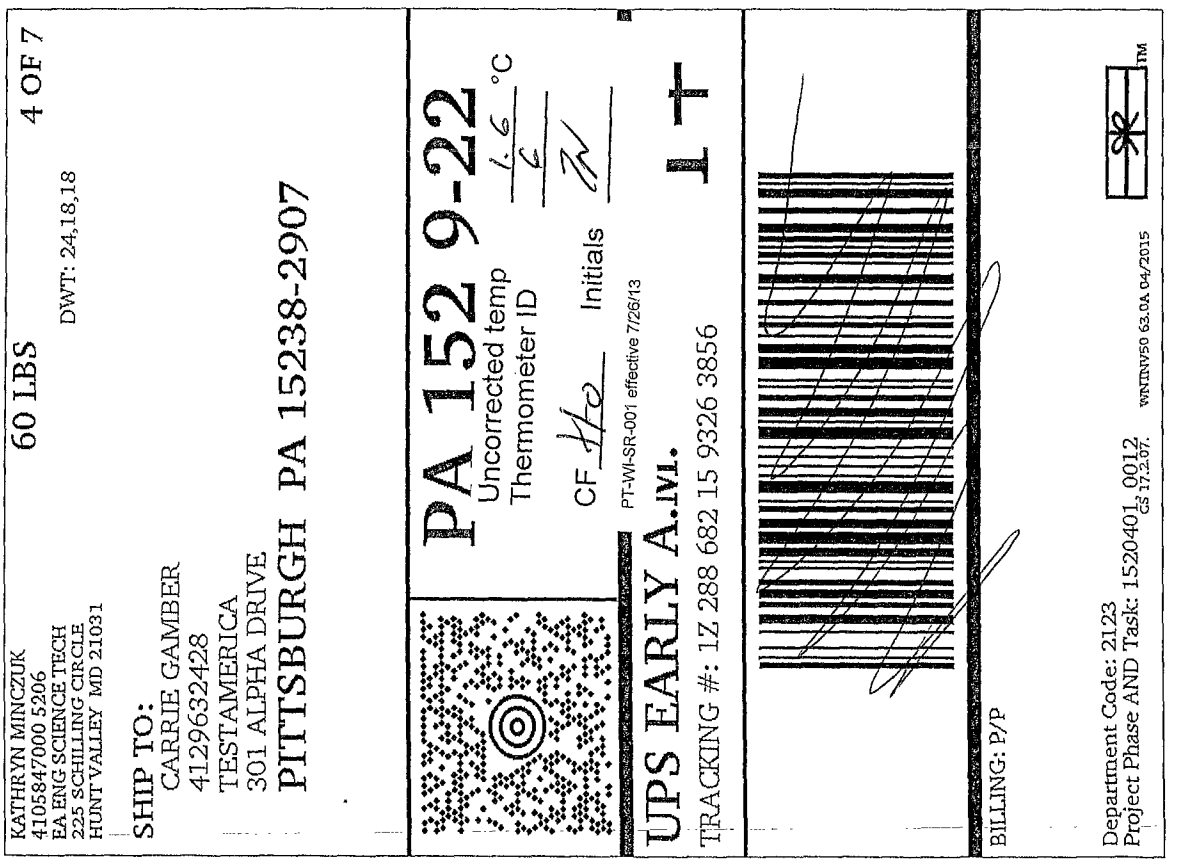

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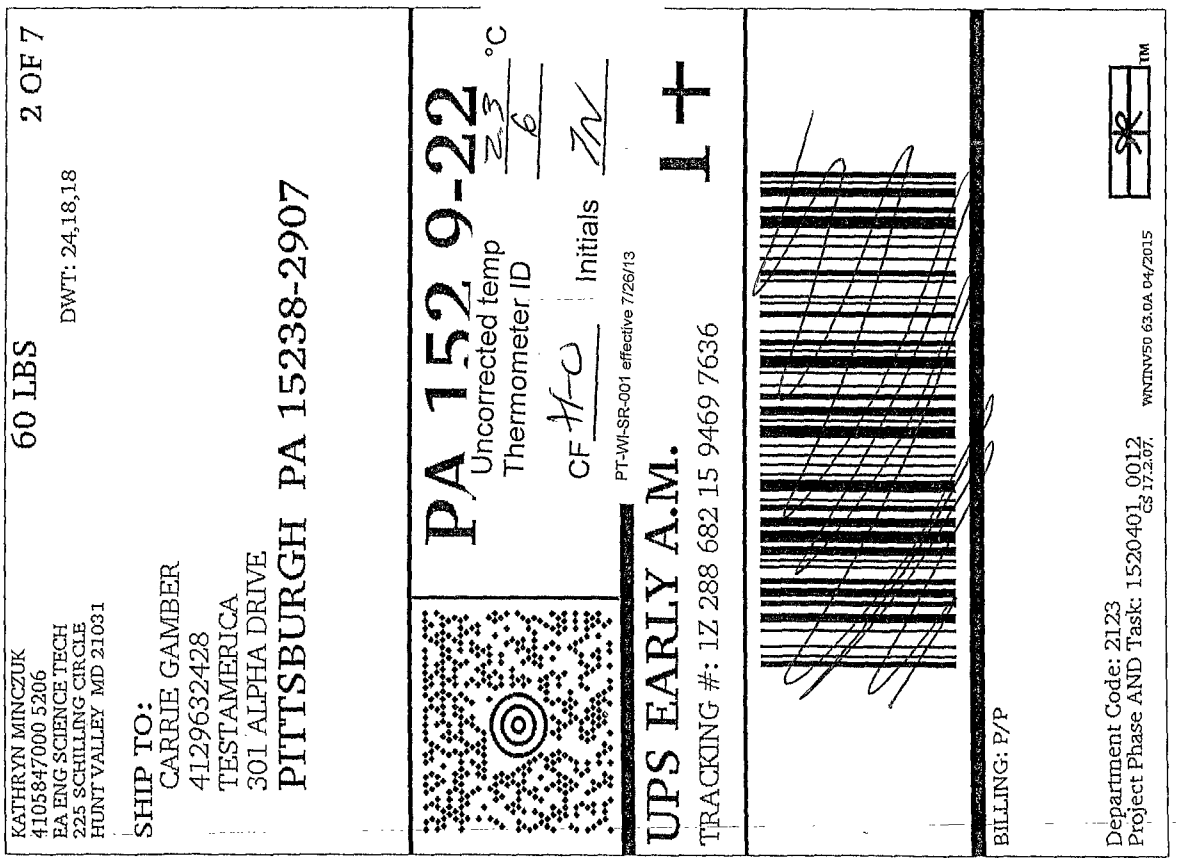

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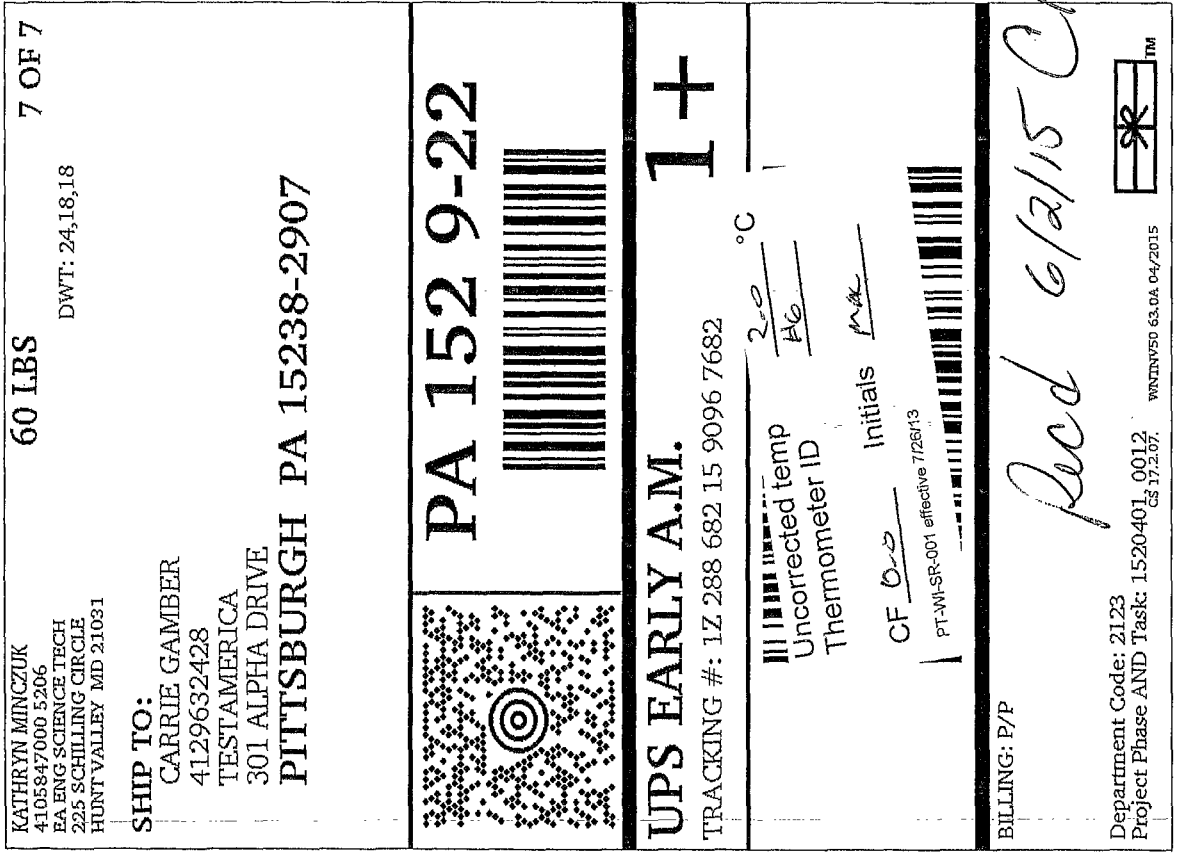

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-44667-2

Login Number: 44667
List Number: 1
Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 180-44668-1

Job Description: CBBT Thimble Shoal Parallel Tunnel

For:
EA Engineering, Science, and Technology
225 Schilling Circle
Hunt Valley, MD 21031

Attention: Peggy Derrick

Approved for release.
Carrie L Gamber
Senior Project Manager
7/15/2015 2:15 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
07/15/2015

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: CBBT Thimble Shoal Parallel Tunnel

Report Number: 180-44668-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 05/29/2015; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 7 coolers at receipt time were 1.3º C, 1.6º C, 1.7º C, 2.0º C, 2.1º C, 2.3º C and 2.7º C.

SEMIVOLATILES
Several samples was diluted due to the nature of the sample matrix. Elevated reporting limits (RLs) are provided.

PESTICIDES
The closing continuing calibration verification (CCV) standard associated with batch 146473 failed to meet acceptance limits for 4,4'-DDT and 2,4'-DDT. The associated samples were re-analyzed following a successful CCV and produced similar results, indicating that the sample matrix is adversely affecting the instrument and causing the failures.

METALS
The holding time for mercury on tissues is 28 days from the date sampled. These samples were released from hold after the 28 day holding time for mercury. All results are flagged with the H qualifier and reported with this narration.

Several samples were diluted due to the nature of the sample matrix for mercury. Elevated reporting limits (RLs) are provided.

Antimony, Iron and Magnesium were detected in method blank MB 180-145442/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Several analytes were detected in method blank MB 180-145552/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Vanadium was detected in method blank MB 180-145685/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

MOISTURE
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT LIPIDS
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44668-1

Client Sample ID: AT5-088 B-W — Lab Sample ID: 180-44668-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	170		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	1.9		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.33	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Calcium	280		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	1.2		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.29		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.7		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	400		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0056	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2300		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	680		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	4500		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.80		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.19		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.032	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0044	J	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.59	B	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	11		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.8		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.67		0.19	0.056	%	1		Lipids	Total/NA

Client Sample ID: AT5-088 C-W — Lab Sample ID: 180-44668-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	130	J	870	100	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	140		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.4		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.22	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.010	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	270		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.91		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.24		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	260		5.0	0.35	mg/Kg	1		6020A	Total/NA
Potassium	2500		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	740		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	4900		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.60		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.15		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0026	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.28	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.40	B	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	11		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.2		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	1.2		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-088 D-W — Lab Sample ID: 180-44668-3

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-088 D-W (Continued) — Lab Sample ID: 180-44668-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	110		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.3		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.28	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Calcium	250		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	1.7		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.26		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.9		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	250		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0044	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2400		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	720		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5000		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.98		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.15		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.23	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.36	B	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	11		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.0		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.83		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-088 E-W — Lab Sample ID: 180-44668-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	210	J	880	100	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	2.4	J	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.1		0.098	0.018	mg/Kg	1		6020A	Total/NA
Cadmium	0.018	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	170		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	1.0		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.18		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.3		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	57		4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0081	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2400		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	710		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5100		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.61		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.099		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.16	B	0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	13		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	0.53		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.84		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-089 A-W — Lab Sample ID: 180-44668-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	400	J	900	110	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	6.6		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.5		0.10	0.018	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-089 A-W (Continued) — Lab Sample ID: 180-44668-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.037	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.019	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	520		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.73		0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.30		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	76		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.011	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2400		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	720		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5000		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.78		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.12		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.27	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.18	B	0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	92		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	3.0		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.87		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-089 B-W — Lab Sample ID: 180-44668-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	43		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.5		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.11	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.0089	J	0.10	0.0070	mg/Kg	1		6020A	Total/NA
Calcium	1100		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.59		0.20	0.0061	mg/Kg	1		6020A	Total/NA
Cobalt	0.29		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.4		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	200		5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.0082	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2400		50	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	740		50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5000		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.79		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.12		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.23	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.31	B	0.10	0.0079	mg/Kg	1		6020A	Total/NA
Zinc	11		0.50	0.065	mg/Kg	1		6020A	Total/NA
Manganese	1.8		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.67		0.19	0.056	%	1		Lipids	Total/NA

Client Sample ID: AT5-089 C-W — Lab Sample ID: 180-44668-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	220	J	750	89	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	140		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	3.1		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.59	J	0.97	0.010	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-089 C-W (Continued) — Lab Sample ID: 180-44668-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	5400		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	1.5		0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.42		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.6		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	630		4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.0072	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	930		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	6200		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	1.2		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.27		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.85	B	0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	32		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	10		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.83		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-089 D-W — Lab Sample ID: 180-44668-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	220	J	850	100	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	2.1	J	2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.2		0.096	0.017	mg/Kg	1		6020A	Total/NA
Cadmium	0.0073	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	180		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.34		0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.32		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.2		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	57		4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.011	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2500		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	710		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5200		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.74		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.071	J	0.096	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.29	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.098	B	0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	34		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	1.5		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.65		0.19	0.056	%	1		Lipids	Total/NA

Client Sample ID: AT5-089 E-W — Lab Sample ID: 180-44668-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	24		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.1		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.049	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Calcium	810		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.42		0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.24		0.048	0.0014	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-089 E-W (Continued) — Lab Sample ID: 180-44668-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	1.3		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	130		4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.0071	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2100		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	670		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4700		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.54		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.098		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.21	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.21	B	0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	9.6		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	1.0		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.54		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-090 A-W — Lab Sample ID: 180-44668-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	42		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	6.7		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	5.5		0.95	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	2.3		0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	660		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.34		0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.35		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	68		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	180	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.57		0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	5200		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	1300	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4100		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.96		0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.27		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Antimony	0.015	J B	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	2.1		0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.0038	J	0.095	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.41		0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	1600		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	19		0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.79		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-090 B-W — Lab Sample ID: 180-44668-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	2.9		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.047	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.052	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	170		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.71		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.16		0.049	0.0015	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-090 B-W (Continued) — Lab Sample ID: 180-44668-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	2.5		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	71	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.012	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2400		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	830	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5800		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.56		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.099		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.28	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0020	J	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.082	J	0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	31		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	0.86		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.39		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-090 C-W — Lab Sample ID: 180-44668-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	14		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.077	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.039	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	180		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.87		0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.17		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.7		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	79	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.020	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2400		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	800	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5600		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.68		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.11		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.31	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.19		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	12		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	0.71		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.68		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-090 D-W — Lab Sample ID: 180-44668-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	170		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.3		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.44	J	0.95	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.034	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	370		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	1.4		0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.25		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.19	0.031	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-090 D-W (Continued) — Lab Sample ID: 180-44668-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	350	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.014	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	2000		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	780	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5100		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	1.0		0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.30		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Selenium	0.26	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.50		0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	11		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	3.7		0.48	0.0098	mg/Kg	1		6020A	Total/NA
Mercury	0.047	J H	0.13	0.046	mg/Kg	5		7471B	Total/NA
Percent Lipids	0.69		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-090 E-W — Lab Sample ID: 180-44668-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	53		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.15	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.037	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	250		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	1.1		0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.18		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	2.2		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	140	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.017	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	810	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5600		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.74		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.15		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.27		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	11		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	1.4		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.57		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-091 A-W — Lab Sample ID: 180-44668-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	300	J	1000	120	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	2.1	J	2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.3		0.095	0.017	mg/Kg	1		6020A	Total/NA
Cadmium	0.015	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	160		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.38		0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.16		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	1.5		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	49		4.8	0.34	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-091 A-W (Continued) — Lab Sample ID: 180-44668-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silver	0.012	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	2400		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	710		48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4900		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.34		0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.097		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Selenium	0.27	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.19	B	0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	11		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	0.47	J	0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.72		0.19	0.057	%	1		Lipids	Total/NA

Client Sample ID: AT5-091 B-W — Lab Sample ID: 180-44668-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	350	J	990	120	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	260		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.5		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.42	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.010	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	350		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	1.2		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.33		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.8		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	460		4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.015	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	800		49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4900		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.84		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.25		0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.033	J	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0051	J	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.71	B	0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	27		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	5.3		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.65		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-091 C-W — Lab Sample ID: 180-44668-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	8.3		3.0	0.29	mg/Kg	1		6020A	Total/NA
Arsenic	2.5		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.026	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Calcium	170		51	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.61		0.20	0.0062	mg/Kg	1		6020A	Total/NA
Cobalt	0.20		0.051	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.8		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	64		5.1	0.36	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-091 C-W (Continued) — Lab Sample ID: 180-44668-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silver	0.018	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2600		51	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	740		51	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5300		51	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.50		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.12		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.0027	J	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.51	0.051	mg/Kg	1		6020A	Total/NA
Vanadium	0.21	B	0.10	0.0080	mg/Kg	1		6020A	Total/NA
Zinc	11		0.51	0.065	mg/Kg	1		6020A	Total/NA
Manganese	0.58		0.51	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.56		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-091 D-W — Lab Sample ID: 180-44668-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	360	J	1100	130	ug/Kg	4	☼	8270D LL	Total/NA
Aluminum	23		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.2		0.095	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.095	J	0.95	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.028	J	0.095	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	170		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.95	B	0.19	0.0058	mg/Kg	1		6020A	Total/NA
Cobalt	0.59		0.048	0.0014	mg/Kg	1		6020A	Total/NA
Copper	3.2		0.19	0.031	mg/Kg	1		6020A	Total/NA
Iron	77	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.013	J	0.095	0.0037	mg/Kg	1		6020A	Total/NA
Potassium	2400	B	48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	670	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4500	B	48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.62		0.095	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.16		0.095	0.0036	mg/Kg	1		6020A	Total/NA
Antimony	0.015	J	0.19	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.24	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Thallium	0.011	J	0.095	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.29	B	0.095	0.0075	mg/Kg	1		6020A	Total/NA
Zinc	11		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	0.78		0.48	0.0098	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.41		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-091 E-W — Lab Sample ID: 180-44668-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	200		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.3		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.36	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Beryllium	0.010	J	0.097	0.0073	mg/Kg	1		6020A	Total/NA
Cadmium	0.027	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	220		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	1.1	B	0.19	0.0059	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-091 E-W (Continued) — Lab Sample ID: 180-44668-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.28		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.0		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	400	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.014	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2300	B	49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	810	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	4800	B	49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.71		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.25		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.19	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0051	J	0.097	0.0019	mg/Kg	1		6020A	Total/NA
Vanadium	0.67	B	0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	11		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	4.2		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.77		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-092 A-W — Lab Sample ID: 180-44668-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	71		2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.8		0.097	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.18	J	0.97	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.030	J	0.097	0.0068	mg/Kg	1		6020A	Total/NA
Calcium	270		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	1.3		0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.18		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.6		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	180	B	4.9	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.014	J	0.097	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2100		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	810	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5600		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.89		0.097	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.18		0.097	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.19	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Vanadium	0.26		0.097	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	11		0.49	0.063	mg/Kg	1		6020A	Total/NA
Manganese	1.9		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.43		0.20	0.058	%	1		Lipids	Total/NA

Client Sample ID: AT5-092 B-W — Lab Sample ID: 180-44668-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	93		2.9	0.27	mg/Kg	1		6020A	Total/NA
Arsenic	2.3		0.096	0.017	mg/Kg	1		6020A	Total/NA
Barium	0.18	J	0.96	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.039	J	0.096	0.0067	mg/Kg	1		6020A	Total/NA
Calcium	410		48	1.3	mg/Kg	1		6020A	Total/NA
Chromium	1.5		0.19	0.0059	mg/Kg	1		6020A	Total/NA
Cobalt	0.20		0.048	0.0014	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-092 B-W (Continued) — Lab Sample ID: 180-44668-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	3.1		0.19	0.032	mg/Kg	1		6020A	Total/NA
Iron	250	B	4.8	0.34	mg/Kg	1		6020A	Total/NA
Silver	0.028	J	0.096	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2200		48	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	820	B	48	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5100		48	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.97		0.096	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.17		0.096	0.0037	mg/Kg	1		6020A	Total/NA
Selenium	0.23	J	0.48	0.048	mg/Kg	1		6020A	Total/NA
Vanadium	0.32		0.096	0.0076	mg/Kg	1		6020A	Total/NA
Zinc	14		0.48	0.062	mg/Kg	1		6020A	Total/NA
Manganese	3.4		0.48	0.0099	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.47		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-092 C-W — Lab Sample ID: 180-44668-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	98		3.0	0.29	mg/Kg	1		6020A	Total/NA
Arsenic	2.3		0.10	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.20	J	1.0	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.029	J	0.10	0.0071	mg/Kg	1		6020A	Total/NA
Calcium	300		51	1.3	mg/Kg	1		6020A	Total/NA
Chromium	2.4		0.20	0.0062	mg/Kg	1		6020A	Total/NA
Cobalt	0.22		0.051	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.4		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	230	B	5.1	0.36	mg/Kg	1		6020A	Total/NA
Silver	0.015	J	0.10	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2200		51	1.4	mg/Kg	1		6020A	Total/NA
Magnesium	840	B	51	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5200		51	1.4	mg/Kg	1		6020A	Total/NA
Nickel	1.4		0.10	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.15		0.10	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.25	J	0.51	0.051	mg/Kg	1		6020A	Total/NA
Vanadium	0.22		0.10	0.0080	mg/Kg	1		6020A	Total/NA
Zinc	42		0.51	0.065	mg/Kg	1		6020A	Total/NA
Manganese	4.5		0.51	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.57		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-092 D-W — Lab Sample ID: 180-44668-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	2.0	J	3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.6		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.15	J	0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	0.043	J	0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	170		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.65		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.15		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	2.7		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	63	B	5.0	0.35	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: AT5-092 D-W (Continued) — Lab Sample ID: 180-44668-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silver	0.012	J	0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	2500		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	820	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	5800		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	0.53		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.093	J	0.099	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	0.32	J	0.50	0.050	mg/Kg	1		6020A	Total/NA
Vanadium	0.098	J	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	87		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	2.2		0.50	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.71		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: AT5-092 E-W — Lab Sample ID: 180-44668-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2,4'-DDE	1.4	J	12	1.2	ug/Kg	1		8081B_LL	Total/NA
Aluminum	1.3	J	2.9	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	2.4		0.098	0.018	mg/Kg	1		6020A	Total/NA
Barium	0.055	J	0.98	0.010	mg/Kg	1		6020A	Total/NA
Cadmium	0.039	J	0.098	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	170		49	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.37		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.13		0.049	0.0015	mg/Kg	1		6020A	Total/NA
Copper	1.9		0.20	0.032	mg/Kg	1		6020A	Total/NA
Iron	56	B	4.9	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.010	J	0.098	0.0038	mg/Kg	1		6020A	Total/NA
Potassium	2600		49	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	750	B	49	0.18	mg/Kg	1		6020A	Total/NA
Sodium	5300		49	1.3	mg/Kg	1		6020A	Total/NA
Nickel	0.35		0.098	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.083	J	0.098	0.0037	mg/Kg	1		6020A	Total/NA
Antimony	0.047	J B	0.20	0.0025	mg/Kg	1		6020A	Total/NA
Selenium	0.27	J	0.49	0.049	mg/Kg	1		6020A	Total/NA
Thallium	0.0057	J	0.098	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.060	J	0.098	0.0077	mg/Kg	1		6020A	Total/NA
Zinc	16		0.49	0.064	mg/Kg	1		6020A	Total/NA
Manganese	0.53		0.49	0.010	mg/Kg	1		6020A	Total/NA
Percent Lipids	0.71		0.20	0.059	%	1		Lipids	Total/NA

Client Sample ID: SRM — Lab Sample ID: 180-44668-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDD	0.73	J p	5.0	0.65	ug/Kg	1		8081B_LL	Total/NA
4,4'-DDE	1.6	J	5.0	0.76	ug/Kg	1		8081B_LL	Total/NA
2,4'-DDD	2.3	J	5.0	0.30	ug/Kg	1		8081B_LL	Total/NA
2,4'-DDE	0.59	J	5.0	0.46	ug/Kg	1		8081B_LL	Total/NA
4,4'-DDT - RA	6.4		5.0	0.75	ug/Kg	1		8081B_LL	Total/NA
Aluminum	39		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	6.9		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	5.8		0.99	0.011	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SRM (Continued) — Lab Sample ID: 180-44668-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	2.4		0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	680		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.34		0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.37		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	71		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	180	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.59		0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	5500		50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	1300	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	4200		50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	1.0		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.29		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Antimony	0.010	J B	0.20	0.0026	mg/Kg	1		6020A	Total/NA
Selenium	2.1		0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0022	J	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.42		0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	1700		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	20		0.50	0.010	mg/Kg	1		6020A	Total/NA

Client Sample ID: SRM — Lab Sample ID: 180-44668-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	50		3.0	0.28	mg/Kg	1		6020A	Total/NA
Arsenic	7.1		0.099	0.018	mg/Kg	1		6020A	Total/NA
Barium	5.9		0.99	0.011	mg/Kg	1		6020A	Total/NA
Cadmium	2.3		0.099	0.0069	mg/Kg	1		6020A	Total/NA
Calcium	670		50	1.3	mg/Kg	1		6020A	Total/NA
Chromium	0.48	B	0.20	0.0060	mg/Kg	1		6020A	Total/NA
Cobalt	0.37		0.050	0.0015	mg/Kg	1		6020A	Total/NA
Copper	71		0.20	0.033	mg/Kg	1		6020A	Total/NA
Iron	180	B	5.0	0.35	mg/Kg	1		6020A	Total/NA
Silver	0.58		0.099	0.0039	mg/Kg	1		6020A	Total/NA
Potassium	5500	B	50	1.3	mg/Kg	1		6020A	Total/NA
Magnesium	1200	B	50	0.19	mg/Kg	1		6020A	Total/NA
Sodium	3700	B	50	1.4	mg/Kg	1		6020A	Total/NA
Nickel	1.0		0.099	0.011	mg/Kg	1		6020A	Total/NA
Lead	0.31		0.099	0.0038	mg/Kg	1		6020A	Total/NA
Selenium	2.1		0.50	0.050	mg/Kg	1		6020A	Total/NA
Thallium	0.0056	J	0.099	0.0020	mg/Kg	1		6020A	Total/NA
Vanadium	0.43	B	0.099	0.0078	mg/Kg	1		6020A	Total/NA
Zinc	1600		0.50	0.064	mg/Kg	1		6020A	Total/NA
Manganese	19		0.50	0.010	mg/Kg	1		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-088 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-1
Matrix: Tissue
Percent Solids: 15.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		970	93	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Acenaphthylene	ND		970	110	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Anthracene	ND		970	94	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Benzo[a]anthracene	ND		970	120	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Benzo[b]fluoranthene	ND		970	150	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Benzo[k]fluoranthene	ND		970	190	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Benzo[g,h,i]perylene	ND		970	96	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Benzo[a]pyrene	ND		970	96	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Bis(2-ethylhexyl) phthalate	ND		9600	780	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Chrysene	ND		970	110	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Dibenz(a,h)anthracene	ND		970	110	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Fluoranthene	ND		970	100	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Fluorene	ND		970	130	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Indeno[1,2,3-cd]pyrene	ND		970	99	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Naphthalene	ND		970	83	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Phenanthrene	ND		970	150	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Phenol	ND		970	110	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4
Pyrene	ND		970	97	ug/Kg	☼	06/23/15 03:33	06/29/15 04:21	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*60*		*34 - 103*	*06/23/15 03:33*	*06/29/15 04:21*	*4*
2,4,6-Tribromophenol (Surr)	*82*		*20 - 113*	*06/23/15 03:33*	*06/29/15 04:21*	*4*
Phenol-d5 (Surr)	*65*		*35 - 103*	*06/23/15 03:33*	*06/29/15 04:21*	*4*
2-Fluorobiphenyl	*72*		*38 - 103*	*06/23/15 03:33*	*06/29/15 04:21*	*4*
Nitrobenzene-d5 (Surr)	*68*		*41 - 108*	*06/23/15 03:33*	*06/29/15 04:21*	*4*
Terphenyl-d14 (Surr)	*80*		*28 - 109*	*06/23/15 03:33*	*06/29/15 04:21*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-088 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-2
Matrix: Tissue
Percent Solids: 17.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		870	83	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Acenaphthylene	ND		870	99	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Anthracene	ND		870	85	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Benzo[a]anthracene	ND		870	110	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Benzo[b]fluoranthene	ND		870	140	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Benzo[k]fluoranthene	ND		870	170	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Benzo[g,h,i]perylene	ND		870	86	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Benzo[a]pyrene	ND		870	87	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Bis(2-ethylhexyl) phthalate	ND		8700	700	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Chrysene	ND		870	100	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Dibenz(a,h)anthracene	ND		870	96	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Fluoranthene	ND		870	93	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Fluorene	ND		870	110	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Indeno[1,2,3-cd]pyrene	ND		870	89	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Naphthalene	ND		870	75	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Phenanthrene	ND		870	140	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Phenol	**130**	**J**	870	100	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4
Pyrene	ND		870	88	ug/Kg	☼	06/23/15 03:33	06/29/15 04:49	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*36*		*34 - 103*	*06/23/15 03:33*	*06/29/15 04:49*	*4*
2,4,6-Tribromophenol (Surr)	*55*		*20 - 113*	*06/23/15 03:33*	*06/29/15 04:49*	*4*
Phenol-d5 (Surr)	*42*		*35 - 103*	*06/23/15 03:33*	*06/29/15 04:49*	*4*
2-Fluorobiphenyl	*49*		*38 - 103*	*06/23/15 03:33*	*06/29/15 04:49*	*4*
Nitrobenzene-d5 (Surr)	*45*		*41 - 108*	*06/23/15 03:33*	*06/29/15 04:49*	*4*
Terphenyl-d14 (Surr)	*52*		*28 - 109*	*06/23/15 03:33*	*06/29/15 04:49*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-088 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-3
Matrix: Tissue
Percent Solids: 16.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		970	93	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Acenaphthylene	ND		970	110	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Anthracene	ND		970	95	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Benzo[a]anthracene	ND		970	120	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Benzo[b]fluoranthene	ND		970	150	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Benzo[k]fluoranthene	ND		970	200	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Benzo[g,h,i]perylene	ND		970	96	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Benzo[a]pyrene	ND		970	97	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Bis(2-ethylhexyl) phthalate	ND		9700	780	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Chrysene	ND		970	120	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Dibenz(a,h)anthracene	ND		970	110	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Fluoranthene	ND		970	100	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Fluorene	ND		970	130	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Indeno[1,2,3-cd]pyrene	ND		970	100	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Naphthalene	ND		970	83	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Phenanthrene	ND		970	150	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Phenol	ND		970	110	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4
Pyrene	ND		970	98	ug/Kg	☼	06/23/15 03:33	06/29/15 05:16	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*53*		*34 - 103*	*06/23/15 03:33*	*06/29/15 05:16*	*4*
2,4,6-Tribromophenol (Surr)	*79*		*20 - 113*	*06/23/15 03:33*	*06/29/15 05:16*	*4*
Phenol-d5 (Surr)	*60*		*35 - 103*	*06/23/15 03:33*	*06/29/15 05:16*	*4*
2-Fluorobiphenyl	*69*		*38 - 103*	*06/23/15 03:33*	*06/29/15 05:16*	*4*
Nitrobenzene-d5 (Surr)	*64*		*41 - 108*	*06/23/15 03:33*	*06/29/15 05:16*	*4*
Terphenyl-d14 (Surr)	*84*		*28 - 109*	*06/23/15 03:33*	*06/29/15 05:16*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-088 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-4
Matrix: Tissue
Percent Solids: 17.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		880	84	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Acenaphthylene	ND		880	100	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Anthracene	ND		880	86	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Benzo[a]anthracene	ND		880	110	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Benzo[b]fluoranthene	ND		880	140	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Benzo[k]fluoranthene	ND		880	180	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Benzo[g,h,i]perylene	ND		880	87	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Benzo[a]pyrene	ND		880	88	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Bis(2-ethylhexyl) phthalate	ND		8800	710	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Chrysene	ND		880	100	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Dibenz(a,h)anthracene	ND		880	97	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Fluoranthene	ND		880	94	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Fluorene	ND		880	120	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Indeno[1,2,3-cd]pyrene	ND		880	90	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Naphthalene	ND		880	75	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Phenanthrene	ND		880	140	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Phenol	**210**	**J**	880	100	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4
Pyrene	ND		880	89	ug/Kg	☼	06/23/15 03:33	06/29/15 05:44	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*49*		*34 - 103*	*06/23/15 03:33*	*06/29/15 05:44*	*4*
2,4,6-Tribromophenol (Surr)	*84*		*20 - 113*	*06/23/15 03:33*	*06/29/15 05:44*	*4*
Phenol-d5 (Surr)	*55*		*35 - 103*	*06/23/15 03:33*	*06/29/15 05:44*	*4*
2-Fluorobiphenyl	*60*		*38 - 103*	*06/23/15 03:33*	*06/29/15 05:44*	*4*
Nitrobenzene-d5 (Surr)	*56*		*41 - 108*	*06/23/15 03:33*	*06/29/15 05:44*	*4*
Terphenyl-d14 (Surr)	*73*		*28 - 109*	*06/23/15 03:33*	*06/29/15 05:44*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-089 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-5
Matrix: Tissue
Percent Solids: 16.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		900	86	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Acenaphthylene	ND		900	100	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Anthracene	ND		900	87	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Benzo[a]anthracene	ND		900	110	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Benzo[b]fluoranthene	ND		900	140	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Benzo[k]fluoranthene	ND		900	180	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Benzo[g,h,i]perylene	ND		900	89	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Benzo[a]pyrene	ND		900	89	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Bis(2-ethylhexyl) phthalate	ND		8900	720	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Chrysene	ND		900	110	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Dibenz(a,h)anthracene	ND		900	99	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Fluoranthene	ND		900	95	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Fluorene	ND		900	120	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Indeno[1,2,3-cd]pyrene	ND		900	92	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Naphthalene	ND		900	77	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Phenanthrene	ND		900	140	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Phenol	**400**	**J**	900	110	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4
Pyrene	ND		900	90	ug/Kg	☼	06/23/15 03:33	06/29/15 06:12	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*69*		*34 - 103*	*06/23/15 03:33*	*06/29/15 06:12*	*4*
2,4,6-Tribromophenol (Surr)	*106*		*20 - 113*	*06/23/15 03:33*	*06/29/15 06:12*	*4*
Phenol-d5 (Surr)	*77*		*35 - 103*	*06/23/15 03:33*	*06/29/15 06:12*	*4*
2-Fluorobiphenyl	*90*		*38 - 103*	*06/23/15 03:33*	*06/29/15 06:12*	*4*
Nitrobenzene-d5 (Surr)	*80*		*41 - 108*	*06/23/15 03:33*	*06/29/15 06:12*	*4*
Terphenyl-d14 (Surr)	*95*		*28 - 109*	*06/23/15 03:33*	*06/29/15 06:12*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-089 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-6
Matrix: Tissue
Percent Solids: 16.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	96	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Acenaphthylene	ND		1000	110	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Anthracene	ND		1000	98	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Bis(2-ethylhexyl) phthalate	ND		10000	810	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Chrysene	ND		1000	120	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Fluorene	ND		1000	130	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Naphthalene	ND		1000	86	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Phenol	ND		1000	120	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4
Pyrene	ND		1000	100	ug/Kg	☼	06/23/15 03:33	06/29/15 06:40	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*49*		*34 - 103*	*06/23/15 03:33*	*06/29/15 06:40*	*4*
2,4,6-Tribromophenol (Surr)	*66*		*20 - 113*	*06/23/15 03:33*	*06/29/15 06:40*	*4*
Phenol-d5 (Surr)	*52*		*35 - 103*	*06/23/15 03:33*	*06/29/15 06:40*	*4*
2-Fluorobiphenyl	*54*		*38 - 103*	*06/23/15 03:33*	*06/29/15 06:40*	*4*
Nitrobenzene-d5 (Surr)	*52*		*41 - 108*	*06/23/15 03:33*	*06/29/15 06:40*	*4*
Terphenyl-d14 (Surr)	*63*		*28 - 109*	*06/23/15 03:33*	*06/29/15 06:40*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-089 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-7
Matrix: Tissue
Percent Solids: 19.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		750	72	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Acenaphthylene	ND		750	86	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Anthracene	ND		750	74	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Benzo[a]anthracene	ND		750	94	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Benzo[b]fluoranthene	ND		750	120	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Benzo[k]fluoranthene	ND		750	150	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Benzo[g,h,i]perylene	ND		750	75	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Benzo[a]pyrene	ND		750	75	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Bis(2-ethylhexyl) phthalate	ND		7500	610	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Chrysene	ND		750	89	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Dibenz(a,h)anthracene	ND		750	84	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Fluoranthene	ND		750	80	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Fluorene	ND		750	99	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Indeno[1,2,3-cd]pyrene	ND		750	77	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Naphthalene	ND		750	65	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Phenanthrene	ND		750	120	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Phenol	**220**	**J**	750	89	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4
Pyrene	ND		750	76	ug/Kg	☼	06/23/15 03:33	06/29/15 07:08	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*58*		*34 - 103*	*06/23/15 03:33*	*06/29/15 07:08*	*4*
2,4,6-Tribromophenol (Surr)	*82*		*20 - 113*	*06/23/15 03:33*	*06/29/15 07:08*	*4*
Phenol-d5 (Surr)	*67*		*35 - 103*	*06/23/15 03:33*	*06/29/15 07:08*	*4*
2-Fluorobiphenyl	*71*		*38 - 103*	*06/23/15 03:33*	*06/29/15 07:08*	*4*
Nitrobenzene-d5 (Surr)	*64*		*41 - 108*	*06/23/15 03:33*	*06/29/15 07:08*	*4*
Terphenyl-d14 (Surr)	*75*		*28 - 109*	*06/23/15 03:33*	*06/29/15 07:08*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-089 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-8
Matrix: Tissue
Percent Solids: 17.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		850	81	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Acenaphthylene	ND		850	97	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Anthracene	ND		850	82	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Benzo[a]anthracene	ND		850	110	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Benzo[b]fluoranthene	ND		850	130	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Benzo[k]fluoranthene	ND		850	170	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Benzo[g,h,i]perylene	ND		850	84	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Benzo[a]pyrene	ND		850	84	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Bis(2-ethylhexyl) phthalate	ND		8400	680	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Chrysene	ND		850	100	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Dibenz(a,h)anthracene	ND		850	94	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Fluoranthene	ND		850	90	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Fluorene	ND		850	110	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Indeno[1,2,3-cd]pyrene	ND		850	87	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Naphthalene	ND		850	73	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Phenanthrene	ND		850	130	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Phenol	**220**	**J**	850	100	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4
Pyrene	ND		850	85	ug/Kg	☼	06/23/15 03:33	06/29/15 07:36	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*55*		*34 - 103*	*06/23/15 03:33*	*06/29/15 07:36*	*4*
2,4,6-Tribromophenol (Surr)	*82*		*20 - 113*	*06/23/15 03:33*	*06/29/15 07:36*	*4*
Phenol-d5 (Surr)	*60*		*35 - 103*	*06/23/15 03:33*	*06/29/15 07:36*	*4*
2-Fluorobiphenyl	*63*		*38 - 103*	*06/23/15 03:33*	*06/29/15 07:36*	*4*
Nitrobenzene-d5 (Surr)	*60*		*41 - 108*	*06/23/15 03:33*	*06/29/15 07:36*	*4*
Terphenyl-d14 (Surr)	*73*		*28 - 109*	*06/23/15 03:33*	*06/29/15 07:36*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-089 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-9
Matrix: Tissue
Percent Solids: 15.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		990	95	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Acenaphthylene	ND		990	110	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Anthracene	ND		990	96	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Benzo[a]anthracene	ND		990	120	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Benzo[b]fluoranthene	ND		990	160	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Benzo[k]fluoranthene	ND		990	200	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Benzo[g,h,i]perylene	ND		990	98	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Benzo[a]pyrene	ND		990	99	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Bis(2-ethylhexyl) phthalate	ND		9900	800	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Chrysene	ND		990	120	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Dibenz(a,h)anthracene	ND		990	110	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Fluoranthene	ND		990	110	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Fluorene	ND		990	130	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Indeno[1,2,3-cd]pyrene	ND		990	100	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Naphthalene	ND		990	85	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Phenanthrene	ND		990	160	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Phenol	ND		990	120	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4
Pyrene	ND		990	100	ug/Kg	☼	06/23/15 03:33	06/29/15 08:04	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*66*		*34 - 103*	*06/23/15 03:33*	*06/29/15 08:04*	*4*
2,4,6-Tribromophenol (Surr)	*87*		*20 - 113*	*06/23/15 03:33*	*06/29/15 08:04*	*4*
Phenol-d5 (Surr)	*67*		*35 - 103*	*06/23/15 03:33*	*06/29/15 08:04*	*4*
2-Fluorobiphenyl	*72*		*38 - 103*	*06/23/15 03:33*	*06/29/15 08:04*	*4*
Nitrobenzene-d5 (Surr)	*69*		*41 - 108*	*06/23/15 03:33*	*06/29/15 08:04*	*4*
Terphenyl-d14 (Surr)	*81*		*28 - 109*	*06/23/15 03:33*	*06/29/15 08:04*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-090 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-10
Matrix: Tissue
Percent Solids: 14.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Anthracene	ND		1100	110	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Benzo[a]anthracene	ND		1100	140	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Bis(2-ethylhexyl) phthalate	ND		11000	880	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Chrysene	ND		1100	130	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Fluoranthene	ND		1100	120	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Fluorene	ND		1100	140	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Naphthalene	ND		1100	93	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Phenol	ND		1100	130	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4
Pyrene	ND		1100	110	ug/Kg	☼	06/20/15 03:00	06/29/15 02:25	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*61*		*34 - 103*	*06/20/15 03:00*	*06/29/15 02:25*	*4*
2,4,6-Tribromophenol (Surr)	*71*		*20 - 113*	*06/20/15 03:00*	*06/29/15 02:25*	*4*
Phenol-d5 (Surr)	*63*		*35 - 103*	*06/20/15 03:00*	*06/29/15 02:25*	*4*
2-Fluorobiphenyl	*66*		*38 - 103*	*06/20/15 03:00*	*06/29/15 02:25*	*4*
Nitrobenzene-d5 (Surr)	*61*		*41 - 108*	*06/20/15 03:00*	*06/29/15 02:25*	*4*
Terphenyl-d14 (Surr)	*68*		*28 - 109*	*06/20/15 03:00*	*06/29/15 02:25*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-090 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-11
Matrix: Tissue
Percent Solids: 15.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	96	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Anthracene	ND		1000	98	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Bis(2-ethylhexyl) phthalate	ND		10000	810	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Chrysene	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Fluorene	ND		1000	130	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Naphthalene	ND		1000	87	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Phenol	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4
Pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 02:52	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*45*		*34 - 103*	*06/20/15 03:00*	*06/29/15 02:52*	*4*
2,4,6-Tribromophenol (Surr)	*53*		*20 - 113*	*06/20/15 03:00*	*06/29/15 02:52*	*4*
Phenol-d5 (Surr)	*48*		*35 - 103*	*06/20/15 03:00*	*06/29/15 02:52*	*4*
2-Fluorobiphenyl	*49*		*38 - 103*	*06/20/15 03:00*	*06/29/15 02:52*	*4*
Nitrobenzene-d5 (Surr)	*44*		*41 - 108*	*06/20/15 03:00*	*06/29/15 02:52*	*4*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*06/20/15 03:00*	*06/29/15 02:52*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-090 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-12
Matrix: Tissue
Percent Solids: 18.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		870	83	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Acenaphthylene	ND		870	100	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Anthracene	ND		870	85	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Benzo[a]anthracene	ND		870	110	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Benzo[b]fluoranthene	ND		870	140	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Benzo[k]fluoranthene	ND		870	180	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Benzo[g,h,i]perylene	ND		870	86	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Benzo[a]pyrene	ND		870	87	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Bis(2-ethylhexyl) phthalate	ND		8700	700	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Chrysene	ND		870	100	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Dibenz(a,h)anthracene	ND		870	97	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Fluoranthene	ND		870	93	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Fluorene	ND		870	110	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Indeno[1,2,3-cd]pyrene	ND		870	90	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Naphthalene	ND		870	75	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Phenanthrene	ND		870	140	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Phenol	ND		870	100	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4
Pyrene	ND		870	88	ug/Kg	☼	06/20/15 03:00	06/29/15 03:19	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*57*		*34 - 103*	*06/20/15 03:00*	*06/29/15 03:19*	*4*
2,4,6-Tribromophenol (Surr)	*71*		*20 - 113*	*06/20/15 03:00*	*06/29/15 03:19*	*4*
Phenol-d5 (Surr)	*57*		*35 - 103*	*06/20/15 03:00*	*06/29/15 03:19*	*4*
2-Fluorobiphenyl	*64*		*38 - 103*	*06/20/15 03:00*	*06/29/15 03:19*	*4*
Nitrobenzene-d5 (Surr)	*58*		*41 - 108*	*06/20/15 03:00*	*06/29/15 03:19*	*4*
Terphenyl-d14 (Surr)	*62*		*28 - 109*	*06/20/15 03:00*	*06/29/15 03:19*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-090 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-13
Matrix: Tissue
Percent Solids: 15.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	99	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Anthracene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Benzo[k]fluoranthene	ND		1000	210	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Bis(2-ethylhexyl) phthalate	ND		10000	830	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Chrysene	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Fluorene	ND		1000	140	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Indeno[1,2,3-cd]pyrene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Naphthalene	ND		1000	89	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Phenol	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4
Pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 03:47	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*54*		*34 - 103*	*06/20/15 03:00*	*06/29/15 03:47*	*4*
2,4,6-Tribromophenol (Surr)	*60*		*20 - 113*	*06/20/15 03:00*	*06/29/15 03:47*	*4*
Phenol-d5 (Surr)	*56*		*35 - 103*	*06/20/15 03:00*	*06/29/15 03:47*	*4*
2-Fluorobiphenyl	*58*		*38 - 103*	*06/20/15 03:00*	*06/29/15 03:47*	*4*
Nitrobenzene-d5 (Surr)	*57*		*41 - 108*	*06/20/15 03:00*	*06/29/15 03:47*	*4*
Terphenyl-d14 (Surr)	*57*		*28 - 109*	*06/20/15 03:00*	*06/29/15 03:47*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-090 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-14
Matrix: Tissue
Percent Solids: 16.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	96	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Acenaphthylene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Anthracene	ND		1000	98	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Bis(2-ethylhexyl) phthalate	ND		10000	810	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Chrysene	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Fluorene	ND		1000	130	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Naphthalene	ND		1000	86	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Phenol	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4
Pyrene	ND		1000	100	ug/Kg	☼	06/20/15 03:00	06/29/15 04:14	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*64*		*34 - 103*	*06/20/15 03:00*	*06/29/15 04:14*	*4*
2,4,6-Tribromophenol (Surr)	*73*		*20 - 113*	*06/20/15 03:00*	*06/29/15 04:14*	*4*
Phenol-d5 (Surr)	*66*		*35 - 103*	*06/20/15 03:00*	*06/29/15 04:14*	*4*
2-Fluorobiphenyl	*70*		*38 - 103*	*06/20/15 03:00*	*06/29/15 04:14*	*4*
Nitrobenzene-d5 (Surr)	*66*		*41 - 108*	*06/20/15 03:00*	*06/29/15 04:14*	*4*
Terphenyl-d14 (Surr)	*62*		*28 - 109*	*06/20/15 03:00*	*06/29/15 04:14*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-091 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-15
Matrix: Tissue
Percent Solids: 15.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	96	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Acenaphthylene	ND		1000	120	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Anthracene	ND		1000	98	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Benzo[a]anthracene	ND		1000	130	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Benzo[g,h,i]perylene	ND		1000	100	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Bis(2-ethylhexyl) phthalate	ND		10000	810	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Chrysene	ND		1000	120	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Fluorene	ND		1000	130	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Naphthalene	ND		1000	87	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Phenol	**300**	**J**	1000	120	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4
Pyrene	ND		1000	100	ug/Kg	☼	06/23/15 03:33	06/29/15 08:32	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*52*		*34 - 103*	*06/23/15 03:33*	*06/29/15 08:32*	*4*
2,4,6-Tribromophenol (Surr)	*78*		*20 - 113*	*06/23/15 03:33*	*06/29/15 08:32*	*4*
Phenol-d5 (Surr)	*59*		*35 - 103*	*06/23/15 03:33*	*06/29/15 08:32*	*4*
2-Fluorobiphenyl	*70*		*38 - 103*	*06/23/15 03:33*	*06/29/15 08:32*	*4*
Nitrobenzene-d5 (Surr)	*64*		*41 - 108*	*06/23/15 03:33*	*06/29/15 08:32*	*4*
Terphenyl-d14 (Surr)	*78*		*28 - 109*	*06/23/15 03:33*	*06/29/15 08:32*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-091 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-16
Matrix: Tissue
Percent Solids: 15.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		990	95	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Acenaphthylene	ND		990	110	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Anthracene	ND		990	97	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Benzo[a]anthracene	ND		990	120	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Benzo[b]fluoranthene	ND		990	160	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Benzo[k]fluoranthene	ND		990	200	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Benzo[g,h,i]perylene	ND		990	98	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Benzo[a]pyrene	ND		990	99	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Bis(2-ethylhexyl) phthalate	ND		9900	800	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Chrysene	ND		990	120	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Dibenz(a,h)anthracene	ND		990	110	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Fluoranthene	ND		990	110	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Fluorene	ND		990	130	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Indeno[1,2,3-cd]pyrene	ND		990	100	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Naphthalene	ND		990	85	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Phenanthrene	ND		990	160	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Phenol	**350**	**J**	990	120	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4
Pyrene	ND		990	100	ug/Kg	☼	06/23/15 03:33	06/29/15 09:00	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*58*		*34 - 103*	*06/23/15 03:33*	*06/29/15 09:00*	*4*
2,4,6-Tribromophenol (Surr)	*76*		*20 - 113*	*06/23/15 03:33*	*06/29/15 09:00*	*4*
Phenol-d5 (Surr)	*67*		*35 - 103*	*06/23/15 03:33*	*06/29/15 09:00*	*4*
2-Fluorobiphenyl	*69*		*38 - 103*	*06/23/15 03:33*	*06/29/15 09:00*	*4*
Nitrobenzene-d5 (Surr)	*59*		*41 - 108*	*06/23/15 03:33*	*06/29/15 09:00*	*4*
Terphenyl-d14 (Surr)	*72*		*28 - 109*	*06/23/15 03:33*	*06/29/15 09:00*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-091 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-17
Matrix: Tissue
Percent Solids: 13.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Anthracene	ND		1100	100	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Benzo[a]anthracene	ND		1100	130	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Bis(2-ethylhexyl) phthalate	ND		11000	860	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Chrysene	ND		1100	130	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Fluoranthene	ND		1100	110	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Fluorene	ND		1100	140	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Naphthalene	ND		1100	92	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Phenol	ND		1100	130	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4
Pyrene	ND		1100	110	ug/Kg	☼	06/23/15 03:33	06/29/15 09:28	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*52*		*34 - 103*	*06/23/15 03:33*	*06/29/15 09:28*	*4*
2,4,6-Tribromophenol (Surr)	*74*		*20 - 113*	*06/23/15 03:33*	*06/29/15 09:28*	*4*
Phenol-d5 (Surr)	*58*		*35 - 103*	*06/23/15 03:33*	*06/29/15 09:28*	*4*
2-Fluorobiphenyl	*62*		*38 - 103*	*06/23/15 03:33*	*06/29/15 09:28*	*4*
Nitrobenzene-d5 (Surr)	*60*		*41 - 108*	*06/23/15 03:33*	*06/29/15 09:28*	*4*
Terphenyl-d14 (Surr)	*65*		*28 - 109*	*06/23/15 03:33*	*06/29/15 09:28*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-091 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-18
Matrix: Tissue
Percent Solids: 15.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1100	100	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Acenaphthylene	ND		1100	120	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Anthracene	ND		1100	100	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Benzo[a]anthracene	ND		1100	130	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Benzo[b]fluoranthene	ND		1100	170	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Benzo[k]fluoranthene	ND		1100	220	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Benzo[g,h,i]perylene	ND		1100	110	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Benzo[a]pyrene	ND		1100	110	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Bis(2-ethylhexyl) phthalate	ND		11000	860	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Chrysene	ND		1100	130	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Dibenz(a,h)anthracene	ND		1100	120	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Fluoranthene	ND		1100	110	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Fluorene	ND		1100	140	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Indeno[1,2,3-cd]pyrene	ND		1100	110	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Naphthalene	ND		1100	92	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Phenanthrene	ND		1100	170	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Phenol	**360**	**J**	1100	130	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4
Pyrene	ND		1100	110	ug/Kg	☼	06/24/15 03:15	07/02/15 11:55	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*72*		*34 - 103*	*06/24/15 03:15*	*07/02/15 11:55*	*4*
2,4,6-Tribromophenol (Surr)	*82*		*20 - 113*	*06/24/15 03:15*	*07/02/15 11:55*	*4*
Phenol-d5 (Surr)	*71*		*35 - 103*	*06/24/15 03:15*	*07/02/15 11:55*	*4*
2-Fluorobiphenyl	*76*		*38 - 103*	*06/24/15 03:15*	*07/02/15 11:55*	*4*
Nitrobenzene-d5 (Surr)	*75*		*41 - 108*	*06/24/15 03:15*	*07/02/15 11:55*	*4*
Terphenyl-d14 (Surr)	*82*		*28 - 109*	*06/24/15 03:15*	*07/02/15 11:55*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-091 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-19
Matrix: Tissue
Percent Solids: 16.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1000	96	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Acenaphthylene	ND		1000	110	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Anthracene	ND		1000	97	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Benzo[a]anthracene	ND		1000	120	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Benzo[b]fluoranthene	ND		1000	160	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Benzo[k]fluoranthene	ND		1000	200	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Benzo[g,h,i]perylene	ND		1000	99	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Benzo[a]pyrene	ND		1000	100	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Bis(2-ethylhexyl) phthalate	ND		10000	800	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Chrysene	ND		1000	120	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Dibenz(a,h)anthracene	ND		1000	110	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Fluoranthene	ND		1000	110	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Fluorene	ND		1000	130	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Indeno[1,2,3-cd]pyrene	ND		1000	100	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Naphthalene	ND		1000	86	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Phenanthrene	ND		1000	160	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Phenol	ND		1000	120	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4
Pyrene	ND		1000	100	ug/Kg	☼	06/24/15 03:15	07/06/15 00:45	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*83*		*34 - 103*	*06/24/15 03:15*	*07/06/15 00:45*	*4*
2,4,6-Tribromophenol (Surr)	*109*		*20 - 113*	*06/24/15 03:15*	*07/06/15 00:45*	*4*
Phenol-d5 (Surr)	*85*		*35 - 103*	*06/24/15 03:15*	*07/06/15 00:45*	*4*
2-Fluorobiphenyl	*97*		*38 - 103*	*06/24/15 03:15*	*07/06/15 00:45*	*4*
Nitrobenzene-d5 (Surr)	*91*		*41 - 108*	*06/24/15 03:15*	*07/06/15 00:45*	*4*
Terphenyl-d14 (Surr)	*100*		*28 - 109*	*06/24/15 03:15*	*07/06/15 00:45*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-092 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-20
Matrix: Tissue
Percent Solids: 17.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		9000	730	ug/Kg	☼	06/20/15 03:00	06/29/15 04:41	4
Phenol	ND		900	110	ug/Kg	☼	06/20/15 03:00	06/29/15 04:41	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*38 - 103*	*06/20/15 03:00*	*06/29/15 04:41*	*4*
2-Fluorophenol (Surr)	*52*		*34 - 103*	*06/20/15 03:00*	*06/29/15 04:41*	*4*
2,4,6-Tribromophenol (Surr)	*63*		*20 - 113*	*06/20/15 03:00*	*06/29/15 04:41*	*4*
Nitrobenzene-d5 (Surr)	*57*		*41 - 108*	*06/20/15 03:00*	*06/29/15 04:41*	*4*
Phenol-d5 (Surr)	*53*		*35 - 103*	*06/20/15 03:00*	*06/29/15 04:41*	*4*
Terphenyl-d14 (Surr)	*59*		*28 - 109*	*06/20/15 03:00*	*06/29/15 04:41*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-092 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-21
Matrix: Tissue
Percent Solids: 16.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		9500	770	ug/Kg	☼	06/20/15 03:00	06/29/15 05:09	4
Phenol	ND		960	110	ug/Kg	☼	06/20/15 03:00	06/29/15 05:09	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*38 - 103*	*06/20/15 03:00*	*06/29/15 05:09*	*4*
2-Fluorophenol (Surr)	*64*		*34 - 103*	*06/20/15 03:00*	*06/29/15 05:09*	*4*
2,4,6-Tribromophenol (Surr)	*67*		*20 - 113*	*06/20/15 03:00*	*06/29/15 05:09*	*4*
Nitrobenzene-d5 (Surr)	*57*		*41 - 108*	*06/20/15 03:00*	*06/29/15 05:09*	*4*
Phenol-d5 (Surr)	*60*		*35 - 103*	*06/20/15 03:00*	*06/29/15 05:09*	*4*
Terphenyl-d14 (Surr)	*62*		*28 - 109*	*06/20/15 03:00*	*06/29/15 05:09*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-092 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-22
Matrix: Tissue
Percent Solids: 17.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		9300	750	ug/Kg	☼	06/20/15 03:00	06/29/15 05:36	4
Phenol	ND		930	110	ug/Kg	☼	06/20/15 03:00	06/29/15 05:36	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*38 - 103*	*06/20/15 03:00*	*06/29/15 05:36*	*4*
2-Fluorophenol (Surr)	*57*		*34 - 103*	*06/20/15 03:00*	*06/29/15 05:36*	*4*
2,4,6-Tribromophenol (Surr)	*60*		*20 - 113*	*06/20/15 03:00*	*06/29/15 05:36*	*4*
Nitrobenzene-d5 (Surr)	*52*		*41 - 108*	*06/20/15 03:00*	*06/29/15 05:36*	*4*
Phenol-d5 (Surr)	*58*		*35 - 103*	*06/20/15 03:00*	*06/29/15 05:36*	*4*
Terphenyl-d14 (Surr)	*58*		*28 - 109*	*06/20/15 03:00*	*06/29/15 05:36*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-092 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-23
Matrix: Tissue
Percent Solids: 15.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		10000	820	ug/Kg	☼	06/20/15 03:00	06/29/15 06:04	4
Phenol	ND		1000	120	ug/Kg	☼	06/20/15 03:00	06/29/15 06:04	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*38 - 103*	*06/20/15 03:00*	*06/29/15 06:04*	*4*
2-Fluorophenol (Surr)	*46*		*34 - 103*	*06/20/15 03:00*	*06/29/15 06:04*	*4*
2,4,6-Tribromophenol (Surr)	*56*		*20 - 113*	*06/20/15 03:00*	*06/29/15 06:04*	*4*
Nitrobenzene-d5 (Surr)	*43*		*41 - 108*	*06/20/15 03:00*	*06/29/15 06:04*	*4*
Phenol-d5 (Surr)	*47*		*35 - 103*	*06/20/15 03:00*	*06/29/15 06:04*	*4*
Terphenyl-d14 (Surr)	*51*		*28 - 109*	*06/20/15 03:00*	*06/29/15 06:04*	*4*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: AT5-092 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-24
Matrix: Tissue
Percent Solids: 16.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		9500	770	ug/Kg	☼	06/20/15 03:00	06/29/15 06:31	4
Phenol	ND		960	110	ug/Kg	☼	06/20/15 03:00	06/29/15 06:31	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*50*		*38 - 103*	*06/20/15 03:00*	*06/29/15 06:31*	*4*
2-Fluorophenol (Surr)	*54*		*34 - 103*	*06/20/15 03:00*	*06/29/15 06:31*	*4*
2,4,6-Tribromophenol (Surr)	*53*		*20 - 113*	*06/20/15 03:00*	*06/29/15 06:31*	*4*
Nitrobenzene-d5 (Surr)	*52*		*41 - 108*	*06/20/15 03:00*	*06/29/15 06:31*	*4*
Phenol-d5 (Surr)	*52*		*35 - 103*	*06/20/15 03:00*	*06/29/15 06:31*	*4*
Terphenyl-d14 (Surr)	*48*		*28 - 109*	*06/20/15 03:00*	*06/29/15 06:31*	*4*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-090 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/20/15 03:15	06/29/15 17:58	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/20/15 03:15	06/29/15 17:58	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/20/15 03:15	06/29/15 17:58	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 17:58	1
Endrin	ND		12	2.4	ug/Kg		06/20/15 03:15	06/29/15 17:58	1
Mirex	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*62*		*45 - 140*	*06/20/15 03:15*	*06/29/15 17:58*	*1*
Tetrachloro-m-xylene	*64*		*45 - 140*	*06/20/15 03:15*	*06/29/15 17:58*	*1*
DCB Decachlorobiphenyl (Surr)	*74*		*45 - 140*	*06/20/15 03:15*	*06/29/15 17:58*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 140*	*06/20/15 03:15*	*06/29/15 17:58*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-090 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/20/15 03:15	06/29/15 18:14	1
4,4'-DDE	ND		12	1.8	ug/Kg		06/20/15 03:15	06/29/15 18:14	1
2,4'-DDD	ND		12	0.71	ug/Kg		06/20/15 03:15	06/29/15 18:14	1
2,4'-DDE	ND		12	1.1	ug/Kg		06/20/15 03:15	06/29/15 18:14	1
Endrin	ND		12	2.3	ug/Kg		06/20/15 03:15	06/29/15 18:14	1
Mirex	ND		12	1.1	ug/Kg		06/20/15 03:15	06/29/15 18:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*58*		*45 - 140*	*06/20/15 03:15*	*06/29/15 18:14*	*1*
Tetrachloro-m-xylene	*63*		*45 - 140*	*06/20/15 03:15*	*06/29/15 18:14*	*1*
DCB Decachlorobiphenyl (Surr)	*79*		*45 - 140*	*06/20/15 03:15*	*06/29/15 18:14*	*1*
DCB Decachlorobiphenyl (Surr)	*82*		*45 - 140*	*06/20/15 03:15*	*06/29/15 18:14*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-090 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/20/15 03:15	06/29/15 18:29	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/20/15 03:15	06/29/15 18:29	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/20/15 03:15	06/29/15 18:29	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 18:29	1
Endrin	ND		12	2.4	ug/Kg		06/20/15 03:15	06/29/15 18:29	1
Mirex	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 18:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*64*		*45 - 140*	*06/20/15 03:15*	*06/29/15 18:29*	*1*
Tetrachloro-m-xylene	*66*		*45 - 140*	*06/20/15 03:15*	*06/29/15 18:29*	*1*
DCB Decachlorobiphenyl (Surr)	*83*		*45 - 140*	*06/20/15 03:15*	*06/29/15 18:29*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 140*	*06/20/15 03:15*	*06/29/15 18:29*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-090 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/20/15 03:15	06/29/15 18:45	1
4,4'-DDE	ND		12	1.8	ug/Kg		06/20/15 03:15	06/29/15 18:45	1
2,4'-DDD	ND		12	0.71	ug/Kg		06/20/15 03:15	06/29/15 18:45	1
2,4'-DDE	ND		12	1.1	ug/Kg		06/20/15 03:15	06/29/15 18:45	1
Endrin	ND		12	2.3	ug/Kg		06/20/15 03:15	06/29/15 18:45	1
Mirex	ND		12	1.1	ug/Kg		06/20/15 03:15	06/29/15 18:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*62*		*45 - 140*	*06/20/15 03:15*	*06/29/15 18:45*	*1*
Tetrachloro-m-xylene	*65*		*45 - 140*	*06/20/15 03:15*	*06/29/15 18:45*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 140*	*06/20/15 03:15*	*06/29/15 18:45*	*1*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 140*	*06/20/15 03:15*	*06/29/15 18:45*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-090 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/20/15 03:15	06/29/15 19:00	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/20/15 03:15	06/29/15 19:00	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/20/15 03:15	06/29/15 19:00	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 19:00	1
Endrin	ND		12	2.4	ug/Kg		06/20/15 03:15	06/29/15 19:00	1
Mirex	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*69*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:00*	*1*
Tetrachloro-m-xylene	*70*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:00*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:00*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:00*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-092 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/20/15 03:15	06/29/15 19:16	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/20/15 03:15	06/29/15 19:16	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/20/15 03:15	06/29/15 19:16	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 19:16	1
Endrin	ND		12	2.4	ug/Kg		06/20/15 03:15	06/29/15 19:16	1
Mirex	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 19:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*67*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:16*	*1*
Tetrachloro-m-xylene	*72*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:16*	*1*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:16*	*1*
DCB Decachlorobiphenyl (Surr)	*91*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:16*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-092 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/20/15 03:15	06/29/15 19:31	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/20/15 03:15	06/29/15 19:31	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/20/15 03:15	06/29/15 19:31	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 19:31	1
Endrin	ND		12	2.4	ug/Kg		06/20/15 03:15	06/29/15 19:31	1
Mirex	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*68*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:31*	*1*
Tetrachloro-m-xylene	*70*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:31*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:31*	*1*
DCB Decachlorobiphenyl (Surr)	*91*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:31*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-092 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/20/15 03:15	06/29/15 19:47	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/20/15 03:15	06/29/15 19:47	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/20/15 03:15	06/29/15 19:47	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 19:47	1
Endrin	ND		12	2.4	ug/Kg		06/20/15 03:15	06/29/15 19:47	1
Mirex	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 19:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:47*	*1*
Tetrachloro-m-xylene	*65*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:47*	*1*
DCB Decachlorobiphenyl (Surr)	*80*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:47*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 140*	*06/20/15 03:15*	*06/29/15 19:47*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-092 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/20/15 03:15	06/29/15 20:02	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/20/15 03:15	06/29/15 20:02	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/20/15 03:15	06/29/15 20:02	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 20:02	1
Endrin	ND		12	2.4	ug/Kg		06/20/15 03:15	06/29/15 20:02	1
Mirex	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 20:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*71*		*45 - 140*	*06/20/15 03:15*	*06/29/15 20:02*	*1*
Tetrachloro-m-xylene	*73*		*45 - 140*	*06/20/15 03:15*	*06/29/15 20:02*	*1*
DCB Decachlorobiphenyl (Surr)	*90*		*45 - 140*	*06/20/15 03:15*	*06/29/15 20:02*	*1*
DCB Decachlorobiphenyl (Surr)	*90*		*45 - 140*	*06/20/15 03:15*	*06/29/15 20:02*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: AT5-092 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/20/15 03:15	06/29/15 20:18	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/20/15 03:15	06/29/15 20:18	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/20/15 03:15	06/29/15 20:18	1
2,4'-DDE	**1.4**	**J**	12	1.2	ug/Kg		06/20/15 03:15	06/29/15 20:18	1
Endrin	ND		12	2.4	ug/Kg		06/20/15 03:15	06/29/15 20:18	1
Mirex	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*62*		*45 - 140*	*06/20/15 03:15*	*06/29/15 20:18*	*1*
Tetrachloro-m-xylene	*68*		*45 - 140*	*06/20/15 03:15*	*06/29/15 20:18*	*1*
DCB Decachlorobiphenyl (Surr)	*82*		*45 - 140*	*06/20/15 03:15*	*06/29/15 20:18*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*45 - 140*	*06/20/15 03:15*	*06/29/15 20:18*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Client Sample ID: SRM
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	**0.73**	**J p**	5.0	0.65	ug/Kg		06/20/15 03:15	06/29/15 20:33	1
4,4'-DDE	**1.6**	**J**	5.0	0.76	ug/Kg		06/20/15 03:15	06/29/15 20:33	1
2,4'-DDD	**2.3**	**J**	5.0	0.30	ug/Kg		06/20/15 03:15	06/29/15 20:33	1
2,4'-DDE	**0.59**	**J**	5.0	0.46	ug/Kg		06/20/15 03:15	06/29/15 20:33	1
Endrin	ND		5.0	0.97	ug/Kg		06/20/15 03:15	06/29/15 20:33	1
Mirex	ND		5.0	0.46	ug/Kg		06/20/15 03:15	06/29/15 20:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*66*		*45 - 140*	*06/20/15 03:15*	*06/29/15 20:33*	*1*
Tetrachloro-m-xylene	*73*		*45 - 140*	*06/20/15 03:15*	*06/29/15 20:33*	*1*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 140*	*06/20/15 03:15*	*06/29/15 20:33*	*1*
DCB Decachlorobiphenyl (Surr)	*89*		*45 - 140*	*06/20/15 03:15*	*06/29/15 20:33*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: AT5-090 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		12	1.9	ug/Kg		06/20/15 03:15	06/30/15 08:30	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/20/15 03:15	06/30/15 08:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*63*		*45 - 140*	*06/20/15 03:15*	*06/30/15 08:30*	*1*
Tetrachloro-m-xylene	*65*		*45 - 140*	*06/20/15 03:15*	*06/30/15 08:30*	*1*
DCB Decachlorobiphenyl (Surr)	*77*		*45 - 140*	*06/20/15 03:15*	*06/30/15 08:30*	*1*
DCB Decachlorobiphenyl (Surr)	*75*		*45 - 140*	*06/20/15 03:15*	*06/30/15 08:30*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: AT5-090 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		12	1.8	ug/Kg		06/20/15 03:15	06/30/15 08:46	1
2,4'-DDT	ND		12	1.0	ug/Kg		06/20/15 03:15	06/30/15 08:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*55*		*45 - 140*	*06/20/15 03:15*	*06/30/15 08:46*	*1*
Tetrachloro-m-xylene	*60*		*45 - 140*	*06/20/15 03:15*	*06/30/15 08:46*	*1*
DCB Decachlorobiphenyl (Surr)	*77*		*45 - 140*	*06/20/15 03:15*	*06/30/15 08:46*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 140*	*06/20/15 03:15*	*06/30/15 08:46*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: AT5-090 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		12	1.9	ug/Kg		06/20/15 03:15	06/30/15 09:01	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/20/15 03:15	06/30/15 09:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*61*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:01*	*1*
Tetrachloro-m-xylene	*68*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:01*	*1*
DCB Decachlorobiphenyl (Surr)	*83*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:01*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:01*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: AT5-090 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		12	1.8	ug/Kg		06/20/15 03:15	06/30/15 09:17	1
2,4'-DDT	ND		12	1.0	ug/Kg		06/20/15 03:15	06/30/15 09:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*59*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:17*	*1*
Tetrachloro-m-xylene	*65*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:17*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:17*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:17*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: AT5-090 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		12	1.9	ug/Kg		06/20/15 03:15	06/30/15 09:32	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/20/15 03:15	06/30/15 09:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:32*	*1*
Tetrachloro-m-xylene	*69*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:32*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:32*	*1*
DCB Decachlorobiphenyl (Surr)	*89*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:32*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: AT5-092 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		12	1.9	ug/Kg		06/20/15 03:15	06/30/15 09:48	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/20/15 03:15	06/30/15 09:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*63*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:48*	*1*
Tetrachloro-m-xylene	*72*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:48*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:48*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 140*	*06/20/15 03:15*	*06/30/15 09:48*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: AT5-092 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		12	1.9	ug/Kg		06/20/15 03:15	06/30/15 10:04	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/20/15 03:15	06/30/15 10:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*63*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:04*	*1*
Tetrachloro-m-xylene	*69*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:04*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:04*	*1*
DCB Decachlorobiphenyl (Surr)	*84*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:04*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: AT5-092 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		12	1.9	ug/Kg		06/20/15 03:15	06/30/15 10:19	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/20/15 03:15	06/30/15 10:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*57*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:19*	*1*
Tetrachloro-m-xylene	*65*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:19*	*1*
DCB Decachlorobiphenyl (Surr)	*78*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:19*	*1*
DCB Decachlorobiphenyl (Surr)	*80*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:19*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: AT5-092 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		12	1.9	ug/Kg		06/20/15 03:15	06/30/15 10:35	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/20/15 03:15	06/30/15 10:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*65*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:35*	*1*
Tetrachloro-m-xylene	*72*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:35*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:35*	*1*
DCB Decachlorobiphenyl (Surr)	*86*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:35*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: AT5-092 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	ND		12	1.9	ug/Kg		06/20/15 03:15	06/30/15 10:50	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/20/15 03:15	06/30/15 10:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*59*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:50*	*1*
Tetrachloro-m-xylene	*67*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:50*	*1*
DCB Decachlorobiphenyl (Surr)	*79*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:50*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 140*	*06/20/15 03:15*	*06/30/15 10:50*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) - RA

Client Sample ID: SRM
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	**6.4**		5.0	0.75	ug/Kg		06/20/15 03:15	06/30/15 11:06	1
2,4'-DDT	ND		5.0	0.43	ug/Kg		06/20/15 03:15	06/30/15 11:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*45 - 140*	*06/20/15 03:15*	*06/30/15 11:06*	*1*
Tetrachloro-m-xylene	*67*		*45 - 140*	*06/20/15 03:15*	*06/30/15 11:06*	*1*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 140*	*06/20/15 03:15*	*06/30/15 11:06*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*45 - 140*	*06/20/15 03:15*	*06/30/15 11:06*	*1*

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-088 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**170**		3.0	0.28	mg/Kg		06/22/15 07:17	06/29/15 23:52	1
Arsenic	**1.9**		0.099	0.018	mg/Kg		06/22/15 07:17	06/29/15 23:52	1
Barium	**0.33**	**J**	0.99	0.011	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Cadmium	ND		0.099	0.0069	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Calcium	**280**		50	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Chromium	**1.2**		0.20	0.0060	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Cobalt	**0.29**		0.050	0.0015	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Copper	**1.7**		0.20	0.033	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Iron	**400**		5.0	0.35	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Silver	**0.0056**	**J**	0.099	0.0039	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Potassium	**2300**		50	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Magnesium	**680**		50	0.19	mg/Kg		06/22/15 07:17	06/29/15 23:52	1
Sodium	**4500**		50	1.4	mg/Kg		06/22/15 07:17	06/29/15 23:52	1
Nickel	**0.80**		0.099	0.011	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Lead	**0.19**		0.099	0.0038	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Antimony	**0.032**	**J**	0.20	0.0026	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Selenium	**0.24**	**J**	0.50	0.050	mg/Kg		06/22/15 07:17	06/29/15 23:52	1
Thallium	**0.0044**	**J**	0.099	0.0020	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Vanadium	**0.59**	**B**	0.099	0.0078	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Zinc	**11**		0.50	0.064	mg/Kg		06/22/15 07:17	06/29/15 05:22	1
Manganese	**2.8**		0.50	0.010	mg/Kg		06/22/15 07:17	06/29/15 05:22	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-088 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**140**		3.0	0.28	mg/Kg		06/22/15 07:17	06/29/15 23:57	1
Arsenic	**2.4**		0.099	0.018	mg/Kg		06/22/15 07:17	06/29/15 23:57	1
Barium	**0.22**	**J**	0.99	0.011	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Cadmium	**0.010**	**J**	0.099	0.0069	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Calcium	**270**		50	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Chromium	**0.91**		0.20	0.0060	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Cobalt	**0.24**		0.050	0.0015	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Copper	**1.8**		0.20	0.033	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Iron	**260**		5.0	0.35	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Silver	ND		0.099	0.0039	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Potassium	**2500**		50	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Magnesium	**740**		50	0.19	mg/Kg		06/22/15 07:17	06/29/15 23:57	1
Sodium	**4900**		50	1.4	mg/Kg		06/22/15 07:17	06/29/15 23:57	1
Nickel	**0.60**		0.099	0.011	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Lead	**0.15**		0.099	0.0038	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Antimony	**0.0026**	**J**	0.20	0.0026	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Selenium	**0.28**	**J**	0.50	0.050	mg/Kg		06/22/15 07:17	06/29/15 23:57	1
Thallium	ND		0.099	0.0020	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Vanadium	**0.40**	**B**	0.099	0.0078	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Zinc	**11**		0.50	0.064	mg/Kg		06/22/15 07:17	06/29/15 05:27	1
Manganese	**2.2**		0.50	0.010	mg/Kg		06/22/15 07:17	06/29/15 05:27	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-088 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**110**		3.0	0.28	mg/Kg		06/22/15 07:17	06/30/15 00:03	1
Arsenic	**2.3**		0.099	0.018	mg/Kg		06/22/15 07:17	06/30/15 00:03	1
Barium	**0.28**	**J**	0.99	0.011	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Cadmium	ND		0.099	0.0069	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Calcium	**250**		50	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Chromium	**1.7**		0.20	0.0060	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Cobalt	**0.26**		0.050	0.0015	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Copper	**1.9**		0.20	0.033	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Iron	**250**		5.0	0.35	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Silver	**0.0044**	**J**	0.099	0.0039	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Potassium	**2400**		50	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Magnesium	**720**		50	0.19	mg/Kg		06/22/15 07:17	06/30/15 00:03	1
Sodium	**5000**		50	1.4	mg/Kg		06/22/15 07:17	06/30/15 00:03	1
Nickel	**0.98**		0.099	0.011	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Lead	**0.15**		0.099	0.0038	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Antimony	ND		0.20	0.0026	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Selenium	**0.23**	**J**	0.50	0.050	mg/Kg		06/22/15 07:17	06/30/15 00:03	1
Thallium	ND		0.099	0.0020	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Vanadium	**0.36**	**B**	0.099	0.0078	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Zinc	**11**		0.50	0.064	mg/Kg		06/22/15 07:17	06/29/15 05:32	1
Manganese	**2.0**		0.50	0.010	mg/Kg		06/22/15 07:17	06/29/15 05:32	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-088 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**2.4**	**J**	2.9	0.28	mg/Kg		06/22/15 07:17	06/30/15 00:08	1
Arsenic	**2.1**		0.098	0.018	mg/Kg		06/22/15 07:17	06/30/15 00:08	1
Barium	ND		0.98	0.010	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Cadmium	**0.018**	**J**	0.098	0.0069	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Calcium	**170**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Chromium	**1.0**		0.20	0.0060	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Cobalt	**0.18**		0.049	0.0015	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Copper	**2.3**		0.20	0.032	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Iron	**57**		4.9	0.35	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Silver	**0.0081**	**J**	0.098	0.0038	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Potassium	**2400**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Magnesium	**710**		49	0.18	mg/Kg		06/22/15 07:17	06/30/15 00:08	1
Sodium	**5100**		49	1.3	mg/Kg		06/22/15 07:17	06/30/15 00:08	1
Nickel	**0.61**		0.098	0.011	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Lead	**0.099**		0.098	0.0037	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Antimony	ND		0.20	0.0025	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Selenium	**0.24**	**J**	0.49	0.049	mg/Kg		06/22/15 07:17	06/30/15 00:08	1
Thallium	ND		0.098	0.0020	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Vanadium	**0.16**	**B**	0.098	0.0077	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Zinc	**13**		0.49	0.064	mg/Kg		06/22/15 07:17	06/29/15 05:37	1
Manganese	**0.53**		0.49	0.010	mg/Kg		06/22/15 07:17	06/29/15 05:37	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-089 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**6.6**		3.0	0.28	mg/Kg		06/22/15 07:17	06/30/15 00:13	1
Arsenic	**2.5**		0.10	0.018	mg/Kg		06/22/15 07:17	06/30/15 00:13	1
Barium	**0.037**	**J**	1.0	0.011	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Cadmium	**0.019**	**J**	0.10	0.0070	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Calcium	**520**		50	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Chromium	**0.73**		0.20	0.0061	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Cobalt	**0.30**		0.050	0.0015	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Copper	**1.8**		0.20	0.033	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Iron	**76**		5.0	0.35	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Silver	**0.011**	**J**	0.10	0.0039	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Potassium	**2400**		50	1.4	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Magnesium	**720**		50	0.19	mg/Kg		06/22/15 07:17	06/30/15 00:13	1
Sodium	**5000**		50	1.4	mg/Kg		06/22/15 07:17	06/30/15 00:13	1
Nickel	**0.78**		0.10	0.011	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Lead	**0.12**		0.10	0.0038	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Antimony	ND		0.20	0.0026	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Selenium	**0.27**	**J**	0.50	0.050	mg/Kg		06/22/15 07:17	06/30/15 00:13	1
Thallium	ND		0.10	0.0020	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Vanadium	**0.18**	**B**	0.10	0.0079	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Zinc	**92**		0.50	0.065	mg/Kg		06/22/15 07:17	06/29/15 05:43	1
Manganese	**3.0**		0.50	0.010	mg/Kg		06/22/15 07:17	06/29/15 05:43	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-089 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**43**		3.0	0.28	mg/Kg		06/22/15 07:17	06/30/15 00:18	1
Arsenic	**2.5**		0.10	0.018	mg/Kg		06/22/15 07:17	06/30/15 00:18	1
Barium	**0.11**	**J**	1.0	0.011	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Beryllium	ND		0.10	0.0075	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Cadmium	**0.0089**	**J**	0.10	0.0070	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Calcium	**1100**		50	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Chromium	**0.59**		0.20	0.0061	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Cobalt	**0.29**		0.050	0.0015	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Copper	**1.4**		0.20	0.033	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Iron	**200**		5.0	0.35	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Silver	**0.0082**	**J**	0.10	0.0039	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Potassium	**2400**		50	1.4	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Magnesium	**740**		50	0.19	mg/Kg		06/22/15 07:17	06/30/15 00:18	1
Sodium	**5000**		50	1.4	mg/Kg		06/22/15 07:17	06/30/15 00:18	1
Nickel	**0.79**		0.10	0.011	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Lead	**0.12**		0.10	0.0038	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Antimony	ND		0.20	0.0026	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Selenium	**0.23**	**J**	0.50	0.050	mg/Kg		06/22/15 07:17	06/30/15 00:18	1
Thallium	ND		0.10	0.0020	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Vanadium	**0.31**	**B**	0.10	0.0079	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Zinc	**11**		0.50	0.065	mg/Kg		06/22/15 07:17	06/29/15 05:48	1
Manganese	**1.8**		0.50	0.010	mg/Kg		06/22/15 07:17	06/29/15 05:48	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-089 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**140**		2.9	0.28	mg/Kg		06/22/15 07:17	06/30/15 00:23	1
Arsenic	**3.1**		0.097	0.018	mg/Kg		06/22/15 07:17	06/30/15 00:23	1
Barium	**0.59**	**J**	0.97	0.010	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Cadmium	ND		0.097	0.0068	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Calcium	**5400**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Chromium	**1.5**		0.19	0.0059	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Cobalt	**0.42**		0.049	0.0015	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Copper	**1.6**		0.19	0.032	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Iron	**630**		4.9	0.34	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Silver	**0.0072**	**J**	0.097	0.0038	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Potassium	**2300**		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Magnesium	**930**		49	0.18	mg/Kg		06/22/15 07:17	06/30/15 00:23	1
Sodium	**6200**		49	1.3	mg/Kg		06/22/15 07:17	06/30/15 00:23	1
Nickel	**1.2**		0.097	0.011	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Lead	**0.27**		0.097	0.0037	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Antimony	ND		0.19	0.0025	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Selenium	**0.24**	**J**	0.49	0.049	mg/Kg		06/22/15 07:17	06/30/15 00:23	1
Thallium	ND		0.097	0.0019	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Vanadium	**0.85**	**B**	0.097	0.0077	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Zinc	**32**		0.49	0.063	mg/Kg		06/22/15 07:17	06/29/15 05:53	1
Manganese	**10**		0.49	0.010	mg/Kg		06/22/15 07:17	06/29/15 05:53	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-089 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**2.1**	**J**	2.9	0.27	mg/Kg		06/22/15 07:17	06/30/15 00:28	1
Arsenic	**2.2**		0.096	0.017	mg/Kg		06/22/15 07:17	06/30/15 00:28	1
Barium	ND		0.96	0.010	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Cadmium	**0.0073**	**J**	0.096	0.0067	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Calcium	**180**		48	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Chromium	**0.34**		0.19	0.0059	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Cobalt	**0.32**		0.048	0.0014	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Copper	**1.2**		0.19	0.032	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Iron	**57**		4.8	0.34	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Silver	**0.011**	**J**	0.096	0.0038	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Potassium	**2500**		48	1.3	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Magnesium	**710**		48	0.18	mg/Kg		06/22/15 07:17	06/30/15 00:28	1
Sodium	**5200**		48	1.3	mg/Kg		06/22/15 07:17	06/30/15 00:28	1
Nickel	**0.74**		0.096	0.011	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Lead	**0.071**	**J**	0.096	0.0037	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Antimony	ND		0.19	0.0025	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Selenium	**0.29**	**J**	0.48	0.048	mg/Kg		06/22/15 07:17	06/30/15 00:28	1
Thallium	ND		0.096	0.0019	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Vanadium	**0.098**	**B**	0.096	0.0076	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Zinc	**34**		0.48	0.062	mg/Kg		06/22/15 07:17	06/29/15 05:58	1
Manganese	**1.5**		0.48	0.0099	mg/Kg		06/22/15 07:17	06/29/15 05:58	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-089 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**24**		2.9	0.27	mg/Kg		06/22/15 07:17	06/30/15 00:33	1
Arsenic	**2.1**		0.096	0.017	mg/Kg		06/22/15 07:17	06/30/15 00:33	1
Barium	**0.049**	**J**	0.96	0.010	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Cadmium	ND		0.096	0.0067	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Calcium	**810**		48	1.3	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Chromium	**0.42**		0.19	0.0059	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Cobalt	**0.24**		0.048	0.0014	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Copper	**1.3**		0.19	0.032	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Iron	**130**		4.8	0.34	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Silver	**0.0071**	**J**	0.096	0.0038	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Potassium	**2100**		48	1.3	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Magnesium	**670**		48	0.18	mg/Kg		06/22/15 07:17	06/30/15 00:33	1
Sodium	**4700**		48	1.3	mg/Kg		06/22/15 07:17	06/30/15 00:33	1
Nickel	**0.54**		0.096	0.011	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Lead	**0.098**		0.096	0.0037	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Antimony	ND		0.19	0.0025	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Selenium	**0.21**	**J**	0.48	0.048	mg/Kg		06/22/15 07:17	06/30/15 00:33	1
Thallium	ND		0.096	0.0019	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Vanadium	**0.21**	**B**	0.096	0.0076	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Zinc	**9.6**		0.48	0.062	mg/Kg		06/22/15 07:17	06/29/15 06:03	1
Manganese	**1.0**		0.48	0.0099	mg/Kg		06/22/15 07:17	06/29/15 06:03	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-090 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	42		2.9	0.27	mg/Kg		06/18/15 11:07	06/25/15 23:56	1
Arsenic	6.7		0.095	0.017	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Barium	5.5		0.95	0.010	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Cadmium	2.3		0.095	0.0067	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Calcium	660		48	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Chromium	0.34		0.19	0.0058	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Cobalt	0.35		0.048	0.0014	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Copper	68		0.19	0.031	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Iron	180	B	4.8	0.34	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Silver	0.57		0.095	0.0037	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Potassium	5200		48	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Magnesium	1300	B	48	0.18	mg/Kg		06/18/15 11:07	06/25/15 23:56	1
Sodium	4100		48	1.3	mg/Kg		06/18/15 11:07	06/25/15 23:56	1
Nickel	0.96		0.095	0.011	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Lead	0.27		0.095	0.0036	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Antimony	0.015	J B	0.19	0.0025	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Selenium	2.1		0.48	0.048	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Thallium	0.0038	J	0.095	0.0019	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Vanadium	0.41		0.095	0.0075	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Zinc	1600		0.48	0.062	mg/Kg		06/18/15 11:07	06/25/15 01:06	1
Manganese	19		0.48	0.0098	mg/Kg		06/18/15 11:07	06/25/15 01:06	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-090 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**2.9**		2.9	0.28	mg/Kg		06/18/15 11:07	06/26/15 00:01	1
Arsenic	**2.6**		0.098	0.018	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Barium	**0.047**	**J**	0.98	0.010	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Cadmium	**0.052**	**J**	0.098	0.0069	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Calcium	**170**		49	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Chromium	**0.71**		0.20	0.0060	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Cobalt	**0.16**		0.049	0.0015	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Copper	**2.5**		0.20	0.032	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Iron	**71**	**B**	4.9	0.35	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Silver	**0.012**	**J**	0.098	0.0038	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Potassium	**2400**		49	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Magnesium	**830**	**B**	49	0.18	mg/Kg		06/18/15 11:07	06/26/15 00:01	1
Sodium	**5800**		49	1.3	mg/Kg		06/18/15 11:07	06/26/15 00:01	1
Nickel	**0.56**		0.098	0.011	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Lead	**0.099**		0.098	0.0037	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Antimony	ND		0.20	0.0025	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Selenium	**0.28**	**J**	0.49	0.049	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Thallium	**0.0020**	**J**	0.098	0.0020	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Vanadium	**0.082**	**J**	0.098	0.0077	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Zinc	**31**		0.49	0.064	mg/Kg		06/18/15 11:07	06/25/15 01:11	1
Manganese	**0.86**		0.49	0.010	mg/Kg		06/18/15 11:07	06/25/15 01:11	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-090 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**14**		2.9	0.27	mg/Kg		06/18/15 11:07	06/26/15 00:06	1
Arsenic	**2.6**		0.096	0.017	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Barium	**0.077**	**J**	0.96	0.010	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Cadmium	**0.039**	**J**	0.096	0.0067	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Calcium	**180**		48	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Chromium	**0.87**		0.19	0.0059	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Cobalt	**0.17**		0.048	0.0014	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Copper	**2.7**		0.19	0.032	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Iron	**79**	**B**	4.8	0.34	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Silver	**0.020**	**J**	0.096	0.0038	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Potassium	**2400**		48	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Magnesium	**800**	**B**	48	0.18	mg/Kg		06/18/15 11:07	06/26/15 00:06	1
Sodium	**5600**		48	1.3	mg/Kg		06/18/15 11:07	06/26/15 00:06	1
Nickel	**0.68**		0.096	0.011	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Lead	**0.11**		0.096	0.0037	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Antimony	ND		0.19	0.0025	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Selenium	**0.31**	**J**	0.48	0.048	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Thallium	ND		0.096	0.0019	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Vanadium	**0.19**		0.096	0.0076	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Zinc	**12**		0.48	0.062	mg/Kg		06/18/15 11:07	06/25/15 01:16	1
Manganese	**0.71**		0.48	0.0099	mg/Kg		06/18/15 11:07	06/25/15 01:16	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-090 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**170**		2.9	0.27	mg/Kg		06/18/15 11:07	06/26/15 00:11	1
Arsenic	**2.3**		0.095	0.017	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Barium	**0.44**	**J**	0.95	0.010	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Cadmium	**0.034**	**J**	0.095	0.0067	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Calcium	**370**		48	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Chromium	**1.4**		0.19	0.0058	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Cobalt	**0.25**		0.048	0.0014	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Copper	**1.8**		0.19	0.031	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Iron	**350**	**B**	4.8	0.34	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Silver	**0.014**	**J**	0.095	0.0037	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Potassium	**2000**		48	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Magnesium	**780**	**B**	48	0.18	mg/Kg		06/18/15 11:07	06/26/15 00:11	1
Sodium	**5100**		48	1.3	mg/Kg		06/18/15 11:07	06/26/15 00:11	1
Nickel	**1.0**		0.095	0.011	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Lead	**0.30**		0.095	0.0036	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Antimony	ND		0.19	0.0025	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Selenium	**0.26**	**J**	0.48	0.048	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Thallium	ND		0.095	0.0019	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Vanadium	**0.50**		0.095	0.0075	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Zinc	**11**		0.48	0.062	mg/Kg		06/18/15 11:07	06/25/15 01:21	1
Manganese	**3.7**		0.48	0.0098	mg/Kg		06/18/15 11:07	06/25/15 01:21	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-090 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**53**		2.9	0.27	mg/Kg		06/18/15 11:07	06/26/15 00:17	1
Arsenic	**2.6**		0.096	0.017	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Barium	**0.15**	**J**	0.96	0.010	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Cadmium	**0.037**	**J**	0.096	0.0067	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Calcium	**250**		48	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Chromium	**1.1**		0.19	0.0059	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Cobalt	**0.18**		0.048	0.0014	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Copper	**2.2**		0.19	0.032	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Iron	**140**	**B**	4.8	0.34	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Silver	**0.017**	**J**	0.096	0.0038	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Potassium	**2300**		48	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Magnesium	**810**	**B**	48	0.18	mg/Kg		06/18/15 11:07	06/26/15 00:17	1
Sodium	**5600**		48	1.3	mg/Kg		06/18/15 11:07	06/26/15 00:17	1
Nickel	**0.74**		0.096	0.011	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Lead	**0.15**		0.096	0.0037	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Antimony	ND		0.19	0.0025	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Selenium	**0.25**	**J**	0.48	0.048	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Thallium	ND		0.096	0.0019	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Vanadium	**0.27**		0.096	0.0076	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Zinc	**11**		0.48	0.062	mg/Kg		06/18/15 11:07	06/25/15 01:26	1
Manganese	**1.4**		0.48	0.0099	mg/Kg		06/18/15 11:07	06/25/15 01:26	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-091 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**2.1**	**J**	2.9	0.27	mg/Kg		06/22/15 07:17	06/30/15 00:38	1
Arsenic	**2.3**		0.095	0.017	mg/Kg		06/22/15 07:17	06/30/15 00:38	1
Barium	ND		0.95	0.010	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Cadmium	**0.015**	**J**	0.095	0.0067	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Calcium	**160**		48	1.3	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Chromium	**0.38**		0.19	0.0058	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Cobalt	**0.16**		0.048	0.0014	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Copper	**1.5**		0.19	0.031	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Iron	**49**		4.8	0.34	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Silver	**0.012**	**J**	0.095	0.0037	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Potassium	**2400**		48	1.3	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Magnesium	**710**		48	0.18	mg/Kg		06/22/15 07:17	06/30/15 00:38	1
Sodium	**4900**		48	1.3	mg/Kg		06/22/15 07:17	06/30/15 00:38	1
Nickel	**0.34**		0.095	0.011	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Lead	**0.097**		0.095	0.0036	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Antimony	ND		0.19	0.0025	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Selenium	**0.27**	**J**	0.48	0.048	mg/Kg		06/22/15 07:17	06/30/15 00:38	1
Thallium	ND		0.095	0.0019	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Vanadium	**0.19**	**B**	0.095	0.0075	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Zinc	**11**		0.48	0.062	mg/Kg		06/22/15 07:17	06/29/15 06:08	1
Manganese	**0.47**	**J**	0.48	0.0098	mg/Kg		06/22/15 07:17	06/29/15 06:08	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-091 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	260		2.9	0.28	mg/Kg		06/22/15 07:17	06/30/15 01:02	1
Arsenic	2.5		0.098	0.018	mg/Kg		06/22/15 07:17	06/30/15 01:02	1
Barium	0.42	J	0.98	0.010	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Cadmium	0.010	J	0.098	0.0069	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Calcium	350		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Chromium	1.2		0.20	0.0060	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Cobalt	0.33		0.049	0.0015	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Copper	1.8		0.20	0.032	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Iron	460		4.9	0.35	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Silver	0.015	J	0.098	0.0038	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Potassium	2300		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Magnesium	800		49	0.18	mg/Kg		06/22/15 07:17	06/30/15 01:02	1
Sodium	4900		49	1.3	mg/Kg		06/22/15 07:17	06/30/15 01:02	1
Nickel	0.84		0.098	0.011	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Lead	0.25		0.098	0.0037	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Antimony	0.033	J	0.20	0.0025	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Selenium	0.24	J	0.49	0.049	mg/Kg		06/22/15 07:17	06/30/15 01:02	1
Thallium	0.0051	J	0.098	0.0020	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Vanadium	0.71	B	0.098	0.0077	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Zinc	27		0.49	0.064	mg/Kg		06/22/15 07:17	06/29/15 06:32	1
Manganese	5.3		0.49	0.010	mg/Kg		06/22/15 07:17	06/29/15 06:32	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-091 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**8.3**		3.0	0.29	mg/Kg		06/22/15 07:17	06/30/15 01:07	1
Arsenic	**2.5**		0.10	0.018	mg/Kg		06/22/15 07:17	06/30/15 01:07	1
Barium	**0.026**	**J**	1.0	0.011	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Beryllium	ND		0.10	0.0076	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Cadmium	ND		0.10	0.0071	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Calcium	**170**		51	1.3	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Chromium	**0.61**		0.20	0.0062	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Cobalt	**0.20**		0.051	0.0015	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Copper	**2.8**		0.20	0.033	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Iron	**64**		5.1	0.36	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Silver	**0.018**	**J**	0.10	0.0039	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Potassium	**2600**		51	1.4	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Magnesium	**740**		51	0.19	mg/Kg		06/22/15 07:17	06/30/15 01:07	1
Sodium	**5300**		51	1.4	mg/Kg		06/22/15 07:17	06/30/15 01:07	1
Nickel	**0.50**		0.10	0.011	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Lead	**0.12**		0.10	0.0038	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Antimony	**0.0027**	**J**	0.20	0.0026	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Selenium	**0.24**	**J**	0.51	0.051	mg/Kg		06/22/15 07:17	06/30/15 01:07	1
Thallium	ND		0.10	0.0020	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Vanadium	**0.21**	**B**	0.10	0.0080	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Zinc	**11**		0.51	0.065	mg/Kg		06/22/15 07:17	06/29/15 06:37	1
Manganese	**0.58**		0.51	0.010	mg/Kg		06/22/15 07:17	06/29/15 06:37	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-091 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	23		2.9	0.27	mg/Kg		06/19/15 09:16	06/25/15 17:01	1
Arsenic	2.2		0.095	0.017	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Barium	0.095	J	0.95	0.010	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Cadmium	0.028	J	0.095	0.0067	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Calcium	170		48	1.3	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Chromium	0.95	B	0.19	0.0058	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Cobalt	0.59		0.048	0.0014	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Copper	3.2		0.19	0.031	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Iron	77	B	4.8	0.34	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Silver	0.013	J	0.095	0.0037	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Potassium	2400	B	48	1.3	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Magnesium	670	B	48	0.18	mg/Kg		06/19/15 09:16	06/25/15 17:01	1
Sodium	4500	B	48	1.3	mg/Kg		06/19/15 09:16	06/25/15 17:01	1
Nickel	0.62		0.095	0.011	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Lead	0.16		0.095	0.0036	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Antimony	0.015	J	0.19	0.0025	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Selenium	0.24	J	0.48	0.048	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Thallium	0.011	J	0.095	0.0019	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Vanadium	0.29	B	0.095	0.0075	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Zinc	11		0.48	0.062	mg/Kg		06/19/15 09:16	06/24/15 17:05	1
Manganese	0.78		0.48	0.0098	mg/Kg		06/19/15 09:16	06/24/15 17:05	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-091 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	200		2.9	0.28	mg/Kg		06/19/15 09:16	06/25/15 17:06	1
Arsenic	2.3		0.097	0.018	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Barium	0.36	J	0.97	0.010	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Beryllium	0.010	J	0.097	0.0073	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Cadmium	0.027	J	0.097	0.0068	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Calcium	220		49	1.3	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Chromium	1.1	B	0.19	0.0059	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Cobalt	0.28		0.049	0.0015	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Copper	2.0		0.19	0.032	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Iron	400	B	4.9	0.34	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Silver	0.014	J	0.097	0.0038	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Potassium	2300	B	49	1.3	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Magnesium	810	B	49	0.18	mg/Kg		06/19/15 09:16	06/25/15 17:06	1
Sodium	4800	B	49	1.3	mg/Kg		06/19/15 09:16	06/25/15 17:06	1
Nickel	0.71		0.097	0.011	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Lead	0.25		0.097	0.0037	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Antimony	ND		0.19	0.0025	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Selenium	0.19	J	0.49	0.049	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Thallium	0.0051	J	0.097	0.0019	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Vanadium	0.67	B	0.097	0.0077	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Zinc	11		0.49	0.063	mg/Kg		06/19/15 09:16	06/24/15 17:10	1
Manganese	4.2		0.49	0.010	mg/Kg		06/19/15 09:16	06/24/15 17:10	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-092 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**71**		2.9	0.28	mg/Kg		06/18/15 11:07	06/26/15 00:22	1
Arsenic	**2.8**		0.097	0.018	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Barium	**0.18**	**J**	0.97	0.010	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Cadmium	**0.030**	**J**	0.097	0.0068	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Calcium	**270**		49	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Chromium	**1.3**		0.19	0.0059	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Cobalt	**0.18**		0.049	0.0015	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Copper	**2.6**		0.19	0.032	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Iron	**180**	**B**	4.9	0.34	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Silver	**0.014**	**J**	0.097	0.0038	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Potassium	**2100**		49	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Magnesium	**810**	**B**	49	0.18	mg/Kg		06/18/15 11:07	06/26/15 00:22	1
Sodium	**5600**		49	1.3	mg/Kg		06/18/15 11:07	06/26/15 00:22	1
Nickel	**0.89**		0.097	0.011	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Lead	**0.18**		0.097	0.0037	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Antimony	ND		0.19	0.0025	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Selenium	**0.19**	**J**	0.49	0.049	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Thallium	ND		0.097	0.0019	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Vanadium	**0.26**		0.097	0.0077	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Zinc	**11**		0.49	0.063	mg/Kg		06/18/15 11:07	06/25/15 01:31	1
Manganese	**1.9**		0.49	0.010	mg/Kg		06/18/15 11:07	06/25/15 01:31	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-092 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**93**		2.9	0.27	mg/Kg		06/18/15 11:07	06/26/15 00:27	1
Arsenic	**2.3**		0.096	0.017	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Barium	**0.18**	**J**	0.96	0.010	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Beryllium	ND		0.096	0.0072	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Cadmium	**0.039**	**J**	0.096	0.0067	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Calcium	**410**		48	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Chromium	**1.5**		0.19	0.0059	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Cobalt	**0.20**		0.048	0.0014	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Copper	**3.1**		0.19	0.032	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Iron	**250**	**B**	4.8	0.34	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Silver	**0.028**	**J**	0.096	0.0038	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Potassium	**2200**		48	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Magnesium	**820**	**B**	48	0.18	mg/Kg		06/18/15 11:07	06/26/15 00:27	1
Sodium	**5100**		48	1.3	mg/Kg		06/18/15 11:07	06/26/15 00:27	1
Nickel	**0.97**		0.096	0.011	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Lead	**0.17**		0.096	0.0037	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Antimony	ND		0.19	0.0025	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Selenium	**0.23**	**J**	0.48	0.048	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Thallium	ND		0.096	0.0019	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Vanadium	**0.32**		0.096	0.0076	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Zinc	**14**		0.48	0.062	mg/Kg		06/18/15 11:07	06/25/15 01:37	1
Manganese	**3.4**		0.48	0.0099	mg/Kg		06/18/15 11:07	06/25/15 01:37	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-092 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**98**		3.0	0.29	mg/Kg		06/18/15 11:07	06/26/15 00:32	1
Arsenic	**2.3**		0.10	0.018	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Barium	**0.20**	**J**	1.0	0.011	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Beryllium	ND		0.10	0.0076	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Cadmium	**0.029**	**J**	0.10	0.0071	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Calcium	**300**		51	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Chromium	**2.4**		0.20	0.0062	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Cobalt	**0.22**		0.051	0.0015	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Copper	**2.4**		0.20	0.033	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Iron	**230**	**B**	5.1	0.36	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Silver	**0.015**	**J**	0.10	0.0039	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Potassium	**2200**		51	1.4	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Magnesium	**840**	**B**	51	0.19	mg/Kg		06/18/15 11:07	06/26/15 00:32	1
Sodium	**5200**		51	1.4	mg/Kg		06/18/15 11:07	06/26/15 00:32	1
Nickel	**1.4**		0.10	0.011	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Lead	**0.15**		0.10	0.0038	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Antimony	ND		0.20	0.0026	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Selenium	**0.25**	**J**	0.51	0.051	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Thallium	ND		0.10	0.0020	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Vanadium	**0.22**		0.10	0.0080	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Zinc	**42**		0.51	0.065	mg/Kg		06/18/15 11:07	06/25/15 01:42	1
Manganese	**4.5**		0.51	0.010	mg/Kg		06/18/15 11:07	06/25/15 01:42	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-092 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**2.0**	**J**	3.0	0.28	mg/Kg		06/18/15 11:07	06/26/15 00:37	1
Arsenic	**2.6**		0.099	0.018	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Barium	**0.15**	**J**	0.99	0.011	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Cadmium	**0.043**	**J**	0.099	0.0069	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Calcium	**170**		50	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Chromium	**0.65**		0.20	0.0060	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Cobalt	**0.15**		0.050	0.0015	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Copper	**2.7**		0.20	0.033	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Iron	**63**	**B**	5.0	0.35	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Silver	**0.012**	**J**	0.099	0.0039	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Potassium	**2500**		50	1.3	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Magnesium	**820**	**B**	50	0.19	mg/Kg		06/18/15 11:07	06/26/15 00:37	1
Sodium	**5800**		50	1.4	mg/Kg		06/18/15 11:07	06/26/15 00:37	1
Nickel	**0.53**		0.099	0.011	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Lead	**0.093**	**J**	0.099	0.0038	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Antimony	ND		0.20	0.0026	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Selenium	**0.32**	**J**	0.50	0.050	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Thallium	ND		0.099	0.0020	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Vanadium	**0.098**	**J**	0.099	0.0078	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Zinc	**87**		0.50	0.064	mg/Kg		06/18/15 11:07	06/25/15 01:47	1
Manganese	**2.2**		0.50	0.010	mg/Kg		06/18/15 11:07	06/25/15 01:47	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: AT5-092 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1.3	J	2.9	0.28	mg/Kg		06/18/15 11:07	06/26/15 01:01	1
Arsenic	2.4		0.098	0.018	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Barium	0.055	J	0.98	0.010	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Beryllium	ND		0.098	0.0074	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Cadmium	0.039	J	0.098	0.0069	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Calcium	170		49	1.3	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Chromium	0.37		0.20	0.0060	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Cobalt	0.13		0.049	0.0015	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Copper	1.9		0.20	0.032	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Iron	56	B	4.9	0.35	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Silver	0.010	J	0.098	0.0038	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Potassium	2600		49	1.3	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Magnesium	750	B	49	0.18	mg/Kg		06/18/15 11:07	06/26/15 01:01	1
Sodium	5300		49	1.3	mg/Kg		06/18/15 11:07	06/26/15 01:01	1
Nickel	0.35		0.098	0.011	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Lead	0.083	J	0.098	0.0037	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Antimony	0.047	J B	0.20	0.0025	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Selenium	0.27	J	0.49	0.049	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Thallium	0.0057	J	0.098	0.0020	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Vanadium	0.060	J	0.098	0.0077	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Zinc	16		0.49	0.064	mg/Kg		06/18/15 11:07	06/25/15 02:15	1
Manganese	0.53		0.49	0.010	mg/Kg		06/18/15 11:07	06/25/15 02:15	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: SRM
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	39		3.0	0.28	mg/Kg		06/18/15 11:07	06/26/15 01:06	1
Arsenic	6.9		0.099	0.018	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Barium	5.8		0.99	0.011	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Cadmium	2.4		0.099	0.0069	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Calcium	680		50	1.3	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Chromium	0.34		0.20	0.0060	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Cobalt	0.37		0.050	0.0015	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Copper	71		0.20	0.033	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Iron	180	B	5.0	0.35	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Silver	0.59		0.099	0.0039	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Potassium	5500		50	1.3	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Magnesium	1300	B	50	0.19	mg/Kg		06/18/15 11:07	06/26/15 01:06	1
Sodium	4200		50	1.4	mg/Kg		06/18/15 11:07	06/26/15 01:06	1
Nickel	1.0		0.099	0.011	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Lead	0.29		0.099	0.0038	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Antimony	0.010	J B	0.20	0.0026	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Selenium	2.1		0.50	0.050	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Thallium	0.0022	J	0.099	0.0020	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Vanadium	0.42		0.099	0.0078	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Zinc	1700		0.50	0.064	mg/Kg		06/18/15 11:07	06/25/15 02:21	1
Manganese	20		0.50	0.010	mg/Kg		06/18/15 11:07	06/25/15 02:21	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: SRM
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**50**		3.0	0.28	mg/Kg		06/19/15 09:16	06/25/15 17:11	1
Arsenic	**7.1**		0.099	0.018	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Barium	**5.9**		0.99	0.011	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Beryllium	ND		0.099	0.0074	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Cadmium	**2.3**		0.099	0.0069	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Calcium	**670**		50	1.3	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Chromium	**0.48**	**B**	0.20	0.0060	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Cobalt	**0.37**		0.050	0.0015	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Copper	**71**		0.20	0.033	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Iron	**180**	**B**	5.0	0.35	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Silver	**0.58**		0.099	0.0039	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Potassium	**5500**	**B**	50	1.3	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Magnesium	**1200**	**B**	50	0.19	mg/Kg		06/19/15 09:16	06/25/15 17:11	1
Sodium	**3700**	**B**	50	1.4	mg/Kg		06/19/15 09:16	06/25/15 17:11	1
Nickel	**1.0**		0.099	0.011	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Lead	**0.31**		0.099	0.0038	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Antimony	ND		0.20	0.0026	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Selenium	**2.1**		0.50	0.050	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Thallium	**0.0056**	**J**	0.099	0.0020	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Vanadium	**0.43**	**B**	0.099	0.0078	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Zinc	**1600**		0.50	0.064	mg/Kg		06/19/15 09:16	06/24/15 17:16	1
Manganese	**19**		0.50	0.010	mg/Kg		06/19/15 09:16	06/24/15 17:16	1

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-088 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 10:33	06/27/15 07:29	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-088 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 10:33	06/27/15 07:31	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-088 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 10:33	06/27/15 07:33	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-088 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 10:33	06/27/15 07:35	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-089 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 10:33	06/27/15 07:40	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-089 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 10:33	06/27/15 07:42	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-089 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 10:33	06/27/15 07:44	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-089 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 10:33	06/27/15 07:46	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-089 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 10:33	06/27/15 07:48	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-090 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.047	mg/Kg		06/25/15 09:27	06/26/15 12:45	5

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44668-1

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-090 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.048	mg/Kg		06/25/15 09:27	06/26/15 12:47	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-090 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.13	0.046	mg/Kg		06/25/15 09:27	06/26/15 12:48	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-090 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.047	J H	0.13	0.046	mg/Kg		06/25/15 09:27	06/26/15 12:50	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-090 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:27	06/26/15 12:52	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-091 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 10:33	06/27/15 07:50	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-091 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 10:33	06/27/15 07:52	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-091 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 10:33	06/27/15 07:54	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-091 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 13:17	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-091 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 13:19	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-092 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.047	mg/Kg		06/25/15 09:27	06/26/15 12:54	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-092 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.049	mg/Kg		06/25/15 09:27	06/26/15 12:56	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-092 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.054	mg/Kg		06/25/15 09:27	06/26/15 12:58	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-092 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.16	0.056	mg/Kg		06/25/15 09:27	06/26/15 13:04	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: AT5-092 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.14	0.048	mg/Kg		06/25/15 09:27	06/26/15 13:06	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: SRM
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-25
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.16	0.055	mg/Kg		06/25/15 09:27	06/26/15 13:07	5

Method: 7471B - Mercury (CVAA)

Client Sample ID: SRM
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-26
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.17	0.057	mg/Kg		06/25/15 09:45	06/26/15 13:21	5

General Chemistry

Client Sample ID: AT5-088 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-1
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/25/15 15:16	1
Percent Lipids	0.67		0.19	0.056	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-088 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-2
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	82		0.10	0.10	%			06/25/15 16:54	1
Percent Lipids	1.2		0.19	0.057	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-088 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-3
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/25/15 17:44	1
Percent Lipids	0.83		0.20	0.058	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-088 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-4
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**82**		0.10	0.10	%			06/25/15 18:33	1
Percent Lipids	**0.84**		0.20	0.059	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-089 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-5
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/25/15 19:23	1
Percent Lipids	**0.87**		0.19	0.057	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-089 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-6
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/25/15 20:12	1
Percent Lipids	0.67		0.19	0.056	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-089 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-7
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**80**		0.10	0.10	%			06/25/15 21:02	1
Percent Lipids	**0.83**		0.20	0.059	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-089 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-8
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**82**		0.10	0.10	%			06/25/15 21:51	1
Percent Lipids	**0.65**		0.19	0.056	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-089 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-9
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	85		0.10	0.10	%			06/25/15 22:41	1
Percent Lipids	0.54		0.19	0.057	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-090 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-10
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/25/15 23:30	1
Percent Lipids	**0.79**		0.20	0.058	%		06/20/15 05:00	06/20/15 05:00	1

General Chemistry

Client Sample ID: AT5-090 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-11
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**84**		0.10	0.10	%			06/26/15 00:20	1
Percent Lipids	**0.39**		0.20	0.059	%		06/20/15 05:00	06/20/15 05:00	1

General Chemistry

Client Sample ID: AT5-090 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-12
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**82**		0.10	0.10	%			06/26/15 01:58	1
Percent Lipids	**0.68**		0.20	0.059	%		06/20/15 05:00	06/20/15 05:00	1

General Chemistry

Client Sample ID: AT5-090 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-13
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/26/15 02:48	1
Percent Lipids	**0.69**		0.19	0.057	%		06/20/15 05:00	06/20/15 05:00	1

General Chemistry

Client Sample ID: AT5-090 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-14
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/26/15 03:37	1
Percent Lipids	0.57		0.20	0.058	%		06/20/15 05:00	06/20/15 05:00	1

General Chemistry

Client Sample ID: AT5-091 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-15
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/26/15 04:27	1
Percent Lipids	**0.72**		0.19	0.057	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-091 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-16
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/26/15 05:16	1
Percent Lipids	0.65		0.20	0.058	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-091 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-17
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**86**		0.10	0.10	%			06/26/15 06:06	1
Percent Lipids	**0.56**		0.20	0.058	%		06/23/15 03:35	06/23/15 03:35	1

General Chemistry

Client Sample ID: AT5-091 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-18
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/27/15 09:34	1
Percent Lipids	**0.41**		0.20	0.058	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-091 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-19
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	84		0.10	0.10	%			06/26/15 07:45	1
Percent Lipids	0.77		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

General Chemistry

Client Sample ID: AT5-092 A-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-20
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**82**		0.10	0.10	%			06/26/15 08:34	1
Percent Lipids	**0.43**		0.20	0.058	%		06/20/15 05:00	06/20/15 05:00	1

General Chemistry

Client Sample ID: AT5-092 B-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-21
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/25/15 15:56	1
Percent Lipids	**0.47**		0.20	0.059	%		06/20/15 05:00	06/20/15 05:00	1

General Chemistry

Client Sample ID: AT5-092 C-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-22
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/25/15 17:27	1
Percent Lipids	**0.57**		0.20	0.059	%		06/20/15 05:00	06/20/15 05:00	1

General Chemistry

Client Sample ID: AT5-092 D-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-23
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85**		0.10	0.10	%			06/25/15 18:13	1
Percent Lipids	**0.71**		0.20	0.059	%		06/20/15 05:00	06/20/15 05:00	1

General Chemistry

Client Sample ID: AT5-092 E-W
Date Collected: 05/21/15 12:00
Date Received: 05/29/15 08:50

Lab Sample ID: 180-44668-24
Matrix: Tissue

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**83**		0.10	0.10	%			06/25/15 18:59	1
Percent Lipids	**0.71**		0.20	0.059	%		06/20/15 05:00	06/20/15 05:00	1

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44668-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	RL	MDL	Units	Method
Acenaphthene	6.7	0.64	ug/Kg	8270D LL
Acenaphthylene	6.7	0.76	ug/Kg	8270D LL
Anthracene	6.7	0.65	ug/Kg	8270D LL
Benzo[a]anthracene	6.7	0.84	ug/Kg	8270D LL
Benzo[a]pyrene	6.7	0.67	ug/Kg	8270D LL
Benzo[b]fluoranthene	6.7	1.0	ug/Kg	8270D LL
Benzo[g,h,i]perylene	6.7	0.66	ug/Kg	8270D LL
Benzo[k]fluoranthene	6.7	1.3	ug/Kg	8270D LL
Bis(2-ethylhexyl) phthalate	67	5.4	ug/Kg	8270D LL
Chrysene	6.7	0.79	ug/Kg	8270D LL
Dibenz(a,h)anthracene	6.7	0.74	ug/Kg	8270D LL
Fluoranthene	6.7	0.71	ug/Kg	8270D LL
Fluorene	6.7	0.88	ug/Kg	8270D LL
Indeno[1,2,3-cd]pyrene	6.7	0.69	ug/Kg	8270D LL
Naphthalene	6.7	0.58	ug/Kg	8270D LL
Phenanthrene	6.7	1.1	ug/Kg	8270D LL
Phenol	6.7	0.79	ug/Kg	8270D LL
Pyrene	6.7	0.67	ug/Kg	8270D LL

Method: 8081B_LL - Organochlorine Pesticides (GC)

Analyte	RL	MDL	Units	Method
2,4'-DDD	0.083	0.0050	ug/Kg	8081B_LL
2,4'-DDE	0.083	0.0077	ug/Kg	8081B_LL
2,4'-DDT	0.083	0.0072	ug/Kg	8081B_LL
4,4'-DDD	0.083	0.011	ug/Kg	8081B_LL
4,4'-DDE	0.083	0.013	ug/Kg	8081B_LL
4,4'-DDT	0.083	0.013	ug/Kg	8081B_LL
Endrin	0.083	0.016	ug/Kg	8081B_LL
Mirex	0.083	0.0077	ug/Kg	8081B_LL

Method: 6020A - Metals (ICP/MS)

Analyte	RL	MDL	Units	Method
Aluminum	3.0	0.28	mg/Kg	6020A
Antimony	0.20	0.0026	mg/Kg	6020A
Arsenic	0.10	0.018	mg/Kg	6020A
Barium	1.0	0.011	mg/Kg	6020A
Beryllium	0.10	0.0075	mg/Kg	6020A
Cadmium	0.10	0.0070	mg/Kg	6020A
Calcium	50	1.3	mg/Kg	6020A
Chromium	0.20	0.0061	mg/Kg	6020A
Cobalt	0.050	0.0015	mg/Kg	6020A
Copper	0.20	0.033	mg/Kg	6020A
Iron	5.0	0.35	mg/Kg	6020A
Lead	0.10	0.0038	mg/Kg	6020A
Magnesium	50	0.19	mg/Kg	6020A
Manganese	0.50	0.010	mg/Kg	6020A
Nickel	0.10	0.011	mg/Kg	6020A
Potassium	50	1.4	mg/Kg	6020A
Selenium	0.50	0.050	mg/Kg	6020A
Silver	0.10	0.0039	mg/Kg	6020A

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44668-1

Method: 6020A - Metals (ICP/MS) (Continued)

Analyte	RL	MDL	Units	Method
Sodium	50	1.4	mg/Kg	6020A
Thallium	0.10	0.0020	mg/Kg	6020A
Vanadium	0.10	0.0079	mg/Kg	6020A
Zinc	0.50	0.065	mg/Kg	6020A

Method: 7471B - Mercury (CVAA)

Analyte	RL	MDL	Units	Method
Mercury	0.033	0.011	mg/Kg	7471B

General Chemistry

Analyte	RL	MDL	Units	Method
Percent Moisture	0.10	0.10	%	2540G
Percent Lipids	0.10	0.030	%	Lipids

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: CBBT Thimble Shoal Parallel Tunnel

TestAmerica Job ID: 180-44668-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Tissue **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		2FP	TBP	PHL	FBP	NBZ	TPH
Lab Sample ID	Client Sample ID	(34-103)	(20-113)	(35-103)	(38-103)	(41-108)	(28-109)
180-44668-1	AT5-088 B-W	60	82	65	72	68	80
180-44668-2	AT5-088 C-W	36	55	42	49	45	52
180-44668-3	AT5-088 D-W	53	79	60	69	64	84
180-44668-4	AT5-088 E-W	49	84	55	60	56	73
180-44668-5	AT5-089 A-W	69	106	77	90	80	95
180-44668-6	AT5-089 B-W	49	66	52	54	52	63
180-44668-7	AT5-089 C-W	58	82	67	71	64	75
180-44668-8	AT5-089 D-W	55	82	60	63	60	73
180-44668-9	AT5-089 E-W	66	87	67	72	69	81
180-44668-10	AT5-090 A-W	61	71	63	66	61	68
180-44668-11	AT5-090 B-W	45	53	48	49	44	56
180-44668-12	AT5-090 C-W	57	71	57	64	58	62
180-44668-13	AT5-090 D-W	54	60	56	58	57	57
180-44668-14	AT5-090 E-W	64	73	66	70	66	62
180-44668-15	AT5-091 A-W	52	78	59	70	64	78
180-44668-16	AT5-091 B-W	58	76	67	69	59	72
180-44668-17	AT5-091 C-W	52	74	58	62	60	65
180-44668-18	AT5-091 D-W	72	82	71	76	75	82
180-44668-19	AT5-091 E-W	83	109	85	97	91	100
180-44668-20	AT5-092 A-W	52	63	53	59	57	59
180-44668-21	AT5-092 B-W	64	67	60	62	57	62
180-44668-22	AT5-092 C-W	57	60	58	59	52	58
180-44668-23	AT5-092 D-W	46	56	47	48	43	51
180-44668-24	AT5-092 E-W	54	53	52	50	52	48
LCS 180-145623/2-B	Lab Control Sample	68	58	67	65	62	61
LCS 180-145792/2-B	Lab Control Sample	62	73	67	65	62	78
LCS 180-145926/2-B	Lab Control Sample	74	82	78	73	73	82
LCSD 180-145926/3-B	Lab Control Sample Dup	68	78	71	67	67	72
MB 180-145623/1-B	Method Blank	62	37	61	55	55	56
MB 180-145792/1-B	Method Blank	71	53	79	73	71	86
MB 180-145926/1-B	Method Blank	78	67	83	77	78	83

Surrogate Legend

2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
PHL = Phenol-d5 (Surr)
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8081B_LL - Organochlorine Pesticides (GC)

Matrix: Tissue **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(45-140)	(45-140)	(45-140)	(45-140)
180-44668-10	AT5-090 A-W	62	64	74	81
180-44668-10 - RA	AT5-090 A-W	63	65	77	75
180-44668-11	AT5-090 B-W	58	63	79	82

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Matrix: Tissue **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(45-140)	(45-140)	(45-140)	(45-140)
180-44668-11 - RA	AT5-090 B-W	55	60	77	81
180-44668-12	AT5-090 C-W	64	66	83	87
180-44668-12 - RA	AT5-090 C-W	61	68	83	84
180-44668-13	AT5-090 D-W	62	65	84	86
180-44668-13 - RA	AT5-090 D-W	59	65	84	84
180-44668-14	AT5-090 E-W	69	70	87	88
180-44668-14 - RA	AT5-090 E-W	60	69	84	89
180-44668-20	AT5-092 A-W	67	72	86	91
180-44668-20 - RA	AT5-092 A-W	63	72	81	87
180-44668-21	AT5-092 B-W	68	70	87	91
180-44668-21 - RA	AT5-092 B-W	63	69	87	84
180-44668-22	AT5-092 C-W	60	65	80	81
180-44668-22 - RA	AT5-092 C-W	57	65	78	80
180-44668-23	AT5-092 D-W	71	73	90	90
180-44668-23 - RA	AT5-092 D-W	65	72	85	86
180-44668-24	AT5-092 E-W	62	68	82	85
180-44668-24 - RA	AT5-092 E-W	59	67	79	81
180-44668-25	SRM	66	73	86	89
180-44668-25 - RA	SRM	60	67	81	88
LCS 180-145624/2-B	Lab Control Sample	81	84	91	93
MB 180-145624/1-B	Method Blank	83	83	91	91

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-145623/1-B
Matrix: Tissue
Analysis Batch: 146319

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145623

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40	3.8	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Acenaphthylene	ND		40	4.6	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Anthracene	ND		40	3.9	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Benzo[a]anthracene	ND		40	5.0	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Benzo[b]fluoranthene	ND		40	6.3	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Benzo[k]fluoranthene	ND		40	8.1	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Benzo[g,h,i]perylene	ND		40	4.0	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Benzo[a]pyrene	ND		40	4.0	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Bis(2-ethylhexyl) phthalate	ND		400	32	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Chrysene	ND		40	4.8	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Dibenz(a,h)anthracene	ND		40	4.5	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Fluoranthene	ND		40	4.3	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Fluorene	ND		40	5.3	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Indeno[1,2,3-cd]pyrene	ND		40	4.1	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Naphthalene	ND		40	3.5	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Phenanthrene	ND		40	6.4	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Phenol	ND		40	4.7	ug/Kg		06/20/15 03:00	06/28/15 21:18	1
Pyrene	ND		40	4.0	ug/Kg		06/20/15 03:00	06/28/15 21:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*62*		*34 - 103*	*06/20/15 03:00*	*06/28/15 21:18*	*1*
2,4,6-Tribromophenol (Surr)	*37*		*20 - 113*	*06/20/15 03:00*	*06/28/15 21:18*	*1*
Phenol-d5 (Surr)	*61*		*35 - 103*	*06/20/15 03:00*	*06/28/15 21:18*	*1*
2-Fluorobiphenyl	*55*		*38 - 103*	*06/20/15 03:00*	*06/28/15 21:18*	*1*
Nitrobenzene-d5 (Surr)	*55*		*41 - 108*	*06/20/15 03:00*	*06/28/15 21:18*	*1*
Terphenyl-d14 (Surr)	*56*		*28 - 109*	*06/20/15 03:00*	*06/28/15 21:18*	*1*

Lab Sample ID: LCS 180-145623/2-B
Matrix: Tissue
Analysis Batch: 146319

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145623

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2000	1360		ug/Kg		68	34 - 100
Acenaphthylene	2000	1380		ug/Kg		69	34 - 100
Anthracene	2000	1450		ug/Kg		73	35 - 100
Benzo[a]anthracene	2000	1520		ug/Kg		76	37 - 100
Benzo[b]fluoranthene	2000	1410		ug/Kg		70	31 - 100
Benzo[k]fluoranthene	2000	1380		ug/Kg		69	34 - 100
Benzo[g,h,i]perylene	2000	1460		ug/Kg		73	29 - 106
Benzo[a]pyrene	2000	1480		ug/Kg		74	36 - 100
Bis(2-ethylhexyl) phthalate	2000	1800		ug/Kg		90	32 - 106
Chrysene	2000	1460		ug/Kg		73	37 - 100
Dibenz(a,h)anthracene	2000	1600		ug/Kg		80	31 - 106
Fluoranthene	2000	1560		ug/Kg		78	36 - 100
Fluorene	2000	1530		ug/Kg		76	35 - 100
Indeno[1,2,3-cd]pyrene	2000	1550		ug/Kg		77	31 - 103
Naphthalene	2000	1300		ug/Kg		65	32 - 100
Phenanthrene	2000	1410		ug/Kg		71	33 - 100

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-145623/2-B
Matrix: Tissue
Analysis Batch: 146319

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145623

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	2000	1400		ug/Kg		70	34 - 100
Pyrene	2000	1330		ug/Kg		66	32 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*68*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*58*		*20 - 113*
Phenol-d5 (Surr)	*67*		*35 - 103*
2-Fluorobiphenyl	*65*		*38 - 103*
Nitrobenzene-d5 (Surr)	*62*		*41 - 108*
Terphenyl-d14 (Surr)	*61*		*28 - 109*

Lab Sample ID: MB 180-145792/1-B
Matrix: Tissue
Analysis Batch: 146321

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145792

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40	3.8	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Acenaphthylene	ND		40	4.6	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Anthracene	ND		40	3.9	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Benzo[a]anthracene	ND		40	5.0	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Benzo[b]fluoranthene	ND		40	6.3	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Benzo[k]fluoranthene	ND		40	8.1	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Benzo[g,h,i]perylene	ND		40	4.0	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Benzo[a]pyrene	ND		40	4.0	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Bis(2-ethylhexyl) phthalate	ND		400	32	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Chrysene	ND		40	4.8	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Dibenz(a,h)anthracene	ND		40	4.5	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Fluoranthene	ND		40	4.3	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Fluorene	ND		40	5.3	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Indeno[1,2,3-cd]pyrene	ND		40	4.1	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Naphthalene	ND		40	3.5	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Phenanthrene	ND		40	6.4	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Phenol	ND		40	4.7	ug/Kg		06/23/15 03:33	06/28/15 23:14	1
Pyrene	ND		40	4.0	ug/Kg		06/23/15 03:33	06/28/15 23:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*71*		*34 - 103*	*06/23/15 03:33*	*06/28/15 23:14*	*1*
2,4,6-Tribromophenol (Surr)	*53*		*20 - 113*	*06/23/15 03:33*	*06/28/15 23:14*	*1*
Phenol-d5 (Surr)	*79*		*35 - 103*	*06/23/15 03:33*	*06/28/15 23:14*	*1*
2-Fluorobiphenyl	*73*		*38 - 103*	*06/23/15 03:33*	*06/28/15 23:14*	*1*
Nitrobenzene-d5 (Surr)	*71*		*41 - 108*	*06/23/15 03:33*	*06/28/15 23:14*	*1*
Terphenyl-d14 (Surr)	*86*		*28 - 109*	*06/23/15 03:33*	*06/28/15 23:14*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-145792/2-B
Matrix: Tissue
Analysis Batch: 146321

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145792

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2000	1340		ug/Kg		67	34 - 100
Acenaphthylene	2000	1330		ug/Kg		66	34 - 100
Anthracene	2000	1490		ug/Kg		74	35 - 100
Benzo[a]anthracene	2000	1540		ug/Kg		77	37 - 100
Benzo[b]fluoranthene	2000	1510		ug/Kg		76	31 - 100
Benzo[k]fluoranthene	2000	1630		ug/Kg		82	34 - 100
Benzo[g,h,i]perylene	2000	1660		ug/Kg		83	29 - 106
Benzo[a]pyrene	2000	1620		ug/Kg		81	36 - 100
Bis(2-ethylhexyl) phthalate	2000	1660		ug/Kg		83	32 - 106
Chrysene	2000	1520		ug/Kg		76	37 - 100
Dibenz(a,h)anthracene	2000	1830		ug/Kg		91	31 - 106
Fluoranthene	2000	1600		ug/Kg		80	36 - 100
Fluorene	2000	1400		ug/Kg		70	35 - 100
Indeno[1,2,3-cd]pyrene	2000	1760		ug/Kg		88	31 - 103
Naphthalene	2000	1250		ug/Kg		62	32 - 100
Phenanthrene	2000	1440		ug/Kg		72	33 - 100
Phenol	2000	1380		ug/Kg		69	34 - 100
Pyrene	2000	1510		ug/Kg		75	32 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*62*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*73*		*20 - 113*
Phenol-d5 (Surr)	*67*		*35 - 103*
2-Fluorobiphenyl	*65*		*38 - 103*
Nitrobenzene-d5 (Surr)	*62*		*41 - 108*
Terphenyl-d14 (Surr)	*78*		*28 - 109*

Lab Sample ID: MB 180-145926/1-B
Matrix: Tissue
Analysis Batch: 146705

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40	3.8	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Acenaphthylene	ND		40	4.6	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Anthracene	ND		40	3.9	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Benzo[a]anthracene	ND		40	5.0	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Benzo[b]fluoranthene	ND		40	6.3	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Benzo[k]fluoranthene	ND		40	8.1	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Benzo[g,h,i]perylene	ND		40	4.0	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Benzo[a]pyrene	ND		40	4.0	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Bis(2-ethylhexyl) phthalate	ND		400	32	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Chrysene	ND		40	4.8	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Dibenz(a,h)anthracene	ND		40	4.5	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Fluoranthene	ND		40	4.3	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Fluorene	ND		40	5.3	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Indeno[1,2,3-cd]pyrene	ND		40	4.1	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Naphthalene	ND		40	3.5	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Phenanthrene	ND		40	6.4	ug/Kg		06/24/15 03:15	07/02/15 02:16	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-145926/1-B
Matrix: Tissue
Analysis Batch: 146705

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		40	4.7	ug/Kg		06/24/15 03:15	07/02/15 02:16	1
Pyrene	ND		40	4.0	ug/Kg		06/24/15 03:15	07/02/15 02:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*78*		*34 - 103*	*06/24/15 03:15*	*07/02/15 02:16*	*1*
2,4,6-Tribromophenol (Surr)	*67*		*20 - 113*	*06/24/15 03:15*	*07/02/15 02:16*	*1*
Phenol-d5 (Surr)	*83*		*35 - 103*	*06/24/15 03:15*	*07/02/15 02:16*	*1*
2-Fluorobiphenyl	*77*		*38 - 103*	*06/24/15 03:15*	*07/02/15 02:16*	*1*
Nitrobenzene-d5 (Surr)	*78*		*41 - 108*	*06/24/15 03:15*	*07/02/15 02:16*	*1*
Terphenyl-d14 (Surr)	*83*		*28 - 109*	*06/24/15 03:15*	*07/02/15 02:16*	*1*

Lab Sample ID: LCS 180-145926/2-B
Matrix: Tissue
Analysis Batch: 146705

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2000	1330		ug/Kg		66	34 - 100
Acenaphthylene	2000	1350		ug/Kg		67	34 - 100
Anthracene	2000	1420		ug/Kg		71	35 - 100
Benzo[a]anthracene	2000	1550		ug/Kg		77	37 - 100
Benzo[b]fluoranthene	2000	1490		ug/Kg		75	31 - 100
Benzo[k]fluoranthene	2000	1550		ug/Kg		78	34 - 100
Benzo[g,h,i]perylene	2000	1520		ug/Kg		76	29 - 106
Benzo[a]pyrene	2000	1580		ug/Kg		79	36 - 100
Bis(2-ethylhexyl) phthalate	2000	1670		ug/Kg		84	32 - 106
Chrysene	2000	1490		ug/Kg		74	37 - 100
Dibenz(a,h)anthracene	2000	1820		ug/Kg		91	31 - 106
Fluoranthene	2000	1500		ug/Kg		75	36 - 100
Fluorene	2000	1380		ug/Kg		69	35 - 100
Indeno[1,2,3-cd]pyrene	2000	1720		ug/Kg		86	31 - 103
Naphthalene	2000	1320		ug/Kg		66	32 - 100
Phenanthrene	2000	1400		ug/Kg		70	33 - 100
Phenol	2000	1420		ug/Kg		71	34 - 100
Pyrene	2000	1480		ug/Kg		74	32 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*74*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*82*		*20 - 113*
Phenol-d5 (Surr)	*78*		*35 - 103*
2-Fluorobiphenyl	*73*		*38 - 103*
Nitrobenzene-d5 (Surr)	*73*		*41 - 108*
Terphenyl-d14 (Surr)	*82*		*28 - 109*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 180-145926/3-B
Matrix: Tissue
Analysis Batch: 146705

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145926

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			2000	1220		ug/Kg		61	34 - 100	9	23
Acenaphthylene			2000	1250		ug/Kg		62	34 - 100	8	23
Anthracene			2000	1290		ug/Kg		64	35 - 100	10	20
Benzo[a]anthracene			2000	1370		ug/Kg		69	37 - 100	12	20
Benzo[b]fluoranthene			2000	1350		ug/Kg		68	31 - 100	10	22
Benzo[k]fluoranthene			2000	1370		ug/Kg		68	34 - 100	13	21
Benzo[g,h,i]perylene			2000	1340		ug/Kg		67	29 - 106	12	20
Benzo[a]pyrene			2000	1400		ug/Kg		70	36 - 100	12	21
Bis(2-ethylhexyl) phthalate			2000	1500		ug/Kg		75	32 - 106	11	20
Chrysene			2000	1310		ug/Kg		66	37 - 100	13	20
Dibenz(a,h)anthracene			2000	1600		ug/Kg		80	31 - 106	13	26
Fluoranthene			2000	1380		ug/Kg		69	36 - 100	8	20
Fluorene			2000	1260		ug/Kg		63	35 - 100	9	21
Indeno[1,2,3-cd]pyrene			2000	1540		ug/Kg		77	31 - 103	11	25
Naphthalene			2000	1190		ug/Kg		60	32 - 100	10	20
Phenanthrene			2000	1290		ug/Kg		64	33 - 100	9	20
Phenol			2000	1320		ug/Kg		66	34 - 100	8	20
Pyrene			2000	1310		ug/Kg		66	32 - 100	12	21

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorophenol (Surr)	*68*		*34 - 103*
2,4,6-Tribromophenol (Surr)	*78*		*20 - 113*
Phenol-d5 (Surr)	*71*		*35 - 103*
2-Fluorobiphenyl	*67*		*38 - 103*
Nitrobenzene-d5 (Surr)	*67*		*41 - 108*
Terphenyl-d14 (Surr)	*72*		*28 - 109*

Method: 8081B_LL - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-145624/1-B
Matrix: Tissue
Analysis Batch: 146380

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145624

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		12	1.6	ug/Kg		06/20/15 03:15	06/29/15 14:51	1
4,4'-DDE	ND		12	1.9	ug/Kg		06/20/15 03:15	06/29/15 14:51	1
4,4'-DDT	ND		12	1.9	ug/Kg		06/20/15 03:15	06/29/15 14:51	1
2,4'-DDD	ND		12	0.75	ug/Kg		06/20/15 03:15	06/29/15 14:51	1
2,4'-DDE	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 14:51	1
Endrin	ND		12	2.4	ug/Kg		06/20/15 03:15	06/29/15 14:51	1
2,4'-DDT	ND		12	1.1	ug/Kg		06/20/15 03:15	06/29/15 14:51	1
Mirex	ND		12	1.2	ug/Kg		06/20/15 03:15	06/29/15 14:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*83*		*45 - 140*	*06/20/15 03:15*	*06/29/15 14:51*	*1*
Tetrachloro-m-xylene	*83*		*45 - 140*	*06/20/15 03:15*	*06/29/15 14:51*	*1*
DCB Decachlorobiphenyl (Surr)	*91*		*45 - 140*	*06/20/15 03:15*	*06/29/15 14:51*	*1*

Method: 8081B_LL - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 180-145624/1-B
Matrix: Tissue
Analysis Batch: 146380

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145624

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	91		45 - 140	06/20/15 03:15	06/29/15 14:51	1

Lab Sample ID: LCS 180-145624/2-B
Matrix: Tissue
Analysis Batch: 146380

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145624

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,4'-DDD			25.0	17.8		ug/Kg		71	50 - 150		
4,4'-DDE			25.0	18.5		ug/Kg		74	50 - 150		
4,4'-DDT			25.0	12.0		ug/Kg		48	30 - 150		
Endrin			25.0	20.6		ug/Kg		83	30 - 150		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	81		45 - 140
Tetrachloro-m-xylene	84		45 - 140
DCB Decachlorobiphenyl (Surr)	91		45 - 140
DCB Decachlorobiphenyl (Surr)	93		45 - 140

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-145442/1-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145442

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.097	0.018	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Barium	ND		0.97	0.010	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Cadmium	ND		0.097	0.0068	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Calcium	ND		49	1.3	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Chromium	ND		0.19	0.0059	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Cobalt	ND		0.049	0.0015	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Copper	ND		0.19	0.032	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Iron	0.878	J	4.9	0.34	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Silver	ND		0.097	0.0038	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Potassium	ND		49	1.3	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Nickel	ND		0.097	0.011	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Lead	ND		0.097	0.0037	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Antimony	0.00883	J	0.19	0.0025	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Selenium	ND		0.49	0.049	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Thallium	ND		0.097	0.0019	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Vanadium	ND		0.097	0.0077	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Zinc	ND		0.49	0.063	mg/Kg		06/18/15 11:07	06/24/15 23:42	1
Manganese	ND		0.49	0.010	mg/Kg		06/18/15 11:07	06/24/15 23:42	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-145442/1-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145442

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		2.9	0.28	mg/Kg		06/18/15 11:07	06/25/15 22:37	1
Magnesium	0.432	J	49	0.18	mg/Kg		06/18/15 11:07	06/25/15 22:37	1
Sodium	ND		49	1.3	mg/Kg		06/18/15 11:07	06/25/15 22:37	1

Lab Sample ID: LCS 180-145442/2-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145442

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.92	3.55		mg/Kg		90	80 - 120
Barium	196	180		mg/Kg		92	80 - 120
Beryllium	4.90	4.06		mg/Kg		83	80 - 120
Cadmium	4.90	5.12		mg/Kg		105	80 - 120
Calcium	4900	4120		mg/Kg		84	80 - 120
Chromium	19.6	19.9		mg/Kg		102	80 - 120
Cobalt	49.0	50.2		mg/Kg		102	80 - 120
Copper	24.5	23.3		mg/Kg		95	80 - 120
Silver	4.90	4.87		mg/Kg		99	80 - 120
Potassium	4900	4020		mg/Kg		82	80 - 120
Nickel	49.0	49.6		mg/Kg		101	80 - 120
Lead	1.96	2.23		mg/Kg		114	80 - 120
Antimony	49.0	49.7		mg/Kg		101	80 - 120
Selenium	0.980	0.921		mg/Kg		94	80 - 120
Thallium	4.90	5.15		mg/Kg		105	80 - 120
Vanadium	49.0	49.2		mg/Kg		100	80 - 120
Zinc	49.0	50.9		mg/Kg		104	80 - 120
Manganese	49.0	52.3		mg/Kg		107	80 - 120

Lab Sample ID: LCS 180-145442/2-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145442

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	196	208		mg/Kg		106	80 - 120
Iron	98.0	116		mg/Kg		118	80 - 120
Magnesium	4900	5620		mg/Kg		115	80 - 120
Sodium	4900	5720		mg/Kg		117	80 - 120

Lab Sample ID: MB 180-145552/1-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.095	0.017	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Barium	ND		0.95	0.010	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Beryllium	ND		0.095	0.0071	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Cadmium	ND		0.095	0.0067	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Calcium	ND		48	1.3	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Chromium	0.0151	J	0.19	0.0058	mg/Kg		06/19/15 09:16	06/24/15 16:46	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-145552/1-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		0.048	0.0014	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Copper	ND		0.19	0.031	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Iron	1.19	J	4.8	0.34	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Silver	ND		0.095	0.0037	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Potassium	3.25	J	48	1.3	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Nickel	ND		0.095	0.011	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Lead	ND		0.095	0.0036	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Antimony	ND		0.19	0.0025	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Selenium	ND		0.48	0.048	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Thallium	ND		0.095	0.0019	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Vanadium	0.0182	J	0.095	0.0075	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Zinc	ND		0.48	0.062	mg/Kg		06/19/15 09:16	06/24/15 16:46	1
Manganese	ND		0.48	0.0098	mg/Kg		06/19/15 09:16	06/24/15 16:46	1

Lab Sample ID: MB 180-145552/1-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145552

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		2.9	0.27	mg/Kg		06/19/15 09:16	06/25/15 16:46	1
Magnesium	0.349	J	48	0.18	mg/Kg		06/19/15 09:16	06/25/15 16:46	1
Sodium	4.37	J	48	1.3	mg/Kg		06/19/15 09:16	06/25/15 16:46	1

Lab Sample ID: LCS 180-145552/2-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.85	3.58		mg/Kg		93	80 - 120
Barium	192	176		mg/Kg		92	80 - 120
Beryllium	4.81	4.11		mg/Kg		85	80 - 120
Cadmium	4.81	4.67		mg/Kg		97	80 - 120
Calcium	4810	4330		mg/Kg		90	80 - 120
Chromium	19.2	19.8		mg/Kg		103	80 - 120
Cobalt	48.1	49.1		mg/Kg		102	80 - 120
Copper	24.0	23.4		mg/Kg		97	80 - 120
Iron	96.2	110		mg/Kg		115	80 - 120
Silver	4.81	4.65		mg/Kg		97	80 - 120
Potassium	4810	4320		mg/Kg		90	80 - 120
Nickel	48.1	48.9		mg/Kg		102	80 - 120
Lead	1.92	2.11		mg/Kg		110	80 - 120
Antimony	48.1	46.5		mg/Kg		97	80 - 120
Selenium	0.962	1.03		mg/Kg		107	80 - 120
Thallium	4.81	5.01		mg/Kg		104	80 - 120
Vanadium	48.1	49.2		mg/Kg		102	80 - 120
Zinc	48.1	48.2		mg/Kg		100	80 - 120
Manganese	48.1	51.1		mg/Kg		106	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-145552/2-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	192	206		mg/Kg		107	80 - 120
Magnesium	4810	5630		mg/Kg		117	80 - 120
Sodium	4810	5440		mg/Kg		113	80 - 120

Lab Sample ID: LCSD 180-145552/3-A
Matrix: Tissue
Analysis Batch: 146306

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145552

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.85	3.61		mg/Kg		94	80 - 120	1	20
Barium	192	169		mg/Kg		88	80 - 120	4	20
Beryllium	4.81	4.00		mg/Kg		83	80 - 120	3	20
Cadmium	4.81	4.46		mg/Kg		93	80 - 120	5	20
Calcium	4810	4210		mg/Kg		88	80 - 120	3	20
Chromium	19.2	19.6		mg/Kg		102	80 - 120	1	20
Cobalt	48.1	49.3		mg/Kg		102	80 - 120	0	20
Copper	24.0	23.5		mg/Kg		98	80 - 120	0	20
Iron	96.2	113		mg/Kg		117	80 - 120	2	20
Silver	4.81	4.33		mg/Kg		90	80 - 120	7	20
Potassium	4810	4200		mg/Kg		87	80 - 120	3	20
Nickel	48.1	48.9		mg/Kg		102	80 - 120	0	20
Lead	1.92	1.99		mg/Kg		103	80 - 120	6	20
Antimony	48.1	43.9		mg/Kg		91	80 - 120	6	20
Selenium	0.962	0.876		mg/Kg		91	80 - 120	16	20
Thallium	4.81	4.71		mg/Kg		98	80 - 120	6	20
Vanadium	48.1	48.9		mg/Kg		102	80 - 120	1	20
Zinc	48.1	48.8		mg/Kg		102	80 - 120	1	20
Manganese	48.1	50.8		mg/Kg		106	80 - 120	1	20

Lab Sample ID: LCSD 180-145552/3-A
Matrix: Tissue
Analysis Batch: 146318

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145552

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	192	195		mg/Kg		102	80 - 120	5	20
Magnesium	4810	5300		mg/Kg		110	80 - 120	6	20
Sodium	4810	5200		mg/Kg		108	80 - 120	4	20

Lab Sample ID: MB 180-145685/1-A
Matrix: Tissue
Analysis Batch: 146456

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145685

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.97	0.010	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Beryllium	ND		0.097	0.0073	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Cadmium	ND		0.097	0.0068	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Calcium	ND		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Chromium	ND		0.19	0.0059	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Cobalt	ND		0.049	0.0015	mg/Kg		06/22/15 07:17	06/29/15 03:30	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-145685/1-A
Matrix: Tissue
Analysis Batch: 146456

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145685

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	ND		0.19	0.032	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Iron	ND		4.9	0.34	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Silver	ND		0.097	0.0038	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Potassium	ND		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Nickel	ND		0.097	0.011	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Lead	ND		0.097	0.0037	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Antimony	ND		0.19	0.0025	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Thallium	ND		0.097	0.0019	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Vanadium	0.0186	J	0.097	0.0077	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Zinc	ND		0.49	0.063	mg/Kg		06/22/15 07:17	06/29/15 03:30	1
Manganese	ND		0.49	0.010	mg/Kg		06/22/15 07:17	06/29/15 03:30	1

Lab Sample ID: MB 180-145685/1-A
Matrix: Tissue
Analysis Batch: 146543

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145685

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		2.9	0.28	mg/Kg		06/22/15 07:17	06/29/15 21:58	1
Arsenic	ND		0.097	0.018	mg/Kg		06/22/15 07:17	06/29/15 21:58	1
Magnesium	ND		49	0.18	mg/Kg		06/22/15 07:17	06/29/15 21:58	1
Sodium	ND		49	1.3	mg/Kg		06/22/15 07:17	06/29/15 21:58	1
Selenium	ND		0.49	0.049	mg/Kg		06/22/15 07:17	06/29/15 21:58	1

Lab Sample ID: LCS 180-145685/2-A
Matrix: Tissue
Analysis Batch: 146456

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145685

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	196	187		mg/Kg		95	80 - 120
Beryllium	4.90	4.81		mg/Kg		98	80 - 120
Cadmium	4.90	4.96		mg/Kg		101	80 - 120
Calcium	4900	4640		mg/Kg		95	80 - 120
Chromium	19.6	20.6		mg/Kg		105	80 - 120
Cobalt	49.0	51.9		mg/Kg		106	80 - 120
Copper	24.5	24.3		mg/Kg		99	80 - 120
Iron	98.0	110		mg/Kg		112	80 - 120
Silver	4.90	4.75		mg/Kg		97	80 - 120
Potassium	4900	4490		mg/Kg		92	80 - 120
Nickel	49.0	50.7		mg/Kg		103	80 - 120
Lead	1.96	2.10		mg/Kg		107	80 - 120
Antimony	49.0	48.4		mg/Kg		99	80 - 120
Thallium	4.90	5.11		mg/Kg		104	80 - 120
Vanadium	49.0	51.0		mg/Kg		104	80 - 120
Zinc	49.0	50.4		mg/Kg		103	80 - 120
Manganese	49.0	51.8		mg/Kg		106	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-145685/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146543 — **Prep Batch: 145685**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	196	207		mg/Kg		105	80 - 120
Arsenic	3.92	3.78		mg/Kg		96	80 - 120
Magnesium	4900	5480		mg/Kg		112	80 - 120
Sodium	4900	5590		mg/Kg		114	80 - 120
Selenium	0.980	0.912		mg/Kg		93	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 180-146070/1-A — **Client Sample ID: Method Blank**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146254 — **Prep Batch: 146070**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/25/15 09:27	06/26/15 10:30	1

Lab Sample ID: LCS 180-146070/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146254 — **Prep Batch: 146070**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.418		mg/Kg		100	80 - 120

Lab Sample ID: MB 180-146075/1-A — **Client Sample ID: Method Blank**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146254 — **Prep Batch: 146075**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/25/15 09:45	06/26/15 10:34	1

Lab Sample ID: LCS 180-146075/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146254 — **Prep Batch: 146075**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.410		mg/Kg		98	80 - 120

Lab Sample ID: LCSD 180-146075/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146254 — **Prep Batch: 146075**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.417	0.420		mg/Kg		101	80 - 120	2	20

Lab Sample ID: MB 180-146088/1-A — **Client Sample ID: Method Blank**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146287 — **Prep Batch: 146088**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.011	mg/Kg		06/25/15 10:33	06/27/15 06:54	1

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 180-146088/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146287 — **Prep Batch: 146088**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.405		mg/Kg		97	80 - 120

Method: 2540G - SM 2540G

Lab Sample ID: 180-44668-1 DU — **Client Sample ID: AT5-088 B-W**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146140

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	84		83		%		2	20

Lab Sample ID: 180-44668-11 DU — **Client Sample ID: AT5-090 B-W**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146140

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	84		85		%		0.3	20

Lab Sample ID: 180-44668-21 DU — **Client Sample ID: AT5-092 B-W**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146144

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	83		82		%		2	20

Method: Lipids - Percent Lipids

Lab Sample ID: MB 180-145626/1-A — **Client Sample ID: Method Blank**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146218 — **Prep Batch: 145626**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/20/15 05:00	06/20/15 05:00	1

Lab Sample ID: LCS 180-145626/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146218 — **Prep Batch: 145626**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Percent Lipids	17.6	16.1		%		92	30 - 150

Lab Sample ID: LCSD 180-145626/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 146218 — **Prep Batch: 145626**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids	17.4	16.1		%		93	30 - 150	0	25

Method: Lipids - Percent Lipids (Continued)

Lab Sample ID: MB 180-145793/1-A
Matrix: Tissue
Analysis Batch: 146219

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145793

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/23/15 03:35	06/23/15 03:35	1

Lab Sample ID: LCS 180-145793/2-A
Matrix: Tissue
Analysis Batch: 146219

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145793

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Percent Lipids	19.7	19.3		%		98	30 - 150

Lab Sample ID: LCSD 180-145793/3-A
Matrix: Tissue
Analysis Batch: 146219

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145793

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids	19.4	19.1		%		98	30 - 150	1	25

Lab Sample ID: MB 180-145928/1-A
Matrix: Tissue
Analysis Batch: 146250

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 145928

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.20	0.059	%		06/24/15 04:59	06/24/15 04:59	1

Lab Sample ID: LCS 180-145928/2-A
Matrix: Tissue
Analysis Batch: 146250

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 145928

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Percent Lipids	17.1	15.7		%		92	30 - 150

Lab Sample ID: LCSD 180-145928/3-A
Matrix: Tissue
Analysis Batch: 146250

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 145928

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids	16.8	15.8		%		94	30 - 150	1	25

TestAmerica
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TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-44668-1

CBBT Thimble Shoal

Lot #: H5F190407

Carrie Gamber

TestAmerica Pittsburgh
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TESTAMERICA LABORATORIES, INC.

Bruce Wagner
Project Manager

June 29, 2015

ANALYTICAL METHODS SUMMARY

H5F190407

PARAMETER	ANALYTICAL METHOD
Dioxins/Furans, HRGC/HRMS	EPA-5 1613B

References:

EPA-5 "Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution, HRGC/HRMS, Revision B", EPA, OCTOBER 1994

SAMPLE SUMMARY

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WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M639C	001	AT5-088 B-W	05/21/15	12:00
M639D	002	AT5-088 C-W	05/21/15	12:00
M639E	003	AT5-088 D-W	05/21/15	12:00
M639F	004	AT5-088 E-W	05/21/15	12:00
M639G	005	AT5-089 A-W	05/21/15	12:00
M639H	006	AT5-089 B-W	05/21/15	12:00
M639J	007	AT5-089 C-W	05/21/15	12:00
M639K	008	AT5-089 D-W	05/21/15	12:00
M639L	009	AT5-089 E-W	05/21/15	12:00
M639M	010	AT5-090 A-W	05/21/15	12:00
M639N	011	AT5-090 B-W	05/21/15	12:00
M639P	012	AT5-090 C-W	05/21/15	12:00
M639Q	013	AT5-090 D-W	05/21/15	12:00
M639T	014	AT5-090 E-W	05/21/15	12:00
M639V	015	AT5-091 A-W	05/21/15	12:00
M639W	016	AT5-091 B-W	05/21/15	12:00
M639X	017	AT5-091 C-W	05/21/15	12:00
M6390	018	AT5-091 D-W	05/21/15	12:00
M6392	019	AT5-091 E-W	05/21/15	12:00
M6393	020	AT5-092 A-W	05/21/15	12:00
M6394	021	AT5-092 B-W	05/21/15	12:00
M6396	022	AT5-092 C-W	05/21/15	12:00
M6397	023	AT5-092 D-W	05/21/15	12:00
M6398	024	AT5-092 E-W	05/21/15	12:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
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The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

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The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

The following flags are used to qualify results for chlorinated dioxin and furan results:

J – The reported result is an estimate. The amount reported is below the Minimum Level (ML). The qualitative definition of the ML is "the lowest level at which the analytical system must give a reliable signal and an acceptable calibration point". The ML was introduced in EPA Methods 1624 and 1625 in 1980 and was promulgated in these methods in 1984 at 40 CFR Part 136, Appendix A. For the purposes of this report, the ML is qualitatively defined as described above, and quantitatively defined as follows:

Minimum Level: The concentration or mass of analyte in the sample that corresponds to the lowest calibration level in the initial calibration. It represents a concentration (in the sample extract) equivalent to that of the lowest calibration standard, after corrections for method-specified sample weights, volumes and cleanup procedures has been employed.

Example: The lowest calibration level for TCDD in the initial calibration is 0.5 pg/uL. A mass of 10 pg of 2,3,7,8-TCDD in the sample would result in a concentration of 0.5 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the lowest calibration standard, the 10 pg mass in the sample components is the ML. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The ML for 2,3,7,8-TCDD becomes 100 pg rather than the default of 10 pg.

E – The reported result is an estimate. The amount reported is above the Upper Calibration Level (UCL) described below. The quantitative definition of the UCL is listed below:

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the

PROJECT NARRATIVE
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concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Example: The maximum calibration level for TCDD in the initial calibration is 200 pg/uL. A mass of 4000 pg of 2,3,7,8-TCDD in the sampling components would result in a concentration of 200 pg/uL in the sample extract (at a final volume of 20 uL). Since the concentration in the sample extract corresponds to the concentration in the highest calibration standard, the 4000 pg mass in the sample components is the UCL. If the sample extract is further diluted, the ML will increase by the dilution factor.

Example: A 1/10 dilution is performed on the sample extract described above. The UCL for 2,3,7,8-TCDD becomes 40,000 pg rather than the default of 4000 pg. In this example, all positive 2,3,7,8-TCDD results above 40,000 pg are flagged with an E.

B – The analyte is present in the associated method blank at a detectable level. For this analysis, there is no method specified reporting level other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of $\geq$2.5 to 1. Therefore, the presence of any reportable amount of the analyte in the blank will result in a B qualifier on all associated samples.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. These may include one or more of the following:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio).
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.
- 2,3,7,8-TCDF result is reported from the non-isomer specific Rtx-5 column.
- Polychlorinated dibenzofuran purity. An interference may be present on the indicated polychlorinated dibenzofuran when a polychlorinated diphenyl ether peak is present and maximizes within +/- 3 seconds of the dibenzofuran candidate.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer.

X – Other. See explanation in narrative.

PROJECT NARRATIVE
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Laboratory studies supporting risk assessment and Total Maximum Daily Load (TMDL) evaluations, frequently use qualified data reported as low as the Method Detection Limit (MDL), or the Estimated Detection Limit (EDL). Several of EPA's isotope dilution methods employ the EDL.[1,2,3] The EDL is based on a direct measurement of the signal-to-noise (S/N) ratio acquired during sample analysis. This S/N measurement is used to calculate the concentration in the sample corresponding to the minimum intensity of the smallest quantifiable peak. The EDL reflects the amount of the particular analyte which would be required to cause a positive result for the particular analysis. Because the S/N obtained covaries with recovery, instrument sensitivity and sample-specific cleanup efficacy, the EDL is a more valid measure of the sensitivity of the entire analytical process for the specific sample than is an MDL run periodically on a reference matrix.

The EDL is typically calculated according to the following equation:

$$\text{Estimated Detection Limit} = \frac{N \times 2.5 \times Qis}{His \times RRF \times W \times S}$$

Where:

N	=	peak to peak noise of quantitation ion signal in the region of the ion chromatogram where the compound of interest is expected to elute
His	=	peak height of quantitation ion for appropriate internal standard
Qis	=	ng of internal standard added to sample
RRF	=	mean relative response factor of compound obtained during initial calibration
W	=	amount of sample extracted (grams or liters)
S	=	percent solids (optional, if results are requested to be reported on dry weight basis)

(The area of the internal standard is sometimes used instead of height, along with an area-to-height conversion factor.)

This method of estimating the detection limit differs from the MDL in that it does not carry the requirement that the sample be statistically distinguished as being from a contaminated population. As results approach the EDL, the risk of false positives and the analytical uncertainty increase significantly. However, a low false positive well below the ML or MDL is often closer to the true value than an assumption that the target analyte is present at the detection or reporting limits. For relatively clean samples, MDL studies may give an elevated estimate of the detection limit. Additionally, on contaminated samples, the MDL may give a falsely low estimate of the detection limit.

$$\text{Analyte Concentration} = \frac{As \times Qis}{Ais \times RRF \times W \times S}$$

Where:

As	=	Sum of areas of the target peaks
Qis	=	ng of internal standard added to sample
Ais	=	Sum of areas of the internal standard peaks
RRF	=	mean relative response factor of compound obtained during initial calibration

PROJECT NARRATIVE
H5F190407

W = amount of sample extracted (grams or liters)
S = percent solids (optional, if results are requested to be reported on dry weight basis)

In sample data, peaks must have an intensity of ≥2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 times the noise on the calibration. This is the result of normal variability. Because the source methods for the EDL (SW-846 8290 and 8280A) do not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Footnotes:

1. Code of Federal Regulations, Part 136, Chapter 1, Appendix 1, October 1994: Method 1613 Tetra- Through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High Resolution Gas Chromatography/High Resolution Mass Spectrometry.
2. U.S. EPA. Test Methods for Evaluating Solid Waste, Volume II, SW-846, Update III, December 1996. Method 8280A: The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/Low Resolution Mass Spectrometry.
3. U.S. EPA. Test Methods for Evaluating Solid Waste, SW-846. Third Edition. March 1995 Method 8290: Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Client Sample ID: AT5-088 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 001	**Work Order #....:**	M639C1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170021				
Initial Wgt/Vol :	9 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	1.1	0.27	1.0	0.27
1,2,3,7,8-PeCDD	**6/26/15**	**1**	**0.37 B J**	**5.6**	**0.11**	**0.5**	**0.18**
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	5.6	0.11	0.1	0.011
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	5.6	0.12	0.1	0.012
1,2,3,7,8,9-HxCDD	6/26/15	1	ND	5.6	0.11	0.1	0.011
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.99 J**	**5.6**	**0.15**	**0.01**	**0.0099**
OCDD	**6/26/15**	**1**	**21 B**	**11**	**0.14**	**0.001**	**0.021**
2,3,7,8-TCDF	**6/26/15**	**1**	**0.37 Q J**	**1.1**	**0.18**	**0.1**	**0.037**
1,2,3,7,8-PeCDF	6/26/15	1	ND	5.6	0.082	0.05	0.0041
2,3,4,7,8-PeCDF	**6/26/15**	**1**	**0.044 Q J**	**5.6**	**0.071**	**0.5**	**0.022**
1,2,3,4,7,8-HxCDF	6/26/15	1	ND	5.6	0.066	0.1	0.0066
1,2,3,6,7,8-HxCDF	6/26/15	1	ND	5.6	0.067	0.1	0.0067
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	5.6	0.061	0.1	0.0061
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	5.6	0.079	0.1	0.0079
1,2,3,4,6,7,8-HpCDF	**6/26/15**	**1**	**0.18 J**	**5.6**	**0.11**	**0.01**	**0.0018**
1,2,3,4,7,8,9-HpCDF	6/26/15	1	ND	5.6	0.14	0.01	0.0014
OCDF	**6/26/15**	**1**	**0.22 Q J**	**11**	**0.13**	**0.001**	**0.00022**
Total TEQ Concentration							**0.61**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	62	(25 - 164)
13C-1,2,3,7,8-PeCDD	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	64	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	63	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	67	(23 - 140)
13C-OCDD	64	(17 - 157)
13C-2,3,7,8-TCDF	56	(24 - 169)
13C-1,2,3,7,8-PeCDF	57	(24 - 185)
13C-2,3,4,7,8-PeCDF	60	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	52	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	54	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	60	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	58	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	57	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	62	(26 - 138)
13C-OCDF	59	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-088 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	76	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-088 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 002	**Work Order #....:**	M639D1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170021				
Initial Wgt/Vol :	9.9 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kathryn B. Lay				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	1.0	0.42	1.0	0.42
1,2,3,7,8-PeCDD	6/26/15	1	ND	5.1	0.17	0.5	0.085
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	5.1	0.13	0.1	0.013
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	5.1	0.14	0.1	0.014
1,2,3,7,8,9-HxCDD	6/26/15	1	ND	5.1	0.13	0.1	0.013
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.77 Q J**	**5.1**	**0.15**	**0.01**	**0.0077**
OCDD	**6/26/15**	**1**	**13 B**	**10**	**0.17**	**0.001**	**0.013**
2,3,7,8-TCDF	**6/26/15**	**1**	**0.61 Q J**	**1.0**	**0.27**	**0.1**	**0.061**
1,2,3,7,8-PeCDF	6/26/15	1	ND	5.1	0.11	0.05	0.0055
2,3,4,7,8-PeCDF	6/26/15	1	ND	5.1	0.10	0.5	0.050
1,2,3,4,7,8-HxCDF	6/26/15	1	ND	5.1	0.079	0.1	0.0079
1,2,3,6,7,8-HxCDF	6/26/15	1	ND	5.1	0.083	0.1	0.0083
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	5.1	0.075	0.1	0.0075
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	5.1	0.10	0.1	0.010
1,2,3,4,6,7,8-HpCDF	**6/26/15**	**1**	**0.21 J**	**5.1**	**0.11**	**0.01**	**0.0021**
1,2,3,4,7,8,9-HpCDF	6/26/15	1	ND	5.1	0.15	0.01	0.0015
OCDF	6/26/15	1	ND	10	0.18	0.001	0.00018
Total TEQ Concentration							**0.72**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	43	(25 - 164)
13C-1,2,3,7,8-PeCDD	47	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	45	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	46	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	51	(23 - 140)
13C-OCDD	51	(17 - 157)
13C-2,3,7,8-TCDF	38	(24 - 169)
13C-1,2,3,7,8-PeCDF	40	(24 - 185)
13C-2,3,4,7,8-PeCDF	41	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	36	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	37	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	41	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	40	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	43	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	44	(26 - 138)
13C-OCDF	45	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-088 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	54	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-088 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 003	**Work Order #....:**	M639E1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170021				
Initial Wgt/Vol :	8.5 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kathryn B. Lay				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	1.2	0.45	1.0	0.45
1,2,3,7,8-PeCDD	6/26/15	1	ND	5.9	0.20	0.5	0.10
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	5.9	0.16	0.1	0.016
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	5.9	0.17	0.1	0.017
1,2,3,7,8,9-HxCDD	6/26/15	1	ND	5.9	0.15	0.1	0.015
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.99 J**	**5.9**	**0.23**	**0.01**	**0.0099**
OCDD	**6/26/15**	**1**	**17 B**	**12**	**0.15**	**0.001**	**0.017**
2,3,7,8-TCDF	**6/26/15**	**1**	**0.49 Q J**	**1.2**	**0.31**	**0.1**	**0.049**
1,2,3,7,8-PeCDF	6/26/15	1	ND	5.9	0.15	0.05	0.0075
2,3,4,7,8-PeCDF	6/26/15	1	ND	5.9	0.13	0.5	0.065
1,2,3,4,7,8-HxCDF	6/26/15	1	ND	5.9	0.10	0.1	0.010
1,2,3,6,7,8-HxCDF	6/26/15	1	ND	5.9	0.095	0.1	0.0095
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	5.9	0.091	0.1	0.0091
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	5.9	0.11	0.1	0.011
1,2,3,4,6,7,8-HpCDF	6/26/15	1	ND	5.9	0.14	0.01	0.0014
1,2,3,4,7,8,9-HpCDF	6/26/15	1	ND	5.9	0.17	0.01	0.0017
OCDF	6/26/15	1	ND	12	0.19	0.001	0.00019
Total TEQ Concentration							**0.79**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	51	(25 - 164)
13C-1,2,3,7,8-PeCDD	54	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	54	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	52	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	64	(23 - 140)
13C-OCDD	70	(17 - 157)
13C-2,3,7,8-TCDF	46	(24 - 169)
13C-1,2,3,7,8-PeCDF	47	(24 - 185)
13C-2,3,4,7,8-PeCDF	49	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	41	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	43	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	50	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	48	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	52	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	57	(26 - 138)
13C-OCDF	60	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-088 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	61	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-088 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 004	**Work Order #....:**	M639F1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170021				
Initial Wgt/Vol :	8.1 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kathryn B. Lay				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	1.2	0.46	1.0	0.46
1,2,3,7,8-PeCDD	6/26/15	1	ND	6.2	0.19	0.5	0.095
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	6.2	0.14	0.1	0.014
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	6.2	0.15	0.1	0.015
1,2,3,7,8,9-HxCDD	6/26/15	1	ND	6.2	0.14	0.1	0.014
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.83 J**	**6.2**	**0.15**	**0.01**	**0.0083**
OCDD	**6/26/15**	**1**	**8.0 B J**	**12**	**0.16**	**0.001**	**0.0080**
2,3,7,8-TCDF	**6/26/15**	**1**	**0.58 Q J**	**1.2**	**0.27**	**0.1**	**0.058**
1,2,3,7,8-PeCDF	6/26/15	1	ND	6.2	0.14	0.05	0.0070
2,3,4,7,8-PeCDF	6/26/15	1	ND	6.2	0.12	0.5	0.060
1,2,3,4,7,8-HxCDF	6/26/15	1	ND	6.2	0.083	0.1	0.0083
1,2,3,6,7,8-HxCDF	6/26/15	1	ND	6.2	0.081	0.1	0.0081
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	6.2	0.078	0.1	0.0078
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	6.2	0.10	0.1	0.010
1,2,3,4,6,7,8-HpCDF	6/26/15	1	ND	6.2	0.14	0.01	0.0014
1,2,3,4,7,8,9-HpCDF	6/26/15	1	ND	6.2	0.18	0.01	0.0018
OCDF	6/26/15	1	ND	12	0.19	0.001	0.00019
Total TEQ Concentration							**0.78**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	54	(25 - 164)
13C-1,2,3,7,8-PeCDD	57	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	56	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	57	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	69	(23 - 140)
13C-OCDD	73	(17 - 157)
13C-2,3,7,8-TCDF	49	(24 - 169)
13C-1,2,3,7,8-PeCDF	50	(24 - 185)
13C-2,3,4,7,8-PeCDF	54	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	45	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	47	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	53	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	49	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	55	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	58	(26 - 138)
13C-OCDF	57	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-088 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	65	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-089 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 005	**Work Order #....:**	M639G1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170021				
Initial Wgt/Vol :	8.8 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kathryn B. Lay				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	1.1	0.33	1.0	0.33
1,2,3,7,8-PeCDD	6/26/15	1	ND	5.7	0.14	0.5	0.070
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	5.7	0.11	0.1	0.011
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	5.7	0.13	0.1	0.013
1,2,3,7,8,9-HxCDD	6/26/15	1	ND	5.7	0.11	0.1	0.011
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.71 J**	**5.7**	**0.11**	**0.01**	**0.0071**
OCDD	**6/26/15**	**1**	**3.3 B J**	**11**	**0.11**	**0.001**	**0.0033**
2,3,7,8-TCDF	**6/26/15**	**1**	**0.70 Q J**	**1.1**	**0.22**	**0.1**	**0.070**
1,2,3,7,8-PeCDF	6/26/15	1	ND	5.7	0.10	0.05	0.0050
2,3,4,7,8-PeCDF	**6/26/15**	**1**	**0.13 Q J**	**5.7**	**0.093**	**0.5**	**0.065**
1,2,3,4,7,8-HxCDF	6/26/15	1	ND	5.7	0.075	0.1	0.0075
1,2,3,6,7,8-HxCDF	6/26/15	1	ND	5.7	0.072	0.1	0.0072
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	5.7	0.072	0.1	0.0072
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	5.7	0.093	0.1	0.0093
1,2,3,4,6,7,8-HpCDF	**6/26/15**	**1**	**0.27 Q J**	**5.7**	**0.097**	**0.01**	**0.0027**
1,2,3,4,7,8,9-HpCDF	6/26/15	1	ND	5.7	0.12	0.01	0.0012
OCDF	**6/26/15**	**1**	**0.21 Q J**	**11**	**0.14**	**0.001**	**0.00021**
Total TEQ Concentration							**0.62**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	66	(25 - 164)
13C-1,2,3,7,8-PeCDD	71	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	67	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	83	(23 - 140)
13C-OCDD	93	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
13C-1,2,3,7,8-PeCDF	61	(24 - 185)
13C-2,3,4,7,8-PeCDF	64	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	56	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	57	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	63	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	60	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	65	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	65	(26 - 138)
13C-OCDF	74	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-089 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	79	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-089 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 006	**Work Order #....:**	M639H1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170021				
Initial Wgt/Vol :	8.6 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kathryn B. Lay				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	1.2	0.54	1.0	0.54
1,2,3,7,8-PeCDD	6/26/15	1	ND	5.8	0.22	0.5	0.11
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	5.8	0.15	0.1	0.015
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	5.8	0.16	0.1	0.016
1,2,3,7,8,9-HxCDD	6/26/15	1	ND	5.8	0.14	0.1	0.014
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.39 Q J**	**5.8**	**0.18**	**0.01**	**0.0039**
OCDD	**6/26/15**	**1**	**3.1 B J**	**12**	**0.18**	**0.001**	**0.0031**
2,3,7,8-TCDF	**6/26/15**	**1**	**0.25 Q J**	**1.2**	**0.29**	**0.1**	**0.025**
1,2,3,7,8-PeCDF	6/26/15	1	ND	5.8	0.16	0.05	0.0080
2,3,4,7,8-PeCDF	6/26/15	1	ND	5.8	0.15	0.5	0.075
1,2,3,4,7,8-HxCDF	6/26/15	1	ND	5.8	0.11	0.1	0.011
1,2,3,6,7,8-HxCDF	6/26/15	1	ND	5.8	0.095	0.1	0.0095
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	5.8	0.097	0.1	0.0097
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	5.8	0.12	0.1	0.012
1,2,3,4,6,7,8-HpCDF	6/26/15	1	ND	5.8	0.13	0.01	0.0013
1,2,3,4,7,8,9-HpCDF	6/26/15	1	ND	5.8	0.17	0.01	0.0017
OCDF	6/26/15	1	ND	12	0.21	0.001	0.00021
Total TEQ Concentration							**0.86**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	46	(25 - 164)
13C-1,2,3,7,8-PeCDD	48	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	47	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	46	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	53	(23 - 140)
13C-OCDD	50	(17 - 157)
13C-2,3,7,8-TCDF	42	(24 - 169)
13C-1,2,3,7,8-PeCDF	41	(24 - 185)
13C-2,3,4,7,8-PeCDF	42	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	37	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	38	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	43	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	41	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	44	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	46	(26 - 138)
13C-OCDF	42	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-089 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	56	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-089 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 007	**Work Order #....:**	M639J1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170021				
Initial Wgt/Vol :	9.3 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kathryn B. Lay				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	1.1	0.30	1.0	0.30
1,2,3,7,8-PeCDD	6/26/15	1	ND	5.4	0.13	0.5	0.065
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	5.4	0.089	0.1	0.0089
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	5.4	0.089	0.1	0.0089
1,2,3,7,8,9-HxCDD	6/26/15	1	ND	5.4	0.083	0.1	0.0083
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.41 J**	**5.4**	**0.078**	**0.01**	**0.0041**
OCDD	**6/26/15**	**1**	**2.9 B J**	**11**	**0.11**	**0.001**	**0.0029**
2,3,7,8-TCDF	**6/26/15**	**1**	**0.41 Q J**	**1.1**	**0.17**	**0.1**	**0.041**
1,2,3,7,8-PeCDF	6/26/15	1	ND	5.4	0.083	0.05	0.0042
2,3,4,7,8-PeCDF	6/26/15	1	ND	5.4	0.077	0.5	0.038
1,2,3,4,7,8-HxCDF	6/26/15	1	ND	5.4	0.056	0.1	0.0056
1,2,3,6,7,8-HxCDF	6/26/15	1	ND	5.4	0.050	0.1	0.0050
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	5.4	0.053	0.1	0.0053
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	5.4	0.063	0.1	0.0063
1,2,3,4,6,7,8-HpCDF	**6/26/15**	**1**	**0.12 Q J**	**5.4**	**0.076**	**0.01**	**0.0012**
1,2,3,4,7,8,9-HpCDF	6/26/15	1	ND	5.4	0.095	0.01	0.00095
OCDF	6/26/15	1	ND	11	0.11	0.001	0.00011
Total TEQ Concentration							**0.51**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	68	(25 - 164)
13C-1,2,3,7,8-PeCDD	73	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	66	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	66	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	72	(23 - 140)
13C-OCDD	73	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	63	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	54	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	56	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	61	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	59	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	62	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	65	(26 - 138)
13C-OCDF	63	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-089 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	83	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-089 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 008	**Work Order #....:**	M639K1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170021				
Initial Wgt/Vol :	8.8 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Kathryn B. Lay				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/26/15	1	ND	1.1	0.34	1.0	0.34
1,2,3,7,8-PeCDD	**6/26/15**	**1**	**0.085 Q B J**	**5.7**	**0.13**	**0.5**	**0.042**
1,2,3,4,7,8-HxCDD	6/26/15	1	ND	5.7	0.098	0.1	0.0098
1,2,3,6,7,8-HxCDD	6/26/15	1	ND	5.7	0.11	0.1	0.011
1,2,3,7,8,9-HxCDD	6/26/15	1	ND	5.7	0.096	0.1	0.0096
1,2,3,4,6,7,8-HpCDD	**6/26/15**	**1**	**0.36 J**	**5.7**	**0.10**	**0.01**	**0.0036**
OCDD	**6/26/15**	**1**	**2.1 B J**	**11**	**0.10**	**0.001**	**0.0021**
2,3,7,8-TCDF	**6/26/15**	**1**	**0.40 J**	**1.1**	**0.18**	**0.1**	**0.040**
1,2,3,7,8-PeCDF	6/26/15	1	ND	5.7	0.096	0.05	0.0048
2,3,4,7,8-PeCDF	6/26/15	1	ND	5.7	0.084	0.5	0.042
1,2,3,4,7,8-HxCDF	6/26/15	1	ND	5.7	0.061	0.1	0.0061
1,2,3,6,7,8-HxCDF	6/26/15	1	ND	5.7	0.065	0.1	0.0065
2,3,4,6,7,8-HxCDF	6/26/15	1	ND	5.7	0.059	0.1	0.0059
1,2,3,7,8,9-HxCDF	6/26/15	1	ND	5.7	0.076	0.1	0.0076
1,2,3,4,6,7,8-HpCDF	**6/26/15**	**1**	**0.15 Q J**	**5.7**	**0.092**	**0.01**	**0.0015**
1,2,3,4,7,8,9-HpCDF	6/26/15	1	ND	5.7	0.12	0.01	0.0012
OCDF	6/26/15	1	ND	11	0.15	0.001	0.00015
Total TEQ Concentration							**0.53**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	72	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	64	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	65	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	72	(23 - 140)
13C-OCDD	71	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	52	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	53	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	61	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	57	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	60	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	60	(26 - 138)
13C-OCDF	52	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-089 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	81	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-089 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 009	**Work Order #....:**	M639L1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170021				
Initial Wgt/Vol :	8.5 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	1.2	0.37	1.0	0.37
1,2,3,7,8-PeCDD	6/27/15	1	ND	5.9	0.14	0.5	0.070
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.9	0.14	0.1	0.014
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.9	0.15	0.1	0.015
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	5.9	0.14	0.1	0.014
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.39 Q J**	**5.9**	**0.12**	**0.01**	**0.0039**
OCDD	**6/27/15**	**1**	**1.9 Q B J**	**12**	**0.11**	**0.001**	**0.0019**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.40 J**	**1.2**	**0.21**	**0.1**	**0.040**
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.9	0.12	0.05	0.0060
2,3,4,7,8-PeCDF	6/27/15	1	ND	5.9	0.099	0.5	0.050
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	5.9	0.081	0.1	0.0081
1,2,3,6,7,8-HxCDF	6/27/15	1	ND	5.9	0.081	0.1	0.0081
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.9	0.075	0.1	0.0075
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	5.9	0.097	0.1	0.0097
1,2,3,4,6,7,8-HpCDF	**6/27/15**	**1**	**0.23 Q J**	**5.9**	**0.11**	**0.01**	**0.0023**
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	5.9	0.13	0.01	0.0013
OCDF	6/27/15	1	ND	12	0.15	0.001	0.00015
Total TEQ Concentration							**0.62**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	68	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	64	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	63	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	78	(23 - 140)
13C-OCDD	86	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
13C-1,2,3,7,8-PeCDF	58	(24 - 185)
13C-2,3,4,7,8-PeCDF	60	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	51	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	52	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	59	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	57	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	61	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	64	(26 - 138)
13C-OCDF	68	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-089 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	79	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-090 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 010	**Work Order #....:**	M639M1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170021				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	0.99	0.29	1.0	0.29
1,2,3,7,8-PeCDD	**6/27/15**	**1**	**0.23 Q B J**	**5.0**	**0.14**	**0.5**	**0.12**
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.0	0.11	0.1	0.011
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.0	0.12	0.1	0.012
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	5.0	0.11	0.1	0.011
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.65 Q J**	**5.0**	**0.10**	**0.01**	**0.0065**
OCDD	**6/27/15**	**1**	**6.1 B J**	**9.9**	**0.10**	**0.001**	**0.0061**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.39 Q J**	**0.99**	**0.17**	**0.1**	**0.039**
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.0	0.095	0.05	0.0048
2,3,4,7,8-PeCDF	6/27/15	1	ND	5.0	0.083	0.5	0.042
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	5.0	0.072	0.1	0.0072
1,2,3,6,7,8-HxCDF	6/27/15	1	ND	5.0	0.067	0.1	0.0067
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.0	0.065	0.1	0.0065
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	5.0	0.079	0.1	0.0079
1,2,3,4,6,7,8-HpCDF	**6/27/15**	**1**	**0.25 Q J**	**5.0**	**0.092**	**0.01**	**0.0025**
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	5.0	0.11	0.01	0.0011
OCDF	6/27/15	1	ND	9.9	0.11	0.001	0.00011
Total TEQ Concentration							**0.57**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	65	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	64	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	80	(23 - 140)
13C-OCDD	89	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
13C-1,2,3,7,8-PeCDF	57	(24 - 185)
13C-2,3,4,7,8-PeCDF	60	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	51	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	51	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	59	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	56	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	60	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	76	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-090 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-090 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 011	**Work Order #....:**	M639N1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	0.99	0.41	1.0	0.41
1,2,3,7,8-PeCDD	6/27/15	1	ND	5.0	0.16	0.5	0.080
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.0	0.12	0.1	0.012
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.0	0.13	0.1	0.013
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	5.0	0.12	0.1	0.012
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.99 J**	**5.0**	**0.14**	**0.01**	**0.0099**
OCDD	**6/27/15**	**1**	**8.1 B J**	**9.9**	**0.12**	**0.001**	**0.0081**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.23 Q J**	**0.99**	**0.26**	**0.1**	**0.023**
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.0	0.12	0.05	0.0060
2,3,4,7,8-PeCDF	6/27/15	1	ND	5.0	0.10	0.5	0.050
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	5.0	0.078	0.1	0.0078
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.37 Q J**	**5.0**	**0.081**	**0.1**	**0.037**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.0	0.079	0.1	0.0079
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	5.0	0.10	0.1	0.010
1,2,3,4,6,7,8-HpCDF	6/27/15	1	ND	5.0	0.10	0.01	0.0010
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	5.0	0.13	0.01	0.0013
OCDF	6/27/15	1	ND	9.9	0.14	0.001	0.00014
Total TEQ Concentration							**0.69**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	52	(25 - 164)
13C-1,2,3,7,8-PeCDD	61	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	64	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	64	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	79	(23 - 140)
13C-OCDD	89	(17 - 157)
13C-2,3,7,8-TCDF	46	(24 - 169)
13C-1,2,3,7,8-PeCDF	50	(24 - 185)
13C-2,3,4,7,8-PeCDF	54	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	52	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	53	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	57	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	54	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	63	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	63	(26 - 138)
13C-OCDF	66	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-090 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	62	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-090 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 012	**Work Order #....:**	M639P1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	0.99	0.42	1.0	0.42
1,2,3,7,8-PeCDD	6/27/15	1	ND	5.0	0.18	0.5	0.090
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.0	0.13	0.1	0.013
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.0	0.13	0.1	0.013
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	5.0	0.12	0.1	0.012
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**1.1 J**	**5.0**	**0.18**	**0.01**	**0.011**
OCDD	**6/27/15**	**1**	**13 B**	**9.9**	**0.16**	**0.001**	**0.013**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.34 J**	**0.99**	**0.28**	**0.1**	**0.034**
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.0	0.13	0.05	0.0065
2,3,4,7,8-PeCDF	6/27/15	1	ND	5.0	0.12	0.5	0.060
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	5.0	0.086	0.1	0.0086
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.29 J**	**5.0**	**0.081**	**0.1**	**0.029**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.0	0.089	0.1	0.0089
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	5.0	0.10	0.1	0.010
1,2,3,4,6,7,8-HpCDF	6/27/15	1	ND	5.0	0.12	0.01	0.0012
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	5.0	0.15	0.01	0.0015
OCDF	**6/27/15**	**1**	**0.23 Q J**	**9.9**	**0.19**	**0.001**	**0.00023**
Total TEQ Concentration							**0.73**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	78	(23 - 140)
13C-OCDD	78	(17 - 157)
13C-2,3,7,8-TCDF	55	(24 - 169)
13C-1,2,3,7,8-PeCDF	57	(24 - 185)
13C-2,3,4,7,8-PeCDF	59	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	55	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	58	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	61	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	60	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	66	(26 - 138)
13C-OCDF	60	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-090 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	75	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-090 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 013	**Work Order #....:**	M639Q1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	9.9 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	1.0	0.32	1.0	0.32
1,2,3,7,8-PeCDD	**6/27/15**	**1**	**0.26 Q J**	**5.1**	**0.14**	**0.5**	**0.13**
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.1	0.11	0.1	0.011
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.1	0.11	0.1	0.011
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	5.1	0.10	0.1	0.010
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.83 J**	**5.1**	**0.14**	**0.01**	**0.0083**
OCDD	**6/27/15**	**1**	**7.6 B J**	**10**	**0.11**	**0.001**	**0.0076**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.27 Q J**	**1.0**	**0.20**	**0.1**	**0.027**
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.1	0.11	0.05	0.0055
2,3,4,7,8-PeCDF	6/27/15	1	ND	5.1	0.095	0.5	0.048
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	5.1	0.080	0.1	0.0080
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.31 J**	**5.1**	**0.075**	**0.1**	**0.031**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.1	0.084	0.1	0.0084
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	5.1	0.10	0.1	0.010
1,2,3,4,6,7,8-HpCDF	**6/27/15**	**1**	**0.26 J**	**5.1**	**0.099**	**0.01**	**0.0026**
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	5.1	0.13	0.01	0.0013
OCDF	**6/27/15**	**1**	**0.20 Q J**	**10**	**0.14**	**0.001**	**0.00020**
Total TEQ Concentration							**0.64**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	68	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	81	(23 - 140)
13C-OCDD	85	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	59	(24 - 185)
13C-2,3,4,7,8-PeCDF	60	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	58	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	60	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	62	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	59	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	66	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	71	(26 - 138)
13C-OCDF	76	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-090 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	78	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-090 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 014	**Work Order #....:**	M639T1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	9.8 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	1.0	0.38	1.0	0.38
1,2,3,7,8-PeCDD	6/27/15	1	ND	5.1	0.16	0.5	0.080
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.1	0.11	0.1	0.011
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.1	0.13	0.1	0.013
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	5.1	0.11	0.1	0.011
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.85 J**	**5.1**	**0.15**	**0.01**	**0.0085**
OCDD	**6/27/15**	**1**	**9.4 B J**	**10**	**0.15**	**0.001**	**0.0094**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.35 Q J**	**1.0**	**0.25**	**0.1**	**0.035**
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.1	0.12	0.05	0.0060
2,3,4,7,8-PeCDF	6/27/15	1	ND	5.1	0.11	0.5	0.055
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	5.1	0.079	0.1	0.0079
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.37 Q J**	**5.1**	**0.082**	**0.1**	**0.037**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.1	0.079	0.1	0.0079
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	5.1	0.10	0.1	0.010
1,2,3,4,6,7,8-HpCDF	6/27/15	1	ND	5.1	0.12	0.01	0.0012
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	5.1	0.14	0.01	0.0014
OCDF	**6/27/15**	**1**	**0.28 J**	**10**	**0.14**	**0.001**	**0.00028**
Total TEQ Concentration							**0.67**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	66	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	81	(23 - 140)
13C-OCDD	85	(17 - 157)
13C-2,3,7,8-TCDF	58	(24 - 169)
13C-1,2,3,7,8-PeCDF	60	(24 - 185)
13C-2,3,4,7,8-PeCDF	61	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	57	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	57	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	61	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	60	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	66	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	72	(26 - 138)
13C-OCDF	71	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-090 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	79	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-091 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 015	**Work Order #....:**	M639V1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	9.2 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	1.1	0.43	1.0	0.43
1,2,3,7,8-PeCDD	**6/27/15**	**1**	**0.35 Q J**	**5.4**	**0.19**	**0.5**	**0.18**
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.4	0.14	0.1	0.014
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.4	0.15	0.1	0.015
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	5.4	0.13	0.1	0.013
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.59 J**	**5.4**	**0.16**	**0.01**	**0.0059**
OCDD	**6/27/15**	**1**	**3.4 B J**	**11**	**0.14**	**0.001**	**0.0034**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.26 Q J**	**1.1**	**0.28**	**0.1**	**0.026**
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.4	0.14	0.05	0.0070
2,3,4,7,8-PeCDF	6/27/15	1	ND	5.4	0.13	0.5	0.065
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	5.4	0.087	0.1	0.0087
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.38 Q J**	**5.4**	**0.086**	**0.1**	**0.038**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.4	0.091	0.1	0.0091
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	5.4	0.11	0.1	0.011
1,2,3,4,6,7,8-HpCDF	6/27/15	1	ND	5.4	0.11	0.01	0.0011
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	5.4	0.15	0.01	0.0015
OCDF	6/27/15	1	ND	11	0.15	0.001	0.00015
Total TEQ Concentration							**0.82**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	60	(25 - 164)
13C-1,2,3,7,8-PeCDD	66	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	64	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	64	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	72	(23 - 140)
13C-OCDD	73	(17 - 157)
13C-2,3,7,8-TCDF	56	(24 - 169)
13C-1,2,3,7,8-PeCDF	57	(24 - 185)
13C-2,3,4,7,8-PeCDF	58	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	55	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	55	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	58	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	58	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	63	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	68	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-091 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	75	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-091 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 016	**Work Order #....:**	M639W1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	8 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	1.2	0.45	1.0	0.45
1,2,3,7,8-PeCDD	**6/27/15**	**1**	**0.31 Q J**	**6.2**	**0.19**	**0.5**	**0.16**
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	6.2	0.17	0.1	0.017
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	6.2	0.18	0.1	0.018
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	6.2	0.16	0.1	0.016
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**1.3 Q J**	**6.2**	**0.21**	**0.01**	**0.013**
OCDD	**6/27/15**	**1**	**15 B**	**12**	**0.18**	**0.001**	**0.015**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.34 Q J**	**1.2**	**0.30**	**0.1**	**0.034**
1,2,3,7,8-PeCDF	6/27/15	1	ND	6.2	0.15	0.05	0.0075
2,3,4,7,8-PeCDF	6/27/15	1	ND	6.2	0.13	0.5	0.065
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	6.2	0.11	0.1	0.011
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.26 Q J**	**6.2**	**0.10**	**0.1**	**0.026**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	6.2	0.10	0.1	0.010
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	6.2	0.13	0.1	0.013
1,2,3,4,6,7,8-HpCDF	6/27/15	1	ND	6.2	0.15	0.01	0.0015
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	6.2	0.19	0.01	0.0019
OCDF	6/27/15	1	ND	12	0.17	0.001	0.00017
Total TEQ Concentration							**0.85**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	67	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	71	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	69	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	76	(23 - 140)
13C-OCDD	80	(17 - 157)
13C-2,3,7,8-TCDF	62	(24 - 169)
13C-1,2,3,7,8-PeCDF	60	(24 - 185)
13C-2,3,4,7,8-PeCDF	62	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	58	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	59	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	63	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	63	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	68	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	71	(26 - 138)
13C-OCDF	75	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-091 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	82	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-091 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 017	**Work Order #....:**	M639X1AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	8.4 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	1.2	0.45	1.0	0.45
1,2,3,7,8-PeCDD	6/27/15	1	ND	6.0	0.22	0.5	0.11
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	6.0	0.15	0.1	0.015
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	6.0	0.15	0.1	0.015
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	6.0	0.14	0.1	0.014
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.62 Q J**	**6.0**	**0.19**	**0.01**	**0.0062**
OCDD	**6/27/15**	**1**	**6.2 B J**	**12**	**0.17**	**0.001**	**0.0062**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.34 Q J**	**1.2**	**0.29**	**0.1**	**0.034**
1,2,3,7,8-PeCDF	6/27/15	1	ND	6.0	0.14	0.05	0.0070
2,3,4,7,8-PeCDF	6/27/15	1	ND	6.0	0.14	0.5	0.070
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	6.0	0.11	0.1	0.011
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.29 Q J**	**6.0**	**0.10**	**0.1**	**0.029**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	6.0	0.11	0.1	0.011
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	6.0	0.13	0.1	0.013
1,2,3,4,6,7,8-HpCDF	**6/27/15**	**1**	**0.30 Q J**	**6.0**	**0.14**	**0.01**	**0.0030**
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	6.0	0.18	0.01	0.0018
OCDF	6/27/15	1	ND	12	0.18	0.001	0.00018
Total TEQ Concentration							**0.80**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	66	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	70	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	77	(23 - 140)
13C-OCDD	79	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	62	(24 - 185)
13C-2,3,4,7,8-PeCDF	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	56	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	60	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	61	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	61	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	67	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	71	(26 - 138)
13C-OCDF	73	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-091 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	81	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-091 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 018	**Work Order #....:**	M63901AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	8.7 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	1.1	0.46	1.0	0.46
1,2,3,7,8-PeCDD	6/27/15	1	ND	5.7	0.21	0.5	0.10
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.7	0.16	0.1	0.016
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.7	0.18	0.1	0.018
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	5.7	0.16	0.1	0.016
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.28 Q J**	**5.7**	**0.14**	**0.01**	**0.0028**
OCDD	**6/27/15**	**1**	**4.8 B J**	**11**	**0.15**	**0.001**	**0.0048**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.30 Q J**	**1.1**	**0.26**	**0.1**	**0.030**
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.7	0.15	0.05	0.0075
2,3,4,7,8-PeCDF	**6/27/15**	**1**	**0.17 Q J**	**5.7**	**0.13**	**0.5**	**0.085**
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	5.7	0.095	0.1	0.0095
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.27 Q J**	**5.7**	**0.10**	**0.1**	**0.027**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.7	0.096	0.1	0.0096
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	5.7	0.13	0.1	0.013
1,2,3,4,6,7,8-HpCDF	6/27/15	1	ND	5.7	0.14	0.01	0.0014
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	5.7	0.16	0.01	0.0016
OCDF	6/27/15	1	ND	11	0.15	0.001	0.00015
Total TEQ Concentration							**0.81**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	61	(25 - 164)
13C-1,2,3,7,8-PeCDD	65	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	66	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	79	(23 - 140)
13C-OCDD	83	(17 - 157)
13C-2,3,7,8-TCDF	57	(24 - 169)
13C-1,2,3,7,8-PeCDF	57	(24 - 185)
13C-2,3,4,7,8-PeCDF	59	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	55	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	57	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	62	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	58	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	64	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	72	(26 - 138)
13C-OCDF	74	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-091 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	81	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-091 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 019	**Work Order #....:**	M63921AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	1.0	0.54	1.0	0.54
1,2,3,7,8-PeCDD	6/27/15	1	ND	5.0	0.26	0.5	0.13
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.0	0.20	0.1	0.020
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.0	0.21	0.1	0.021
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	5.0	0.19	0.1	0.019
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.76 Q J**	**5.0**	**0.31**	**0.01**	**0.0076**
OCDD	**6/27/15**	**1**	**9.0 B J**	**10**	**0.28**	**0.001**	**0.0090**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.43 Q J**	**1.0**	**0.35**	**0.1**	**0.043**
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.0	0.19	0.05	0.0095
2,3,4,7,8-PeCDF	6/27/15	1	ND	5.0	0.19	0.5	0.095
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	5.0	0.12	0.1	0.012
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.31 Q J**	**5.0**	**0.12**	**0.1**	**0.031**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.0	0.13	0.1	0.013
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	5.0	0.17	0.1	0.017
1,2,3,4,6,7,8-HpCDF	6/27/15	1	ND	5.0	0.19	0.01	0.0019
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	5.0	0.26	0.01	0.0026
OCDF	6/27/15	1	ND	10	0.24	0.001	0.00024
Total TEQ Concentration							**0.97**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	51	(25 - 164)
13C-1,2,3,7,8-PeCDD	51	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	54	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	52	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	51	(23 - 140)
13C-OCDD	53	(17 - 157)
13C-2,3,7,8-TCDF	46	(24 - 169)
13C-1,2,3,7,8-PeCDF	45	(24 - 185)
13C-2,3,4,7,8-PeCDF	45	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	45	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	47	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	48	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	45	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	46	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	43	(26 - 138)
13C-OCDF	50	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-091 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	62	(35 - 197)

NOTES:

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U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-092 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 020	**Work Order #....:**	M63931AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	1.0	0.39	1.0	0.39
1,2,3,7,8-PeCDD	6/27/15	1	ND	5.0	0.17	0.5	0.085
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.0	0.13	0.1	0.013
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.0	0.13	0.1	0.013
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	5.0	0.12	0.1	0.012
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.26 Q J**	**5.0**	**0.12**	**0.01**	**0.0026**
OCDD	**6/27/15**	**1**	**3.1 B J**	**10**	**0.14**	**0.001**	**0.0031**
2,3,7,8-TCDF	6/27/15	1	ND	1.0	0.23	0.1	0.023
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.0	0.12	0.05	0.0060
2,3,4,7,8-PeCDF	6/27/15	1	ND	5.0	0.11	0.5	0.055
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	5.0	0.079	0.1	0.0079
1,2,3,6,7,8-HxCDF	6/27/15	1	ND	5.0	0.075	0.1	0.0075
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.0	0.076	0.1	0.0076
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	5.0	0.095	0.1	0.0095
1,2,3,4,6,7,8-HpCDF	6/27/15	1	ND	5.0	0.11	0.01	0.0011
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	5.0	0.14	0.01	0.0014
OCDF	**6/27/15**	**1**	**0.19 Q J**	**10**	**0.14**	**0.001**	**0.00019**
Total TEQ Concentration							**0.64**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	64	(25 - 164)
13C-1,2,3,7,8-PeCDD	68	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	68	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	82	(23 - 140)
13C-OCDD	85	(17 - 157)
13C-2,3,7,8-TCDF	60	(24 - 169)
13C-1,2,3,7,8-PeCDF	60	(24 - 185)
13C-2,3,4,7,8-PeCDF	62	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	56	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	57	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	63	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	60	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	66	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	72	(26 - 138)
13C-OCDF	76	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-092 A-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	82	(35 - 197)

NOTES:

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When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-092 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 021	**Work Order #....:**	M63941AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	9.9 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	1.0	0.35	1.0	0.35
1,2,3,7,8-PeCDD	6/27/15	1	ND	5.1	0.15	0.5	0.075
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	5.1	0.13	0.1	0.013
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	5.1	0.14	0.1	0.014
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	5.1	0.13	0.1	0.013
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.56 J**	**5.1**	**0.12**	**0.01**	**0.0056**
OCDD	**6/27/15**	**1**	**3.7 Q B J**	**10**	**0.11**	**0.001**	**0.0037**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.53 Q J**	**1.0**	**0.22**	**0.1**	**0.053**
1,2,3,7,8-PeCDF	6/27/15	1	ND	5.1	0.12	0.05	0.0060
2,3,4,7,8-PeCDF	6/27/15	1	ND	5.1	0.11	0.5	0.055
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	5.1	0.080	0.1	0.0080
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.53 Q J**	**5.1**	**0.081**	**0.1**	**0.053**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	5.1	0.077	0.1	0.0077
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	5.1	0.10	0.1	0.010
1,2,3,4,6,7,8-HpCDF	**6/27/15**	**1**	**0.23 Q J**	**5.1**	**0.11**	**0.01**	**0.0023**
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	5.1	0.14	0.01	0.0014
OCDF	**6/27/15**	**1**	**0.21 Q J**	**10**	**0.13**	**0.001**	**0.00021**
Total TEQ Concentration							**0.67**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	69	(25 - 164)
13C-1,2,3,7,8-PeCDD	72	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	68	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	70	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	78	(23 - 140)
13C-OCDD	82	(17 - 157)
13C-2,3,7,8-TCDF	64	(24 - 169)
13C-1,2,3,7,8-PeCDF	61	(24 - 185)
13C-2,3,4,7,8-PeCDF	66	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	55	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	58	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	63	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	58	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	63	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	69	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-092 B-W

Dioxins/Furans, HRGC/HRMS (1613B)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	88	(35 - 197)

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When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-092 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 022	**Work Order #....:**	M63961AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Melissa A. Davidson				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/27/15	1	ND	0.98	0.41	1.0	0.41
1,2,3,7,8-PeCDD	6/27/15	1	ND	4.9	0.16	0.5	0.080
1,2,3,4,7,8-HxCDD	6/27/15	1	ND	4.9	0.13	0.1	0.013
1,2,3,6,7,8-HxCDD	6/27/15	1	ND	4.9	0.14	0.1	0.014
1,2,3,7,8,9-HxCDD	6/27/15	1	ND	4.9	0.12	0.1	0.012
1,2,3,4,6,7,8-HpCDD	**6/27/15**	**1**	**0.46 Q J**	**4.9**	**0.14**	**0.01**	**0.0046**
OCDD	**6/27/15**	**1**	**3.0 B J**	**9.8**	**0.14**	**0.001**	**0.0030**
2,3,7,8-TCDF	**6/27/15**	**1**	**0.29 Q J**	**0.98**	**0.26**	**0.1**	**0.029**
1,2,3,7,8-PeCDF	6/27/15	1	ND	4.9	0.14	0.05	0.0070
2,3,4,7,8-PeCDF	6/27/15	1	ND	4.9	0.13	0.5	0.065
1,2,3,4,7,8-HxCDF	6/27/15	1	ND	4.9	0.089	0.1	0.0089
1,2,3,6,7,8-HxCDF	**6/27/15**	**1**	**0.58 Q J**	**4.9**	**0.094**	**0.1**	**0.058**
2,3,4,6,7,8-HxCDF	6/27/15	1	ND	4.9	0.091	0.1	0.0091
1,2,3,7,8,9-HxCDF	6/27/15	1	ND	4.9	0.11	0.1	0.011
1,2,3,4,6,7,8-HpCDF	6/27/15	1	ND	4.9	0.13	0.01	0.0013
1,2,3,4,7,8,9-HpCDF	6/27/15	1	ND	4.9	0.15	0.01	0.0015
OCDF	**6/27/15**	**1**	**0.17 Q J**	**9.8**	**0.13**	**0.001**	**0.00017**
Total TEQ Concentration							**0.73**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	65	(25 - 164)
13C-1,2,3,7,8-PeCDD	69	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	65	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	67	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	75	(23 - 140)
13C-OCDD	77	(17 - 157)
13C-2,3,7,8-TCDF	61	(24 - 169)
13C-1,2,3,7,8-PeCDF	61	(24 - 185)
13C-2,3,4,7,8-PeCDF	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	56	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	56	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	62	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	62	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	63	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	68	(26 - 138)
13C-OCDF	71	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

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TestAmerica Pittsburgh

Client Sample ID: AT5-092 C-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	80	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-092 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 023	**Work Order #....:**	M63971AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	10.3 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/29/15	1	ND	0.97	0.55	1.0	0.55
1,2,3,7,8-PeCDD	6/29/15	1	ND	4.9	0.25	0.5	0.12
1,2,3,4,7,8-HxCDD	6/29/15	1	ND	4.9	0.21	0.1	0.021
1,2,3,6,7,8-HxCDD	6/29/15	1	ND	4.9	0.21	0.1	0.021
1,2,3,7,8,9-HxCDD	6/29/15	1	ND	4.9	0.20	0.1	0.020
1,2,3,4,6,7,8-HpCDD	**6/29/15**	**1**	**0.35 Q J**	**4.9**	**0.24**	**0.01**	**0.0035**
OCDD	**6/29/15**	**1**	**2.5 J B**	**9.7**	**0.22**	**0.001**	**0.0025**
2,3,7,8-TCDF	**6/29/15**	**1**	**0.51 J**	**0.97**	**0.42**	**0.1**	**0.051**
1,2,3,7,8-PeCDF	6/29/15	1	ND	4.9	0.21	0.05	0.010
2,3,4,7,8-PeCDF	6/29/15	1	ND	4.9	0.19	0.5	0.095
1,2,3,4,7,8-HxCDF	6/29/15	1	ND	4.9	0.14	0.1	0.014
1,2,3,6,7,8-HxCDF	**6/29/15**	**1**	**0.71 Q J**	**4.9**	**0.14**	**0.1**	**0.071**
2,3,4,6,7,8-HxCDF	6/29/15	1	ND	4.9	0.14	0.1	0.014
1,2,3,7,8,9-HxCDF	6/29/15	1	ND	4.9	0.18	0.1	0.018
1,2,3,4,6,7,8-HpCDF	6/29/15	1	ND	4.9	0.18	0.01	0.0018
1,2,3,4,7,8,9-HpCDF	6/29/15	1	ND	4.9	0.24	0.01	0.0024
OCDF	6/29/15	1	ND	9.7	0.24	0.001	0.00024

Total TEQ Concentration **1.0**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	72	(25 - 164)
13C-1,2,3,7,8-PeCDD	74	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	73	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	73	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	74	(23 - 140)
13C-OCDD	77	(17 - 157)
13C-2,3,7,8-TCDF	66	(24 - 169)
13C-1,2,3,7,8-PeCDF	65	(24 - 185)
13C-2,3,4,7,8-PeCDF	65	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	64	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	65	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	68	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	65	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	68	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	67	(26 - 138)
13C-OCDF	70	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-092 D-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	91	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Client Sample ID: AT5-092 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

Lot - Sample #....:	H5F190407 - 024	**Work Order #....:**	M63981AA	**Matrix.....:**	TA
Date Sampled....:	05/21/15	**Date Received....:**	06/19/15	**Units....:**	pg/g
Prep Date....:	06/19/15			**Dilution Factor:**	1
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	M2A	**Method....:**	EPA-5 1613B
Analyst ID....:	Linda K. McWhirter				

PARAMETER	ANALYSIS DATE	DILUTION FACTOR	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	EPA 1989 TEF FACTOR	TEQ CONC.
2,3,7,8-TCDD	6/29/15	1	ND	0.99	0.52	1.0	0.52
1,2,3,7,8-PeCDD	6/29/15	1	ND	5.0	0.24	0.5	0.12
1,2,3,4,7,8-HxCDD	6/29/15	1	ND	5.0	0.18	0.1	0.018
1,2,3,6,7,8-HxCDD	6/29/15	1	ND	5.0	0.20	0.1	0.020
1,2,3,7,8,9-HxCDD	6/29/15	1	ND	5.0	0.18	0.1	0.018
1,2,3,4,6,7,8-HpCDD	**6/29/15**	**1**	**0.38 Q J**	**5.0**	**0.21**	**0.01**	**0.0038**
OCDD	**6/29/15**	**1**	**2.3 Q B J**	**9.9**	**0.20**	**0.001**	**0.0023**
2,3,7,8-TCDF	**6/29/15**	**1**	**0.26 Q J**	**0.99**	**0.36**	**0.1**	**0.026**
1,2,3,7,8-PeCDF	6/29/15	1	ND	5.0	0.16	0.05	0.0080
2,3,4,7,8-PeCDF	6/29/15	1	ND	5.0	0.15	0.5	0.075
1,2,3,4,7,8-HxCDF	6/29/15	1	ND	5.0	0.11	0.1	0.011
1,2,3,6,7,8-HxCDF	**6/29/15**	**1**	**0.23 Q J**	**5.0**	**0.12**	**0.1**	**0.023**
2,3,4,6,7,8-HxCDF	6/29/15	1	ND	5.0	0.12	0.1	0.012
1,2,3,7,8,9-HxCDF	6/29/15	1	ND	5.0	0.16	0.1	0.016
1,2,3,4,6,7,8-HpCDF	**6/29/15**	**1**	**0.12 Q J**	**5.0**	**0.16**	**0.01**	**0.0012**
1,2,3,4,7,8,9-HpCDF	6/29/15	1	ND	5.0	0.22	0.01	0.0022
OCDF	6/29/15	1	ND	9.9	0.23	0.001	0.00023
Total TEQ Concentration							**0.88**

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	69	(25 - 164)
13C-1,2,3,7,8-PeCDD	70	(25 - 181)
13C-1,2,3,4,7,8-HxCDD	69	(32 - 141)
13C-1,2,3,6,7,8-HxCDD	71	(28 - 130)
13C-1,2,3,4,6,7,8-HpCDD	73	(23 - 140)
13C-OCDD	76	(17 - 157)
13C-2,3,7,8-TCDF	63	(24 - 169)
13C-1,2,3,7,8-PeCDF	64	(24 - 185)
13C-2,3,4,7,8-PeCDF	63	(21 - 178)
13C-1,2,3,4,7,8-HxCDF	61	(26 - 152)
13C-1,2,3,6,7,8-HxCDF	61	(26 - 123)
13C-2,3,4,6,7,8-HxCDF	62	(28 - 136)
13C-1,2,3,7,8,9-HxCDF	61	(29 - 147)
13C-1,2,3,4,6,7,8-HpCDF	64	(28 - 143)
13C-1,2,3,4,7,8,9-HpCDF	61	(26 - 138)
13C-OCDF	65	(17 - 157)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

TestAmerica Pittsburgh

Client Sample ID: AT5-092 E-W

Dioxins/Furans, HRGC/HRMS (1613B)

37Cl4-2,3,7,8-TCDD	85	(35 - 197)

NOTES:

The authors of these TEFs caution against their inappropriate application to situations where they have limited toxicological relevance.

U.S. EPA. (1989) Interim procedures for estimating risks associated with exposures to mixtures of chlorinated dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 update. EPA/625/3-89/016.

When the sample result is Not Detected (ND) the TEQ Concentration = EDL * TEF Factor

If applicable, the TEQ Concentration for coeluting PCB isomers 156 and 157 is only added once to the Total TEQ Concentration.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F190000 - 021B	**Work Order #....:**	M63991AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/19/15	**Analysis Date....:**	06/26/15		
Prep Batch # ....:	5170021				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M2A	**Method:**	EPA-5 1613B
Analyst ID....:	Kathryn B. Lay				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.30	pg/g
1,2,3,7,8-PeCDD	**0.14**	**Q J**	**5.0**	**0.11**	**pg/g**
1,2,3,4,7,8-HxCDD	ND		5.0	0.084	pg/g
1,2,3,6,7,8-HxCDD	ND		5.0	0.090	pg/g
1,2,3,7,8,9-HxCDD	ND		5.0	0.081	pg/g
1,2,3,4,6,7,8-HpCDD	ND		5.0	0.091	pg/g
OCDD	**0.060**	**Q J**	**10**	**0.087**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.16	pg/g
1,2,3,7,8-PeCDF	ND		5.0	0.079	pg/g
2,3,4,7,8-PeCDF	ND		5.0	0.070	pg/g
1,2,3,4,7,8-HxCDF	ND		5.0	0.060	pg/g
1,2,3,6,7,8-HxCDF	ND		5.0	0.057	pg/g
2,3,4,6,7,8-HxCDF	ND		5.0	0.057	pg/g
1,2,3,7,8,9-HxCDF	ND		5.0	0.069	pg/g
1,2,3,4,6,7,8-HpCDF	ND		5.0	0.069	pg/g
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.086	pg/g
OCDF	ND		10	0.10	pg/g

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	75	25 - 164
13C-1,2,3,7,8-PeCDD	78	25 - 181
13C-1,2,3,4,7,8-HxCDD	73	32 - 141
13C-1,2,3,6,7,8-HxCDD	72	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	88	23 - 140
13C-OCDD	100	17 - 157
13C-2,3,7,8-TCDF	68	24 - 169
13C-1,2,3,7,8-PeCDF	68	24 - 185
13C-2,3,4,7,8-PeCDF	71	21 - 178
13C-1,2,3,4,7,8-HxCDF	57	26 - 152
13C-1,2,3,6,7,8-HxCDF	59	26 - 123
13C-2,3,4,6,7,8-HxCDF	67	28 - 136
13C-1,2,3,7,8,9-HxCDF	64	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	70	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	74	26 - 138
13C-OCDF	82	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F190000 - 021B	**Work Order #....:**	M63991AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/19/15	**Analysis Date....:**	06/26/15		
Prep Batch # ....:	5170021				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M2A	**Method:**	EPA-5 1613B
Analyst ID....:	Kathryn B. Lay				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	91	35 - 197

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190407	**Work Order # ...:**	M63991AC-LCS	**Matrix .....:**	BIOLOGICA
LCS Lot-Sample# :	H5F190000 - 021				
Prep Date .....:	06/19/15	**Analysis Date ..:**	06/26/15		
Prep Batch # ...:	5170021				
Dilution Factor :	1				
Analyst ID.....:	Patricia(Trish) M. Parsl	**Instrument ID..:**	M2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**19.8**	**pg/g**	**99**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**97.5**	**pg/g**	**97**	**B**	**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**93.8**	**pg/g**	**94**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**97.4**	**pg/g**	**97**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**107**	**pg/g**	**107**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**91.5**	**pg/g**	**92**		**(70 - 140)**
OCDD	**200**	**180**	**pg/g**	**90**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**20.3**	**pg/g**	**101**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**88.0**	**pg/g**	**88**		**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**95.6**	**pg/g**	**96**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**96.5**	**pg/g**	**96**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**96.1**	**pg/g**	**96**		**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**93.4**	**pg/g**	**93**		**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**95.3**	**pg/g**	**95**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**93.4**	**pg/g**	**93**		**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**96.1**	**pg/g**	**96**		**(78 - 138)**
OCDF	**200**	**188**	**pg/g**	**94**		**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	65	(20 - 175)
13C-1,2,3,7,8-PeCDD	66	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	64	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	60	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	67	(26 - 166)
13C-OCDD	67	(13 - 199)
13C-2,3,7,8-TCDF	59	(22 - 152)
13C-1,2,3,7,8-PeCDF	59	(21 - 192)
13C-2,3,4,7,8-PeCDF	58	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	51	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	53	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	60	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	56	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	58	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	60	(20 - 186)
13C-OCDF	60	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	77	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F190000 - 022B	**Work Order #....:**	M64AA1AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/19/15	**Analysis Date....:**	06/27/15		
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M2A	**Method:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		1.0	0.34	pg/g
1,2,3,7,8-PeCDD	ND		5.0	0.12	pg/g
1,2,3,4,7,8-HxCDD	ND		5.0	0.092	pg/g
1,2,3,6,7,8-HxCDD	ND		5.0	0.10	pg/g
1,2,3,7,8,9-HxCDD	ND		5.0	0.089	pg/g
1,2,3,4,6,7,8-HpCDD	ND		5.0	0.11	pg/g
OCDD	**0.19**	**J**	**10**	**0.10**	**pg/g**
2,3,7,8-TCDF	ND		1.0	0.18	pg/g
1,2,3,7,8-PeCDF	ND		5.0	0.089	pg/g
2,3,4,7,8-PeCDF	ND		5.0	0.085	pg/g
1,2,3,4,7,8-HxCDF	ND		5.0	0.060	pg/g
1,2,3,6,7,8-HxCDF	ND		5.0	0.060	pg/g
2,3,4,6,7,8-HxCDF	ND		5.0	0.061	pg/g
1,2,3,7,8,9-HxCDF	ND		5.0	0.074	pg/g
1,2,3,4,6,7,8-HpCDF	ND		5.0	0.073	pg/g
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.10	pg/g
OCDF	ND		10	0.11	pg/g

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	75	25 - 164
13C-1,2,3,7,8-PeCDD	78	25 - 181
13C-1,2,3,4,7,8-HxCDD	76	32 - 141
13C-1,2,3,6,7,8-HxCDD	76	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	83	23 - 140
13C-OCDD	87	17 - 157
13C-2,3,7,8-TCDF	67	24 - 169
13C-1,2,3,7,8-PeCDF	70	24 - 185
13C-2,3,4,7,8-PeCDF	69	21 - 178
13C-1,2,3,4,7,8-HxCDF	63	26 - 152
13C-1,2,3,6,7,8-HxCDF	64	26 - 123
13C-2,3,4,6,7,8-HxCDF	68	28 - 136
13C-1,2,3,7,8,9-HxCDF	69	29 - 147
13C-1,2,3,4,6,7,8-HpCDF	76	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	74	26 - 138
13C-OCDF	77	17 - 157

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H5F190000 - 022B	**Work Order #....:**	M64AA1AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/19/15	**Analysis Date....:**	06/27/15		
Prep Batch # ....:	5170022				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M2A	**Method:**	EPA-5 1613B
Analyst ID....:	Patricia(Trish) M. Parsly				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	89	35 - 197

QUALIFIERS

J Estimated Result.

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H5F190407	**Work Order # ...:**	M64AA1AC-LCS	**Matrix .....:**	BIOLOGICA
LCS Lot-Sample# :	H5F190000 - 022				
Prep Date .....:	06/19/15	**Analysis Date ..:**	06/27/15		
Prep Batch # ...:	5170022				
Dilution Factor :	1				
Analyst ID.....:	Melissa A. Davidson	**Instrument ID..:**	M2A	**Method.....:**	EPA-5 1613B
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
2,3,7,8-TCDD	**20.0**	**19.5**	**pg/g**	**97**		**(67 - 158)**
1,2,3,7,8-PeCDD	**100**	**100**	**pg/g**	**100**		**(70 - 142)**
1,2,3,4,7,8-HxCDD	**100**	**96.7**	**pg/g**	**97**		**(70 - 164)**
1,2,3,6,7,8-HxCDD	**100**	**93.5**	**pg/g**	**93**		**(76 - 134)**
1,2,3,7,8,9-HxCDD	**100**	**102**	**pg/g**	**102**		**(64 - 162)**
1,2,3,4,6,7,8-HpCDD	**100**	**93.0**	**pg/g**	**93**		**(70 - 140)**
OCDD	**200**	**183**	**pg/g**	**91**	**B**	**(78 - 144)**
2,3,7,8-TCDF	**20.0**	**20.1**	**pg/g**	**100**		**(75 - 158)**
1,2,3,7,8-PeCDF	**100**	**89.6**	**pg/g**	**90**		**(80 - 134)**
2,3,4,7,8-PeCDF	**100**	**93.0**	**pg/g**	**93**		**(68 - 160)**
1,2,3,4,7,8-HxCDF	**100**	**95.9**	**pg/g**	**96**		**(72 - 134)**
1,2,3,6,7,8-HxCDF	**100**	**97.4**	**pg/g**	**97**		**(84 - 130)**
2,3,4,6,7,8-HxCDF	**100**	**94.4**	**pg/g**	**94**		**(70 - 156)**
1,2,3,7,8,9-HxCDF	**100**	**95.2**	**pg/g**	**95**		**(78 - 130)**
1,2,3,4,6,7,8-HpCDF	**100**	**94.8**	**pg/g**	**95**		**(82 - 122)**
1,2,3,4,7,8,9-HpCDF	**100**	**95.1**	**pg/g**	**95**		**(78 - 138)**
OCDF	**200**	**188**	**pg/g**	**94**		**(63 - 170)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	72	(20 - 175)
13C-1,2,3,7,8-PeCDD	77	(21 - 227)
13C-1,2,3,4,7,8-HxCDD	73	(21 - 193)
13C-1,2,3,6,7,8-HxCDD	73	(25 - 163)
13C-1,2,3,4,6,7,8-HpCDD	81	(26 - 166)
13C-OCDD	84	(13 - 199)
13C-2,3,7,8-TCDF	68	(22 - 152)
13C-1,2,3,7,8-PeCDF	69	(21 - 192)
13C-2,3,4,7,8-PeCDF	71	(13 - 328)
13C-1,2,3,4,7,8-HxCDF	61	(19 - 202)
13C-1,2,3,6,7,8-HxCDF	64	(21 - 159)
13C-2,3,4,6,7,8-HxCDF	67	(22 - 176)
13C-1,2,3,7,8,9-HxCDF	65	(17 - 205)
13C-1,2,3,4,6,7,8-HpCDF	75	(21 - 158)
13C-1,2,3,4,7,8,9-HpCDF	70	(20 - 186)
13C-OCDF	76	(13 - 199)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	88	(31 - 191)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSF190407

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc.				Job #: 180-44668-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-088 B-W (180-44668-1)	5/21/15	12:00 Eastern		Tissue			X	1	CUSTODY SEALS INTACT
AT5-088 C-W (180-44668-2)	5/21/15	12:00 Eastern		Tissue			X	1	RECEIVED AT
AT5-088 D-W (180-44668-3)	5/21/15	12:00 Eastern		Tissue			X	1	RT 0.4,0.2,0.2/CT 0.4,0.2,0.2
AT5-088 E-W (180-44668-4)	5/21/15	12:00 Eastern		Tissue			X	1	BLD 6-19-15
AT5-089 A-W (180-44668-5)	5/21/15	12:00 Eastern		Tissue			X	1	3 COOLERS FEDEX
AT5-089 B-W (180-44668-6)	5/21/15	12:00 Eastern		Tissue			X	1	568237253908 m
AT5-089 C-W (180-44668-7)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-089 D-W (180-44668-8)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-089 E-W (180-44668-9)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-090 A-W (180-44668-10)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-090 B-W (180-44668-11)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/18/15			6-19-15 09:45	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSF190407

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc.				Job #: 180-44668-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-090 C-W (180-44668-12)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-090 D-W (180-44668-13)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-090 E-W (180-44668-14)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-091 A-W (180-44668-15)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-091 B-W (180-44668-16)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-091 C-W (180-44668-17)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-091 D-W (180-44668-18)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-091 E-W (180-44668-19)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-092 A-W (180-44668-20)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-092 B-W (180-44668-21)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-092 C-W (180-44668-22)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/11 8/15		[signature]	6-19-15 09:45	TA KNOX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

HSF-140407

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-203361.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com		Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc.				Job #: 180-44668-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 7/6/2015			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: CBBT Thimble Shoal Parallel Tunnel	Project #: 18014305			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (1613 B Dioxins/Furans + TEQs (EA criteria)/ 1613 B Dioxins/Furans + TEQs (EA criteri	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AT5-092 D-W (180-44668-23)	5/21/15	12:00 Eastern		Tissue			X	1	
AT5-092 E-W (180-44668-24)	5/21/15	12:00 Eastern		Tissue			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		6/19/15			6-19-15 09:45	TA Knox
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: HSF190407

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC57 Correction factor: 0.0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?	✓			☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	✓	✓		☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		✓		☐ **19a** Other

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number:

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 92014 PM Instructions: _____

Sample Receiving Associate: _____ Date: 6-19-15

QA026R29.doc, 041115

Shipping and Receiving Documents

Client:	Project Manager:
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**
	Phone: **410.329.5126**
225 Schilling Circle	Project Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: **860.287.0745**

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 5 of 6

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
urgh, PA 15238

: 412.963.2428
12.963.2468

: Carrie Gamber

180-44668 Chain of Custody

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-088B-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-088C-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-088D-W	1	X	
5/21/2015	1200	X		AT5-088E-W	1	X	
5/21/2015	1200	X		AT5-089A-W	1	X	
5/21/2015	1200	X		AT5-089B-W	1	X	
5/21/2015	1200	X		AT5-089C-W	1	X	
5/21/2015	1200	X		AT5-089D-W	1	X	
5/21/2015	1200	X		AT5-089E-W	1	X	
5/21/2015	1200	X		AT5-090A-W	1	X	
5/21/2015	1200	X		AT5-090B-W	1	X	
5/21/2015	1200	X		AT5-090C-W	1	X	
5/21/2015	1200	X		AT5-090D-W	1	X	
5/21/2015	1200	X		AT5-090E-W	1	X	
5/21/2015	1200	X		AT5-091A-W	1	X	
5/21/2015	1200	X		AT5-091B-W	1	X	
5/21/2015	1200	X		AT5-091C-W	1	X	
5/21/2015	1200	X		AT5-091D-W	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1000			**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1700	Debbie Watson	5-29-15 8:50	

44668

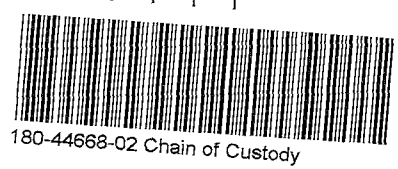
Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC **225 Schilling Circle** **Hunt Valley, MD 21031**	**Peggy Derrick** Phone: **410.329.5126** Project Contact: **Morgan Gelinas** Phone: **860.287.0745**		Laboratory: **TestAmerica - Pittsburgh** **301 Alpha Drive** **Pittsburgh, PA 15238** **phone: 412.963.2428** **fax: 412.963.2468** **ATTN: Carrie Gamber**
Project Name: Parallel Thimble Shoal Tunnel Project#: **15204.01**			
Page 6 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-091E-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-092A-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-092B-W	1	X	
5/21/2015	1200	X		AT5-092C-W	1	X	
5/21/2015	1200	X		AT5-092D-W	1	X	
5/21/2015	1200	X		AT5-092E-W	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1600			**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1700	Dellie Watson	5-29-15 8:50	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 5 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-088B-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-088C-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-088D-W	1	X	
5/21/2015	1200	X		AT5-088E-W	1	X	
5/21/2015	1200	X		AT5-089A-W	1	X	
5/21/2015	1200	X		AT5-089B-W	1	X	
5/21/2015	1200	X		AT5-089C-W	1	X	
5/21/2015	1200	X		AT5-089D-W	1	X	
5/21/2015	1200	X		AT5-089E-W	1	X	
5/21/2015	1200	X		AT5-090A-W	1	X	
5/21/2015	1200	X		AT5-090B-W	1	X	
5/21/2015	1200	X		AT5-090C-W	1	X	
5/21/2015	1200	X		AT5-090D-W	1	X	
5/21/2015	1200	X		AT5-090E-W	1	X	
5/21/2015	1200	X		AT5-091A-W	1	X	
5/21/2015	1200	X		AT5-091B-W	1	X	
5/21/2015	1200	X		AT5-091C-W	1	X	
5/21/2015	1200	X		AT5-091D-W	1	X	



Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1000		6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1700		6/1/15 1235	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory: **TestAmerica - Pittsburgh**
	Phone: **410.329.5126**		**301 Alpha Drive**
225 Schilling Circle	Project Contact:		**Pittsburgh, PA 15238**
Hunt Valley, MD 21031	**Morgan Gelinas**		
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 6 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Hold Frozen	Remarks
5/21/2015	1200	X		AT5-091E-W	1	X	**Hold frozen until notified by P.**
5/21/2015	1200	X		AT5-092A-W	1	X	**Derrick**
5/21/2015	1200	X		AT5-092B-W	1	X	
5/21/2015	1200	X		AT5-092C-W	1	X	
5/21/2015	1200	X		AT5-092D-W	1	X	
5/21/2015	1200	X		AT5-092E-W	1	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
	5/28/15 1000		6/1/15 1235	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	
	5/28/15 1700		6/1/15 1235	

Client:	Project Manager:	Parameters/Method Numbers for Analysis	Chain of Custody Record
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**		Laboratory:
	Phone: **410.329.5126**		**TestAmerica - Pittsburgh**
225 Schilling Circle	Project Contact:		**301 Alpha Drive**
Hunt Valley, MD 21031	**Morgan Gelinas**		**Pittsburgh, PA 15238**
	Phone: **860.287.0745**		**phone: 412.963.2428**
Project Name: Parallel Thimble Shoal Tunnel			**fax: 412.963.2468**
Project#: **15204.01**			**ATTN: Carrie Gamber**
Page 5 of 6			

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Moisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-088B-W	1	X	X	X		X	X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-088C-W	1	X	X	X		X	X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-088D-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-088E-W	1	X	X	X		X	X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
5/21/2015	1200	X		AT5-089A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-089B-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-089C-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-089D-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-089E-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-090A-W	1	X	X	X	X	X	X	X	X	
5/21/2015	1200	X		AT5-090B-W	1	X	X	X	X	X	X	X	X	
5/21/2015	1200	X		AT5-090C-W	1	X	X	X	X	X	X	X	X	
5/21/2015	1200	X		AT5-090D-W	1	X	X	X	X	X	X	X	X	
5/21/2015	1200	X		AT5-090E-W	1	X	X	X	X	X	X	X	X	
5/21/2015	1200	X		AT5-091A-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-091B-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-091C-W	1	X	X	X		X	X	X	X	
5/21/2015	1200	X		AT5-091D-W	1	X	X	X		X	X	X	X	

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
Sanita Corum	6/10/15 1530		6/13/15 0800	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	

Client:	Project Manager:
EA Engineering Science, and Technology, Inc., PBC	**Peggy Derrick**
	Phone: **410.329.5126**
225 Schilling Circle	Project Contact:
Hunt Valley, MD 21031	**Morgan Gelinas**
	Phone: **860.287.0745**

Project Name: Parallel Thimble Shoal Tunnel

Project#: **15204.01**

Page 6 of 6

Date	Time	Tissue	Sediment	Sample Identification	No. of Containers	Metals (SW846 6020 and 7471A)	Dioxins/Furans	PAHs (SW846 8270 SIM)	Chlorinated Pesticides (SW846 8081)*	SVOCs (SW846 8270C)**	Percent Moisture	Lipids	Tissue Homogenization	Remarks
5/21/2015	1200	X		AT5-091E-W	1	X	X	X		X	X	X	X	* DDD/DDE/DDT, Endrin and Mirex only
5/21/2015	1200	X		AT5-092A-W	1	X	X		X	X	X	X	X	** bis(2-ethylhexyl)phthalate and phenol only
5/21/2015	1200	X		AT5-092B-W	1	X	X		X	X	X	X	X	
5/21/2015	1200	X		AT5-092C-W	1	X	X		X	X	X	X	X	Run SRMs for metals, PAHs, Pesticides, and SVOCs
5/21/2015	1200	X		AT5-092D-W	1	X	X		X	X	X	X	X	
5/21/2015	1200	X		AT5-092E-W	1	X	X		X	X	X	X	X	

Parameters/Method Numbers for Analysis

Chain of Custody Record

Laboratory:
TestAmerica - Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

phone: 412.963.2428
fax: 412.963.2468

ATTN: Carrie Gamber

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	
Sanita Corum	6/10/15 1530		6/13/15 0800	**Parallel Thimble Shoal Tunnel Tissue**
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR S**
   UPS locations in(
   retail outlets and
   Schedule a same d(
   packages.
   Hand the package to
   Take your package to
   Alliances (Office Depo
   Return Services(SM) (
   nearest you, please vis

   Customers with a Dail
   Your driver will pickup yo

UPS
Store®, UPS drop boxes, UPS customer centers, authorized

Pickup to have a UPS driver pickup all your CampusShip

in your area.
The UPS Store®, UPS Drop Box, UPS Customer Center, UPS or Authorized Shipping Outlet near you. Items sent via UPS ound) are also accepted at Drop Boxes. To find the location area of CampusShip and select UPS Locations.

is usual.

FOLD HERE

KATHRYN MINCZUK
4105847000 5206
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

60 LBS 3 OF 7

DWT: 24,18,18

SHIP TO:
CARRIE GAMBER
4129632428
TESTAMERICA
301 ALPHA DRIVE
PITTSBURGH PA 15238-2907

PA 152 9-22
Uncorrected temp °C
Thermometer ID
CF Initials
PT-WI-SR-001 effective 7/26/13

UPS EARLY A.M. 1 +

TRACKING #: 1Z 288 682 15 9061 4446

BILLING: P/P

Department Code: 2123
Project Phase AND Task: 1520401, 0012
CS 17.2.07.

WNTNV50 63.0A 04/2015

5/29

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3. **GETTING YOUR SHIPMENT TO UPS**
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   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.
   Take your package to any location of The UPS Store®, UPS Drop Box, UPS Customer Center, UPS Alliances (Office Depot® or Staples®) or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

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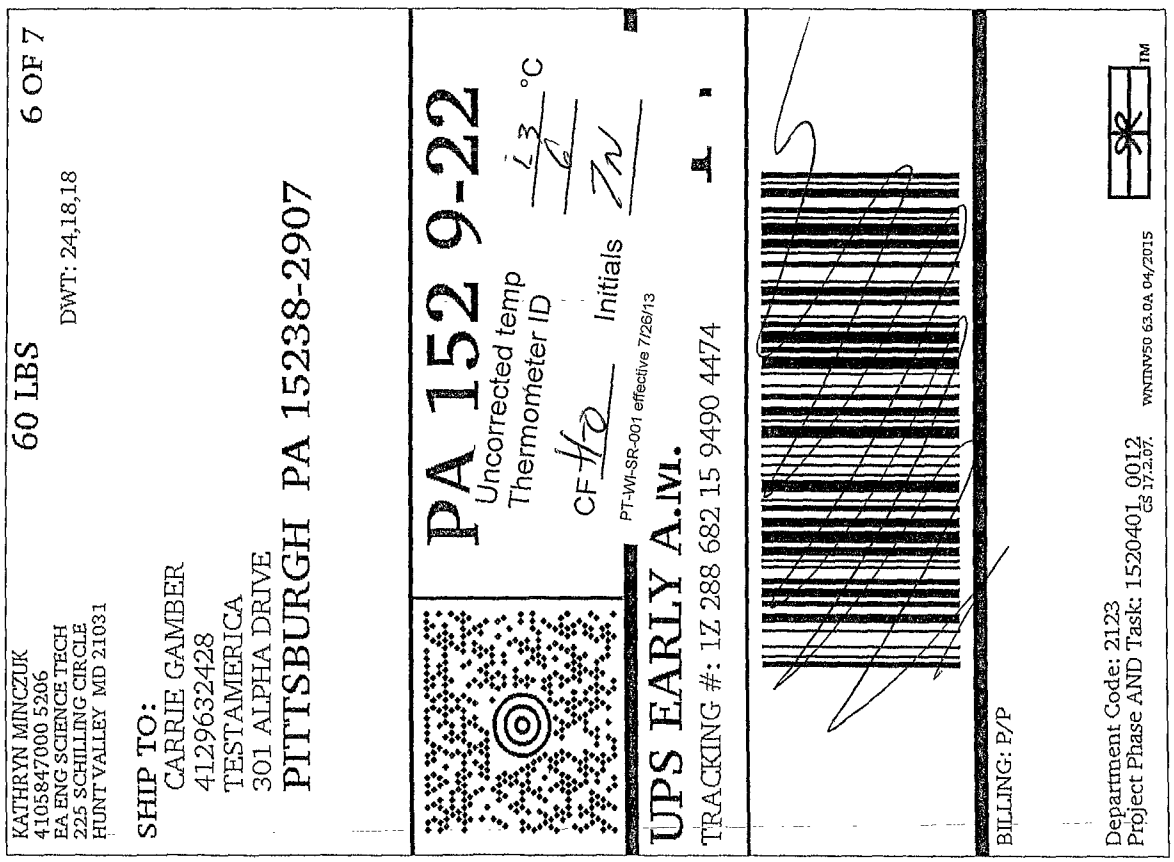

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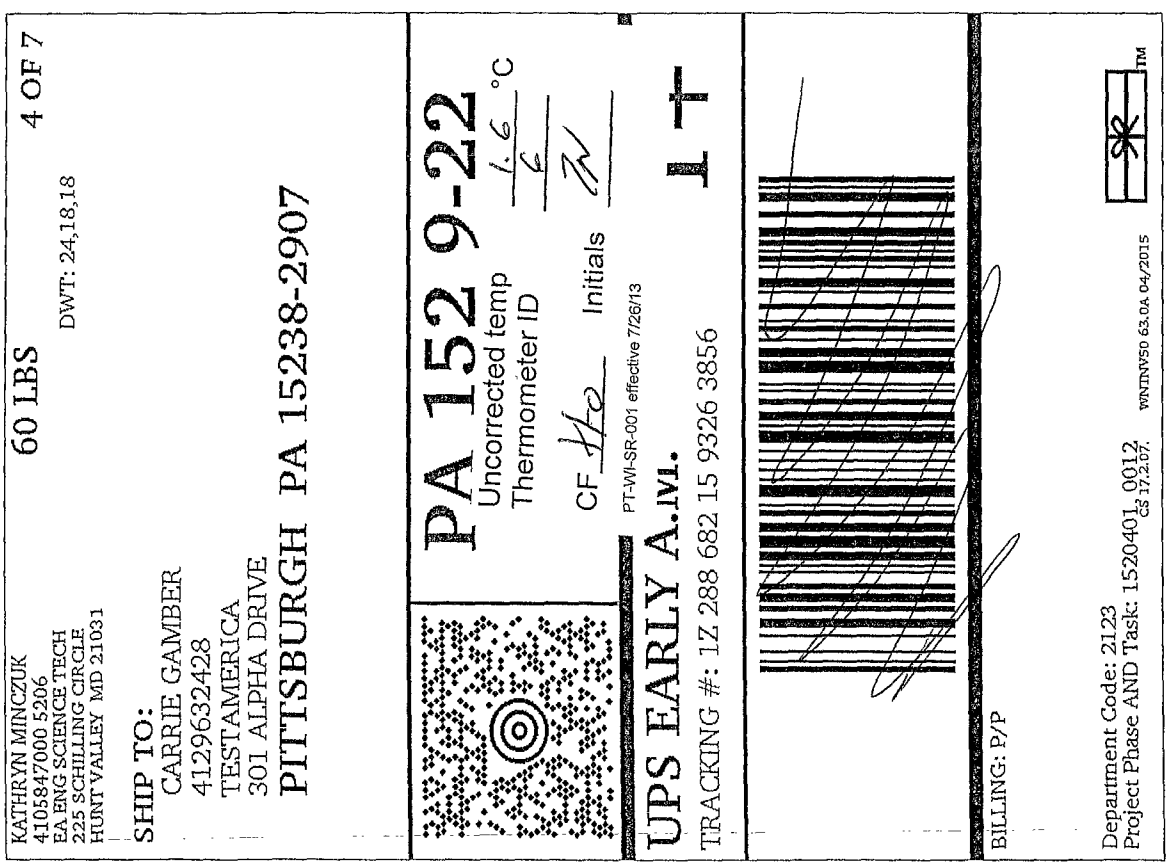

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FOLD HERE

KATHRYN MINCZUK
4105847000 5206
EA ENG SCIENCE TECH
225 SCHILLING CIRCLE
HUNT VALLEY MD 21031

60 LBS 2 OF 7
DWT: 24,18,18

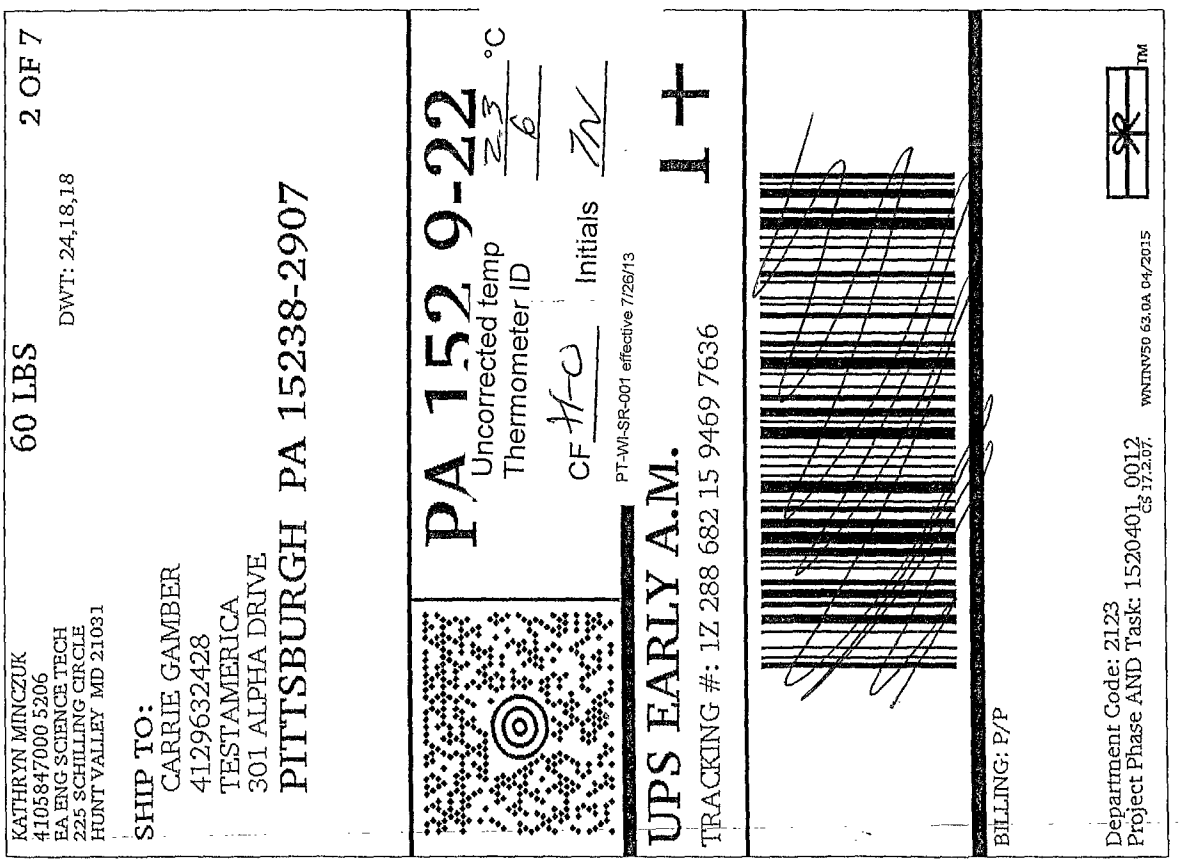
SHIP TO:
CARRIE GAMBER
4129632428
TESTAMERICA
301 ALPHA DRIVE
PITTSBURGH PA 15238-2907

PA 152 9-22
Uncorrected temp 23 °C
Thermometer ID 6
CF 4-0 Initials TN
PT-WI-SR-001 effective 7/26/13

UPS EARLY A.M.
TRACKING #: 1Z 288 682 15 9469 7636

BILLING: P/P

Department Code: 2123
Project Phase AND Task: 1520401_0012
CS 17.2.07. WNINV50 63.0A 04/2015



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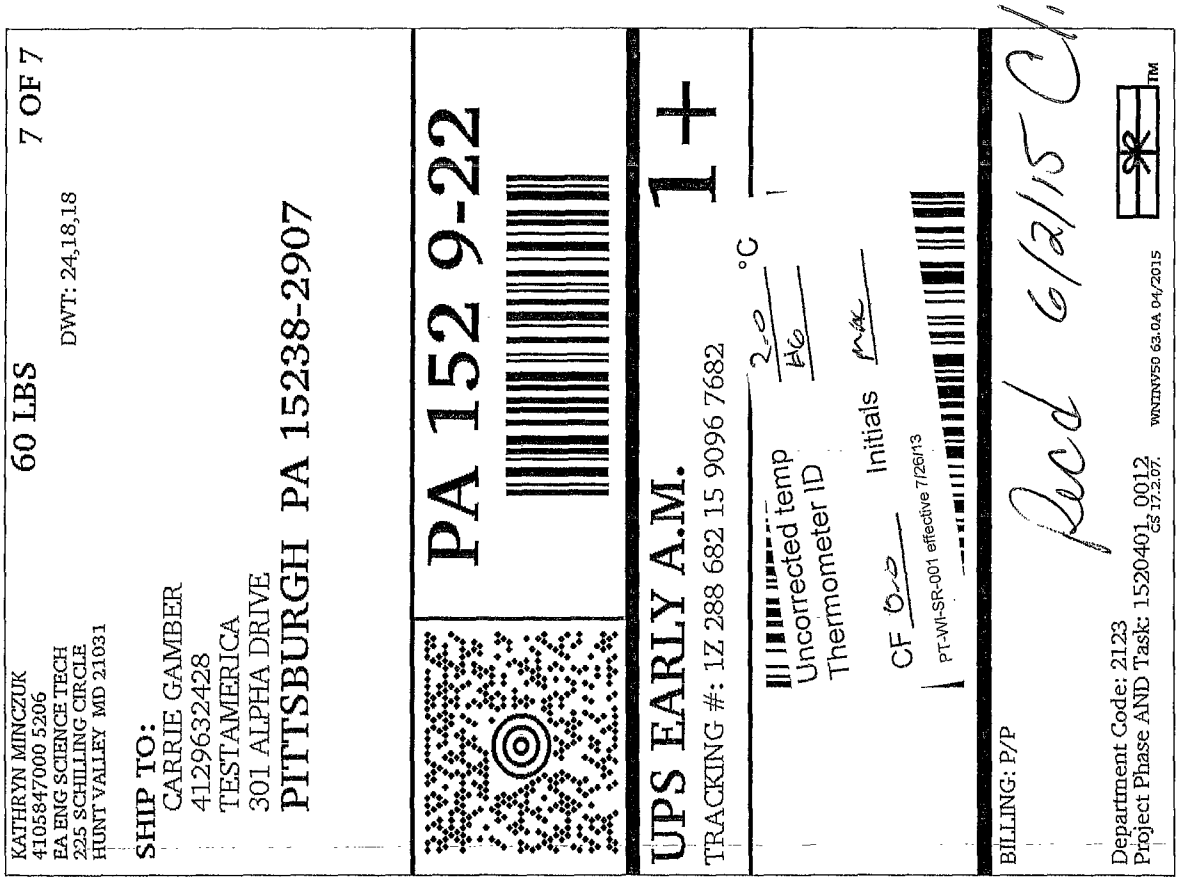

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Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-44668-1

Login Number: 44668
List Number: 1
Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	