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Analytical Data Assessment and Validation Report
Tier 2 Remedial Investigation
2014 Crawfish and Sediment Sampling

Devil's Swamp Lake Site
East Baton Rouge Parish, Louisiana

Prepared for: Baton Rouge Disposal, LLC

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Section 1.0 Introduction

Clean Harbors Environmental Services, Inc., on behalf of Baton Rouge Disposal, LLC, submits herein to the United States Environmental Protection Agency (EPA) the Analytical Data Assessment and Validation Report for the 2014 crawfish and sediment sampling as part of the Tier 2 Remedial Investigation (RI) at the Devil's Swamp Lake Site in East Baton Rouge Parish, Louisiana (Site). Samples were submitted to TestAmerica (TA), located in Pittsburgh, Pennsylvania. The polychlorinated biphenyl (PCB) congener analyses were performed at the TA in Knoxville, Tennessee. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Tables 2A (crawfish) and 2B (sediment). A summary of the analytical methodologies is presented in Table 3. A copy of the chain of custody documentation is included in Appendix A. Copies of the Analytical Laboratory Reports are included as Appendix B.

Particle size data was included in Table 2B for informational/reference purposes only. No data review or validation was performed for this analysis.

Evaluation of the data was based on information obtained from the finished data sheets, raw data, chain of custody forms, calibration data, blank data, duplicate data, recovery data from surrogate spikes, laboratory control samples (LCS), matrix spike samples (MS), and field quality assurance/quality control (QA/QC) samples. The assessment of analytical and in-house data included checks for: data consistency (by observing comparability of duplicate analyses); adherence to accuracy and precision criteria; and transmittal errors.

The quality assurance/quality control (QA/QC) criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

i) "Quality Assurance Project Plan for the Tier 2 Remedial Investigation", Reference No. 055364-00(16), June 2012

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review", USEPA 540-R-10-011, January 2010

iii) "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", USEPA 540-R-08-01, June 2008

Items ii) and iii) will subsequently be referred to as the "Guidelines" in this report.

Full Contract Laboratory Program (CLP) equivalent raw data deliverables were provided by the laboratory. The data quality assessment and validation presented in the following subsections

were performed based on the sample results, supporting quality assurance/quality control (QA/QC) and all raw data provided.

Section 2.0 Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly delivered on ice and stored by the laboratory at the required temperature (0-6°C).

Section 3.0 Initial Calibration - PCB Congener

Initially, a calibration curve consisting of a minimum of five concentration levels is analyzed. Linearity of the calibration curve is acceptable if all RSD values are less than or equal to 20.0 percent.

All calibration data were acceptable indicating adequate instrument sensitivity and linearity.

Section 4.0 Initial Calibration - Inorganic Analyses

Initial calibration of the instruments ensures that they are capable of producing satisfactory quantitative data at the beginning of a series of analyses. For instrumental general chemistry analyses, a calibration blank and a minimum of five standards must be analyzed to establish the analytical curve and resulting correlation coefficients (R) must be 0.995 or greater.

After the analyses of the calibration curves, an initial calibration verification (ICV) standard must be analyzed to verify the analytical accuracy of the calibration curves. All analyte recoveries from the analyses of the ICVs must be within the following control limits:

Analytical Method	***Parameter***	***Control Limits***
Instrumental Wet Chemistry	Total Organic Carbon (TOC)	85 - 115%

Upon review of the data, it was determined that the calibration curves and ICVs were analyzed at the proper frequencies and that all of the above-specified criteria were met. The laboratory

effectively demonstrated that the instrumentation used for TOC analyses were properly calibrated prior to sample analysis.

Section 5.0 Continuing Calibration - PCB Congener

To ensure that the calibration of the instrument is valid throughout the sample analysis period and the instrument remains capable of producing acceptable qualitative and quantitative data, continuing calibration standards are analyzed and evaluated daily. Native and labeled PCB congeners in the calibration verification standard must meet the acceptance criteria for percent difference which are specified in Method 1668A.

All continuing calibration standards were analyzed at the required frequency and all acceptance criteria were met.

Section 6.0 Continuing Calibration - Inorganic Analyses

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration verification (CCV) standards are analyzed on a regular basis. Each CCV is deemed acceptable if all analyte recoveries are within the control limits specified for the ICVs. If some of the CCV analyte recoveries are outside the control limits, samples analyzed before and after the CCV, up until the previous and proceeding CCV analyses, are affected.

For this study, CCVs were analyzed at the proper frequency. All analyte recoveries reported for the CCVs were within the specified limits.

Section 7.0 Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures. Additionally, initial and continuing calibration blanks (ICBs/CCBs) are routinely analyzed after each ICV/CCV for the inorganic parameters.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or one per analytical batch. ICBs/CCBs were analyzed at a minimum frequency of 1 per 10 investigative or QA/QC samples.

Organic Analyses

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

Inorganic Analyses

All method blank and ICB/CCB results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

Section 8.0 Surrogate Spike Recoveries

In accordance with the method employed, all samples, blanks and QC samples analyzed for organics are spiked with surrogate compounds prior to sample extraction and analysis. Labeled PCB congeners are added to each sample, blank and QC sample prior to extraction to serve as surrogates. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for PCB congeners determinations were spiked with the three labeled PCB congener compounds prior to sample extraction and analysis.

Surrogate recoveries were assessed against method control limits. All surrogate recoveries met the specified criteria.

Section 9.0 Internal Standards (IS) Analyses

Internal standard data were evaluated for all PCB congener sample analyses.

Labeled PCB congeners are added to each sample, method blank, and QC sample prior to extraction to be an internal standard for the quantitation of the native compounds. All labeled compound recoveries were within the laboratory control limits demonstrating acceptable analytical accuracy.

Section 10.0 Laboratory Control Sample (LCS) Analyses

LCS and/or laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix

effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS and/or LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or one per analytical batch.

Organic Analyses

The LCS contained the PCB congeners of interest. All LCS recoveries were within the control limits, demonstrating acceptable analytical accuracy.

Inorganic Analyses

The LCS/LCSD contained the analyte of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries and RPDs were within the control limits, demonstrating acceptable analytical accuracy and precision.

Section 11.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the extraction or digestion process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The relative percent difference (RPD) between the MS and MSD is used to assess analytical precision. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed.

Organic Analyses

The MS/MSD samples were spiked with all PCB congeners of interest. All percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

Inorganic Analyses

The MS/MSD samples were not evaluated for inorganic analyses.

Section 12.0 Field QA/QC Samples

The field QA/QC consisted of one equipment blank sample.

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, one equipment blank was submitted for analysis, as identified in Table 1. Most results were non-detect for the analytes of interest.

Low levels of TOC were present in the equipment blank. All investigative samples associated with the contaminated equipment blank had concentrations greater than five times the associated blank concentration for TOC. Qualification of the sample data was not required on this basis.

Section 13.0 Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the practical quantitation limit (PQL) but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the PQL in Table 2.

All crawfish tissue results were reported on a wet or "as received" weight basis. All sediment results were reported on a dry weight basis.

Section 14.0 Target Compound Identification

Qualitative criteria for target compound identification have been established to minimize the number of erroneous identifications. An erroneous identification can be either a false-positive (reporting a target compound when it is not present in the sample), or false-negative (not reporting a compound that is present in the sample). The following criteria, as specified in the methods, must be met for a GC peak to be identified as a PCB congener:

i) The signals for the two exact mass to charge rations (m/z) for the congener must be present and maximized within plus or minus 2 seconds of one another.

ii) The signal-to-noise ratio (S/N) of each of the two exact m/z's for the congener must be greater than or equal to 2.5.

iii) The ratio of the mass areas of the two exact m/z's for the congener must be within the method limits.

iv) For PCB congeners which have a corresponding labeled internal standard; the retention time of the PCB congener must be within minus 1 to plus 3 seconds of the retention time of its labeled internal standard. For PCB congeners which do not have a

corresponding labeled internal standard; the relative retention time of the PCB congener must be within 5 percent of the relative retention time determined during the analysis of the PCB congener standards

Some sample results were reported as positive hits although one or more of the above criteria were not met. The associated results were qualified as estimated. A summary of these qualified data is presented in Table 4.

Various PCB congeners cannot be adequately resolved by the GC column and must be reported as mixtures of isomers (co-elutions). The laboratory had predetermined which congeners co-elute by analyzing individual congener standards during the laboratory's startup of the method. The results are reported as the sum of all the co-eluting congeners. The data flagged with a "*" in Tables 2A and 2B correspond with the lowest numbered congener among the co-elution set. The data flagged with a "#" correspond to the remaining congeners in the co-elution set and should not be included in any data summations.

Section 15.0 Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Tables 2A and 2B are acceptable with the specific qualifications noted herein.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
TIER 2 REMEDIAL INVESTIGATION - 2014 CRAWFISH AND SEDIMENT SAMPLING
DEVIL'S SWAMP LAKE SITE
EAST BATON ROUGE PARISH, LOUISIANA

				Analysis/Parameters			
Sample I.D.	***Location I.D.***	***Collection Date***	***Collection Time***	***TOC***	***Particle Size***	***WHO list of PCB Congeners (EPA WW 1668A)***	***Lipid Content (Dichloromethane Extraction)***
Crawfish Tissue Samples							
055364-T2-060414-FT-CRAWFISH-20	SA-1	06/04/2014	09:04			X	X
055364-T2-060214-FT-CRAWFISH-21	SA-2	06/02/2014	08:35			X	X
055364-T2-060914-FT-CRAWFISH-22	SA-3	06/09/2014	10:33			X	X
055364-T2-051914-FT-CRAWFISH-23	SA-4	05/19/2014	08:45			X	X
055364-T2-060414-FT-CRAWFISH-24	SA-5	06/04/2014	09:12			X	X
Sediment Samples							
055364-T2-060414-SE-COMP-1	SA-1	06/04/2014	11:55	X	X	X	
055364-T2-060414-SE-COMP-2	SA-2	06/04/2014	12:10	X	X	X	
055364-T2-060414-SE-EB-1	Equipment Blank	06/04/2014	12:20	X		X	
055364-T2-061114-SE-COMP-3	SA-3	06/11/2014	11:15	X	X	X	
055364-T2-061114-SE-COMP-4	SA-4	06/11/2014	11:00	X	X	X	
055364-T2-061114-SE-COMP-5	SA-5	06/11/2014	11:30	X	X	X	

Notes:
TOC - Total Organic Carbon
PCBs - Polychlorinated Biphenyls

TABLE 2A

CRAWFISH SAMPLE ANALYTICAL RESULTS SUMMARY
TIER 2 REMEDIAL INVESTIGATION-ADDITIONAL 2014 CRAWFISH AND SEDIMENT SAMPLING
DEVIL'S SWAMP LAKE SITE
EAST BATON ROUGE PARISH, LOUISIANA

Sample Location:		*SA-1*	*SA-2*	*SA-3*	*SA-4*	*SA-5*
Sample Identification:		*055364-T2-060414-FT-CRAWFISH-20*	*055364-T2-060214-FT-CRAWFISH-21*	*055364-T2-060914-FT-CRAWFISH-22*	*055364-T2-051914-FT-CRAWFISH-23*	*055364-T2-060414-FT-CRAWFISH-24*
Sample Date:		*6/4/2014*	*6/2/2014*	*6/9/2014*	*5/19/2014*	*6/4/2014*
General Chemistry						
Lipids	%	1.8	1.4	1.6	2.1	0.91
Polychlorinated Biphenyls						
(PCB 105) 2,3,3',4,4'-Pentachlorobiphenyl	ng/g	79	79	8.1	1.9	0.25
(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	ng/g	19	4.3	0.43	0.091	0.017
(PCB 118) 2,3',4,4',5-Pentachlorobiphenyl	ng/g	220	230	33	7.4	1.0
(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	ng/g	17	5.4	0.80	0.19	0.020
(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	ng/g	1.1 J	0.27 J	0.25 J	0.014 J	0.0027 J
(PCB 156) 2,3,3',4,4',5-Hexachlorobiphenyl	ng/g	77 *	23 *	3.7 *	0.88 *	0.11 *
(PCB 157) 2,3,3',4,4',5'-Hexachlorobiphenyl	ng/g	77 #	23 #	3.7 #	0.88 #	0.11 #
(PCB 167) 2,3',4,4',5,5'-Hexachlorobiphenyl	ng/g	24	7.1	1.5	0.38	0.049
(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	ng/g	0.30	0.062 J	0.026 J	0.0047 J	< 0.010
(PCB 189) 2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/g	2.2	0.64	0.19	0.036	0.0042 J
(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	ng/g	16	2.6	0.64	0.14	0.018
(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	ng/g	0.22 J	0.054 J	0.031 J	0.0027 J	< 0.010

Notes:
< - Not present at or above the associated value
J - Estimated concentration
* - associated concentration is the sum of co-eluting congeners (i.e. PCB 156)
# - indicates a redundant concentration from the co-elution set and should not be included in data summation (i.e. PCB 157)

TABLE 2B

SEDIMENT SAMPLE ANALYTICAL RESULTS SUMMARY
TIER 2 REMEDIAL INVESTIGATION - 2014 CRAWFISH AND SEDIMENT SAMPLING
DEVIL'S SWAMP LAKE SITE
EAST BATON ROUGE PARISH, LOUISIANA

Sample Location:		*SA-1*	*SA-2*	*SA-3*	*SA-4*	*SA-5*
Sample Identification:		*055364-T2-060414-SE-COMP-1*	*055364-T2-060414-SE-COMP-2*	*055364-T2-061114-SE-COMP-3*	*055364-T2-061114-SE-COMP-4*	*055364-T2-061114-SE-COMP-5*
Sample Date:		*6/4/2014*	*6/4/2014*	*6/11/2014*	*6/11/2014*	*6/11/2014*
Sample Depth:		*(0-6) IN*	*(0-6) IN*	*(0-6) IN*	*(0-6) IN*	*(0-6) IN*
	Units					
Geotech						
#10 sieve	% passed	100.0	99.3	100.0	100.0	100.0
#100 sieve	% passed	96.6	97.5	99.0	99.0	97.9
#20 sieve	% passed	99.8	99.0	99.6	99.9	99.5
#200 sieve	% passed	85.1	94.4	97.8	91.6	96.9
#4 sieve	% passed	100.0	100.0	100.0	100.0	100.0
#40 sieve	% passed	99.7	98.9	99.5	99.7	98.9
#60 sieve	% passed	99.4	98.6	99.1	99.6	98.3
#80 sieve	% passed	97.8	98.6	99.1	99.4	98.0
0.375 inch sieve	% passed	100.0	100.0	100.0	100.0	100.0
0.75 inch sieve	% passed	100.0	100.0	100.0	100.0	100.0
1 inch sieve	% passed	100.0	100.0	100.0	100.0	100.0
1.5 inch sieve	% passed	100.0	100.0	100.0	100.0	100.0
2 inch sieve	% passed	100.0	100.0	100.0	100.0	100.0
3 inch sieve	% passed	100.0	100.0	100.0	100.0	100.0
Clay	%	25.2	35.6	42.3	42.4	45.1
Coarse sand	%	0.0	0.7	0.0	0.0	0.0
Fine sand	%	14.6	4.5	1.7	8.1	2.0
Gravel	%	0.0	0.0	0.0	0.0	0.0
Medium sand	%	0.3	0.4	0.5	0.3	1.1
Sand	%	14.9	5.6	2.2	8.4	3.1
Silt	%	59.9	58.8	55.5	49.2	51.8

TABLE 2B

SEDIMENT SAMPLE ANALYTICAL RESULTS SUMMARY
TIER 2 REMEDIAL INVESTIGATION - 2014 CRAWFISH AND SEDIMENT SAMPLING
DEVIL'S SWAMP LAKE SITE
EAST BATON ROUGE PARISH, LOUISIANA

Sample Location:		*SA-1*	*SA-2*	*SA-3*	*SA-4*	*SA-5*
Sample Identification:		*055364-T2-060414-SE-COMP-1*	*055364-T2-060414-SE-COMP-2*	*055364-T2-061114-SE-COMP-3*	*055364-T2-061114-SE-COMP-4*	*055364-T2-061114-SE-COMP-5*
Sample Date:		*6/4/2014*	*6/4/2014*	*6/11/2014*	*6/11/2014*	*6/11/2014*
Sample Depth:		*(0-6) IN*	*(0-6) IN*	*(0-6) IN*	*(0-6) IN*	*(0-6) IN*
	Units					
Polychlorinated Biphenyls						
(PCB 105) 2,3,3',4,4'-Pentachlorobiphenyl	ng/g	0.13	270	6.3	16	0.79
(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	ng/g	0.0073 J	9.4	0.43	1.3	0.038
(PCB 118) 2,3',4,4',5-Pentachlorobiphenyl	ng/g	0.45	620	21	100	3.6
(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	ng/g	0.0089 J	11 J	0.28 J	1.0 J	0.18 J
(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	ng/g	0.0021 J	1.8	0.035 J	0.26	0.038
(PCB 156) 2,3,3',4,4',5-Hexachlorobiphenyl	ng/g	0.068 *	83 *	2.2 *	9.9 *	1.1 *
Polychlorinated Biphenyls (Continued)						
(PCB 157) 2,3,3',4,4',5'-Hexachlorobiphenyl	ng/g	0.068 #	83 #	2.2 #	9.9 #	1.1 #
(PCB 167) 2,3',4,4',5,5'-Hexachlorobiphenyl	ng/g	0.022	22	0.68	3.2	0.44
(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	ng/g	0.0012 J	0.41 J	0.0089 J	< 0.25	0.012
(PCB 189) 2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/g	0.0060 J	3.0	0.096	0.47	0.066
(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	ng/g	0.0056 J	18	1.1	3.3	0.077
(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	ng/g	0.00078 J	0.45 J	0.035 J	0.049 J	0.0035 J
General Chemistry						
Total organic carbon (TOC)	mg/kg	270 J	1300 J	2400	14000	9100

Notes:
< - Not present at or above the associated value
J - Estimated concentration
* - associated concentration is the sum of co-eluting congeners (i.e. PCB 156)
# - indicates a redundant concentration from the co-elution set and should not be included in data summation (i.e. PCB 157)

TABLE 3

SAMPLE HOLDING TIME CRITERIA AND ANALYTICAL METHODS SUMMARY
TIER 2 REMEDIAL INVESTIGATION - 2014 CRAWFISH AND SEDIMENT SAMPLING
DEVIL'S SWAMP LAKE SITE
EAST BATON ROUGE PARISH, LOUISIANA

Parameter	*Analytical Method*	*Collection to Extraction (Days)*	*Collection/Extraction to Analysis (Days)*
PCB Congeners	1668A [1]	365	40
Lipid Content	MADEP[2]	-	-
% Moisture	EPA 160.3	-	-
TOC	Lloyd Khan	-	28
Particle Size		-	-

Notes:

[1] Method 1668: Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by HRGC/HRMS.
[2] Methods from the Massachusetts Department of Environmental Protection, Division of Environmental Analysis, Office of Research and Standards, Bureau of Waste Site Cleanup, Revision 1.1, May 2004.
- Not Applicable
EPA - United States Environmental Protection Agency
PCBs - Polychlorinated Biphenyls
TOC - Total Organic Carbon

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING IDENTIFICATION CRITERIA
TIER 2 REMEDIAL INVESTIGATION - 2014 CRAWFISH AND SEDIMENT SAMPLING
DEVIL'S SWAMP LAKE SITE
EAST BATON ROUGE PARISH, LOUISIANA

Parameter	*Sample ID*	*Analytes*	*Qualified Results*	*Units*
PCB Congeners	055364-T2-051914-FT-CRAWFISH-23	(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	0.014 J	ng/g
		(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	0.0027 J	ng/g
PCB Congeners	055364-T2-060214-FT-CRAWFISH-21	(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	0.27 J	ng/g
PCB Congeners	055364-T2-060414-FT-CRAWFISH-20	(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	1.1 J	ng/g
		(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	0.22 J	ng/g
PCB Congeners	055364-T2-060414-FT-CRAWFISH-24	(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	0.0027 J	ng/g
PCB Congeners	055364-T2-060414-SE-COMP-1	(PCB 77) 3,3',4,4'-Tetrachlorobiphenyl	0.0056 J	ng/g
		(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	0.0012 J	ng/g
		(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	0.0021 J	ng/g
		(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	0.0089 J	ng/g
		(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	0.00078 J	ng/g
		(PCB 114) 2,3,4,4',5-Pentachlorobiphenyl	0.0073 J	ng/g
PCB Congeners	055364-T2-060414-SE-COMP-2	(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	11 J	ng/g
		(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	0.45 J	ng/g
PCB Congeners	055364-T2-060914-FT-CRAWFISH-22	(PCB 169) 3,3',4,4',5,5'-Hexachlorobiphenyl	0.026 J	ng/g
		(PCB 126) 3,3',4,4',5-Pentachlorobiphenyl	0.25 J	ng/g
		(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	0.031 J	ng/g
PCB Congeners	055364-T2-061114-SE-COMP-3	(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	0.28 J	ng/g
PCB Congeners	055364-T2-061114-SE-COMP-4	(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	1.0 J	ng/g
		(PCB 81) 3,4,4',5-Tetrachlorobiphenyl	0.049 J	ng/g
PCB Congeners	055364-T2-061114-SE-COMP-5	(PCB 123) 2',3,4,4',5-Pentachlorobiphenyl	0.18 J	ng/g

Notes:
J - Estimated concentration
PCB - Polychlorinated Biphenyls

Appendix A

Chain of Custody Documentation

CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

Address: 5551 Corporate Blvd. Suite 200
Phone: (225) 292-9007 Fax: (225) 952-2978

COC NO.: 42816
PAGE 1 OF 1
(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 055364-**-**	Laboratory Name: TestAmerica	Lab Location: Pittsburgh, PA	SSOW ID: —
Project Name: Devil's Swamp Lake	Lab Contact: Jill Colussy	Lab Quote No:	Cooler No: 1
Project Location: Baton Rouge, LA			Carrier: FedEx
Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Alice Johnson			Date Shipped: 6-4-14

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Sample Type: Matrix Code (see back of COC)	Sample Type: Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): PCB Wipe List (1668)	Lipids	TOC - Lloyd Kahn	Grain Size	Moisture						MS/MSD Request	Comments/ Special Instructions:
1	055364-T2-060414-FT-CRAWFISH-20	06/04/14	0904	FT	C	1								1	X	X			X							11 crawfish
2	055364-T2-060214-FT-CRAWFISH-21	06/02/14	0835	FT	C	1								1	X	X			X							12 crawfish
3	055364-T2-060414-SE-COMP-1	06/04/14	1155	SE	C	3								3	X		X	X	X							
4	055364-T2-060414-SE-COMP-2	06/04/14	1210	SE	C	3								3	X		X	X	X							
5	055364-T2-060414-EB-1	06/04/14	1220	W		2			2					4	X		X									
6																										
7																										
8																										
9																										
10																										
11																										
12																										
13																										
14																										
15																										

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☒ Other: NORMAL

Total Number of Containers: 12
All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Alice E. Johnson	CRA	6/4/14	0430	1.			
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

Address: 5551 Corporate Blvd., Suite 200.
Phone: 225-292-9007 Fax: 225-952-2978

COC NO.: 42817
PAGE 1 OF 1
(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 055364-**-**	Laboratory Name: Test America	Lab Location: Pittsburgh, PA	SSOW ID: —
Project Name: Devil's Swamp Lake	Lab Contact: Jill Colussy	Lab Quote No:	Cooler No: 1
Project Location: Baton Rouge, LA			Carrier: FedEx
Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Alice Johnson			Date Shipped: 6-11-14

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd//yy)	Time (hh:mm)	Sample Type: Matrix Code (see back of COC)	Sample Type: Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other: Ziploc Bags	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): PCB Congeners (WHO 1st 1608)	Lipids	TOC - Lloyd Kahn	Grain Size	Moisture	MS/MSD Request	Comments/ Special Instructions:
1	055364-T2-060914-FT-CRAWFISH-22	06/09/14	1033	FT	C								1	1	X	X			X		5 crawfish
2	055364-T2-051914-FT-CRAWFISH-23	05/19/14	0845	FT	C								1	1	X	X			X		3 crawfish
3	055364-T2-060414-FT-CRAWFISH-24	06/04/14	0912	FT	C								1	1	X	X			X		4 crawfish
4	055364-T2-061114-SE-COMP-3	06/11/14	1115	SE	C	3								3	X		X	X	X		
5	055364-T2-061114-SE-COMP-4	06/11/14	1100	SE	C	3								3	X		X	X	X		
6	055364-T2-061114-SE-COMP-5	06/11/14	1130	SE	C	3								3	X		X	X	X		
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

1330

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☒ Other: NORMAL

Total Number of Containers: 12

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Alice Johnson	CRA	06/11/14		1.			
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT — ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE — Fully Executed Copy (CRA) YELLOW — Receiving Laboratory Copy PINK — Shipper GOLDENROD — Sampling Crew

CRA Form: COC-10B (20110804)

Appendix B

Analytical Laboratory Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

TestAmerica Job ID: 180-33598-1
Client Project/Site: 0055364, Devils Swamp

For:
Conestoga-Rovers & Associates, Inc.
9033 Meridian Way
West Chester, Ohio 45069

Attn: Deborah Brennan

Authorized for release by:
8/1/2014 3:19:15 PM

Jill Colussy, Project Manager I
(412)963-2444
jill.colussy@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33598-1

Qualifiers

General Chemistry

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

Glossary

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

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33598-1

Laboratory: TestAmerica Pittsburgh

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-15
California	NELAP	9	4224CA	03-31-14 *
Connecticut	State Program	1	PH-0688	09-30-14
Florida	NELAP	4	E871008	06-30-15
Illinois	NELAP	5	002602	06-30-15
Kansas	NELAP	7	E-10350	01-31-15
Louisiana	NELAP	6	04041	06-30-15
New Hampshire	NELAP	1	203011	04-04-15
New Jersey	NELAP	2	PA005	06-30-15
New York	NELAP	2	11182	03-31-15
North Carolina (WW/SW)	State Program	4	434	12-31-14
Pennsylvania	NELAP	3	02-00416	04-30-15
South Carolina	State Program	4	89014	04-30-14 *
Texas	NELAP	6	T104704528	03-31-15
US Fish & Wildlife	Federal		LE94312A-1	11-30-14
USDA	Federal		P330-10-00139	05-23-16
Utah	NELAP	8	STLP	05-31-15
Virginia	NELAP	3	460189	09-14-14
West Virginia DEP	State Program	3	142	01-31-15
Wisconsin	State Program	5	998027800	08-31-14

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-15
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-15
Florida	NELAP	4	E87467	06-30-15
L-A-B	DoD ELAP		L2336	02-26-17
Louisiana	NELAP	6	176292	06-30-14
Maine	State Program	1	VT00008	04-17-15
Minnesota	NELAP	5	050-999-436	12-31-14
New Hampshire	NELAP	1	2006	12-18-14
New Jersey	NELAP	2	VT972	06-30-15
New York	NELAP	2	10391	03-31-15
Pennsylvania	NELAP	3	68-00489	04-30-15
Rhode Island	State Program	1	LAO00298	12-30-14
US Fish & Wildlife	Federal		LE-058448-0	02-28-15
USDA	Federal		P330-11-00093	10-28-16
Vermont	State Program	1	VT-4000	12-31-14
Virginia	NELAP	3	460209	12-14-14

* Certification renewal pending - certification considered valid.

Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33598-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-33598-1	055364-T2-060414-FT-CRAWFISH-20	Tissue	06/04/14 09:04	06/05/14 09:30
180-33598-2	055364-T2-060214-FT-CRAWFISH-21	Tissue	06/02/14 08:35	06/05/14 09:30
180-33598-3	055364-T2-060414-SE-COMP-1	Sediment	06/04/14 11:55	06/05/14 09:30
180-33598-4	055364-T2-060414-SE-COMP-2	Sediment	06/04/14 12:10	06/05/14 09:30
180-33598-5	055364-T2-060414-SE-EB-1	Water	06/04/14 12:20	06/05/14 09:30

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33598-1

Method	Method Description	Protocol	Laboratory
2540G	SM 2540G	SM22	TAL PIT
Lipids	Percent Lipids	TestAmerica SOP	TAL PIT
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL PIT
SM 5310C	TOC	SM	TAL PIT
D422	Grain Size	ASTM	TAL BUR

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SM22 = SM22

TestAmerica SOP = TestAmerica, Inc., Standard Operating Procedure

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33598-1

Client Sample ID: 055364-T2-060414-FT-CRAWFISH-20

Lab Sample ID: 180-33598-1
Date Collected: 06/04/14 09:04
Matrix: Tissue
Date Received: 06/05/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			108089	06/10/14 10:29	AJB	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Pre Prep	In House					108010	06/09/14 13:00	LWM	TAL PIT
Total/NA	Pre Prep	Frozen Storage					108007	06/09/14 13:00	LWM	TAL PIT
Total/NA	Analysis	Lipids		1	10.0 g	10.0 mL	108945	06/17/14 03:30	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Prep	3541			10.0 g	10.0 mL	108702	06/17/14 03:30	BAP	TAL PIT

Client Sample ID: 055364-T2-060214-FT-CRAWFISH-21

Lab Sample ID: 180-33598-2
Date Collected: 06/02/14 08:35
Matrix: Tissue
Date Received: 06/05/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			108089	06/10/14 10:29	AJB	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Pre Prep	In House					108010	06/09/14 13:00	LWM	TAL PIT
Total/NA	Pre Prep	Frozen Storage					108007	06/09/14 13:00	LWM	TAL PIT
Total/NA	Analysis	Lipids		1	10.0 g	10.0 mL	108945	06/17/14 03:30	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Prep	3541			10.0 g	10.0 mL	108702	06/17/14 03:30	BAP	TAL PIT

Client Sample ID: 055364-T2-060414-SE-COMP-1

Lab Sample ID: 180-33598-3
Date Collected: 06/04/14 11:55
Matrix: Sediment
Date Received: 06/05/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			108033	06/09/14 17:02	AJB	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Lloyd Kahn		1			108410	06/12/14 18:11	JDD	TAL PIT
	Instrument ID: FLASHEA									
Total/NA	Analysis	D422		1	78.94 g		73602	06/10/14 19:36	SML	TAL BUR
	Instrument ID: D422_import									

Client Sample ID: 055364-T2-060414-SE-COMP-2

Lab Sample ID: 180-33598-4
Date Collected: 06/04/14 12:10
Matrix: Sediment
Date Received: 06/05/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			108033	06/09/14 17:02	AJB	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Lloyd Kahn		1			109156	06/16/14 13:07	JDD	TAL PIT
	Instrument ID: FLASHEA									

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33598-1

Client Sample ID: 055364-T2-060414-SE-COMP-2

Lab Sample ID: 180-33598-4

Date Collected: 06/04/14 12:10

Matrix: Sediment

Date Received: 06/05/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D422		1	78.05 g		73602	06/10/14 19:39	SML	TAL BUR
	Instrument ID:	D422_import								

Client Sample ID: 055364-T2-060414-SE-EB-1

Lab Sample ID: 180-33598-5

Date Collected: 06/04/14 12:20

Matrix: Water

Date Received: 06/05/14 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 5310C		1			108297	06/11/14 19:17	CLL	TAL PIT
	Instrument ID:	TOC1030								

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL BUR

Batch Type: Analysis

SML = Scott Lavigne

Lab: TAL PIT

Batch Type: Pre Prep

LWM = Larry Matko

Batch Type: Prep

BAP = Brian Pino

Batch Type: Analysis

AJB = Amanda Brunick

CLL = Cheryl Loheyde

JDD = James DeRubeis

MTW = Michael Wesoloski

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33598-1

Client Sample ID: 055364-T2-060414-FT-CRAWFISH-20

Lab Sample ID: 180-33598-1

Date Collected: 06/04/14 09:04
Date Received: 06/05/14 09:30

Matrix: Tissue

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	72		0.10	0.10	%			06/10/14 10:29	1
Percent Lipids	1.8		0.10	0.030	%		06/17/14 03:30	06/17/14 03:30	1

Client Sample ID: 055364-T2-060214-FT-CRAWFISH-21

Lab Sample ID: 180-33598-2

Date Collected: 06/02/14 08:35
Date Received: 06/05/14 09:30

Matrix: Tissue

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	75		0.10	0.10	%			06/10/14 10:29	1
Percent Lipids	1.4		0.10	0.030	%		06/17/14 03:30	06/17/14 03:30	1

Client Sample ID: 055364-T2-060414-SE-COMP-1

Lab Sample ID: 180-33598-3

Date Collected: 06/04/14 11:55
Date Received: 06/05/14 09:30

Matrix: Sediment

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	23		0.10	0.10	%			06/09/14 17:02	1
Total Organic Carbon - Duplicates	270	J	1300	120	mg/Kg	☼		06/12/14 18:11	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			06/10/14 19:36	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/10/14 19:36	1
Sand	14.9				%			06/10/14 19:36	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/10/14 19:36	1
Coarse Sand	0.0				%			06/10/14 19:36	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/10/14 19:36	1
Medium Sand	0.3				%			06/10/14 19:36	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/10/14 19:36	1
Fine Sand	14.6				%			06/10/14 19:36	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/10/14 19:36	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/10/14 19:36	1
Silt	59.9				%			06/10/14 19:36	1
Clay	25.2				%			06/10/14 19:36	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/10/14 19:36	1
Sieve Size #10 - Percent Finer	100.0				% Passing			06/10/14 19:36	1
Sieve Size #20 - Percent Finer	99.8				% Passing			06/10/14 19:36	1
Sieve Size #40 - Percent Finer	99.7				% Passing			06/10/14 19:36	1
Sieve Size #60 - Percent Finer	99.4				% Passing			06/10/14 19:36	1
Sieve Size #80 - Percent Finer	97.8				% Passing			06/10/14 19:36	1
Sieve Size #100 - Percent Finer	96.6				% Passing			06/10/14 19:36	1
Sieve Size #200 - Percent Finer	85.1				% Passing			06/10/14 19:36	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33598-1

Client Sample ID: 055364-T2-060414-SE-COMP-2

Lab Sample ID: 180-33598-4

Date Collected: 06/04/14 12:10
Matrix: Sediment
Date Received: 06/05/14 09:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	28		0.10	0.10	%			06/09/14 17:02	1
Total Organic Carbon - Duplicates	1300	J	1400	120	mg/Kg	☼		06/16/14 13:07	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			06/10/14 19:39	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/10/14 19:39	1
Sand	5.6				%			06/10/14 19:39	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/10/14 19:39	1
Coarse Sand	0.7				%			06/10/14 19:39	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/10/14 19:39	1
Medium Sand	0.4				%			06/10/14 19:39	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/10/14 19:39	1
Fine Sand	4.5				%			06/10/14 19:39	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/10/14 19:39	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/10/14 19:39	1
Silt	58.8				%			06/10/14 19:39	1
Clay	35.6				%			06/10/14 19:39	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/10/14 19:39	1
Sieve Size #10 - Percent Finer	99.3				% Passing			06/10/14 19:39	1
Sieve Size #20 - Percent Finer	99.0				% Passing			06/10/14 19:39	1
Sieve Size #40 - Percent Finer	98.9				% Passing			06/10/14 19:39	1
Sieve Size #60 - Percent Finer	98.6				% Passing			06/10/14 19:39	1
Sieve Size #80 - Percent Finer	98.6				% Passing			06/10/14 19:39	1
Sieve Size #100 - Percent Finer	97.5				% Passing			06/10/14 19:39	1
Sieve Size #200 - Percent Finer	94.4				% Passing			06/10/14 19:39	1

Client Sample ID: 055364-T2-060414-SE-EB-1

Lab Sample ID: 180-33598-5

Date Collected: 06/04/14 12:20
Matrix: Water
Date Received: 06/05/14 09:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	0.46	J	1.0	0.19	mg/L			06/11/14 19:17	1

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33598-1

Method: Lipids - Percent Lipids

Lab Sample ID: MB 180-108702/1-A — **Client Sample ID: Method Blank**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 108945 — **Prep Batch: 108702**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.10	0.030	%		06/17/14 03:30	06/17/14 03:30	1

Lab Sample ID: LCS 180-108702/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 108945 — **Prep Batch: 108702**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Percent Lipids	10.0	9.91		%		99	30 - 150

Lab Sample ID: LCSD 180-108702/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 108945 — **Prep Batch: 108702**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids	10.0	9.79		%		98	30 - 150	1	25

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 180-108410/4 — **Client Sample ID: Method Blank**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 108410

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	89	mg/Kg			06/12/14 17:24	1

Lab Sample ID: LCS 180-108410/5 — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 108410

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	35000	30900		mg/Kg		88	75 - 125

Lab Sample ID: MB 180-109156/3 — **Client Sample ID: Method Blank**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 109156

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	89	mg/Kg			06/16/14 12:46	1

Lab Sample ID: LCS 180-109156/4 — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 109156

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	35000	32600		mg/Kg		93	75 - 125

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33598-1

Method: SM 5310C - TOC

Lab Sample ID: MB 180-108297/6
Matrix: Water
Analysis Batch: 108297

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1.0	0.19	mg/L			06/11/14 15:26	1

Lab Sample ID: LCS 180-108297/4
Matrix: Water
Analysis Batch: 108297

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates			20.0	19.9		mg/L		100	80 - 120		

Lab Sample ID: LCSD 180-108297/5
Matrix: Water
Analysis Batch: 108297

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates			20.0	19.8		mg/L		99	80 - 120	0	20

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33598-1

General Chemistry

Pre Prep Batch: 108007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33598-1	055364-T2-060414-FT-CRAWFISH-20	Total/NA	Tissue	Frozen Storage	
180-33598-2	055364-T2-060214-FT-CRAWFISH-21	Total/NA	Tissue	Frozen Storage	

Pre Prep Batch: 108010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33598-1	055364-T2-060414-FT-CRAWFISH-20	Total/NA	Tissue	In House	108007
180-33598-2	055364-T2-060214-FT-CRAWFISH-21	Total/NA	Tissue	In House	108007

Analysis Batch: 108033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33598-3	055364-T2-060414-SE-COMP-1	Total/NA	Sediment	2540G	
180-33598-4	055364-T2-060414-SE-COMP-2	Total/NA	Sediment	2540G	

Analysis Batch: 108089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33598-1	055364-T2-060414-FT-CRAWFISH-20	Total/NA	Tissue	2540G	
180-33598-2	055364-T2-060214-FT-CRAWFISH-21	Total/NA	Tissue	2540G	

Analysis Batch: 108297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33598-5	055364-T2-060414-SE-EB-1	Total/NA	Water	SM 5310C	
LCS 180-108297/4	Lab Control Sample	Total/NA	Water	SM 5310C	
LCSD 180-108297/5	Lab Control Sample Dup	Total/NA	Water	SM 5310C	
MB 180-108297/6	Method Blank	Total/NA	Water	SM 5310C	

Analysis Batch: 108410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33598-3	055364-T2-060414-SE-COMP-1	Total/NA	Sediment	Lloyd Kahn	
LCS 180-108410/5	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 180-108410/4	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Prep Batch: 108702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33598-1	055364-T2-060414-FT-CRAWFISH-20	Total/NA	Tissue	3541	108010
180-33598-2	055364-T2-060214-FT-CRAWFISH-21	Total/NA	Tissue	3541	108010
LCS 180-108702/2-A	Lab Control Sample	Total/NA	Tissue	3541	
LCSD 180-108702/3-A	Lab Control Sample Dup	Total/NA	Tissue	3541	
MB 180-108702/1-A	Method Blank	Total/NA	Tissue	3541	

Analysis Batch: 108945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33598-1	055364-T2-060414-FT-CRAWFISH-20	Total/NA	Tissue	Lipids	108702
180-33598-2	055364-T2-060214-FT-CRAWFISH-21	Total/NA	Tissue	Lipids	108702
LCS 180-108702/2-A	Lab Control Sample	Total/NA	Tissue	Lipids	108702
LCSD 180-108702/3-A	Lab Control Sample Dup	Total/NA	Tissue	Lipids	108702
MB 180-108702/1-A	Method Blank	Total/NA	Tissue	Lipids	108702

Analysis Batch: 109156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33598-4	055364-T2-060414-SE-COMP-2	Total/NA	Sediment	Lloyd Kahn	
LCS 180-109156/4	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33598-1

General Chemistry (Continued)

Analysis Batch: 109156 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-109156/3	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Geotechnical

Analysis Batch: 73602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33598-3	055364-T2-060414-SE-COMP-1	Total/NA	Sediment	D422	
180-33598-4	055364-T2-060414-SE-COMP-2	Total/NA	Sediment	D422	

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-33598-1

Devil's Swamp

Lot #: H4F100407

Jill Colussy

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.

Bruce Wagner
Project Manager

June 27, 2014

ANALYTICAL METHODS SUMMARY

H4F100407

PARAMETER	ANALYTICAL METHOD
Percent Moisture	MCAWW 160.3 MOD
PCBs, HRGC/HRMS	EPA-22 1668A

References:

EPA-22 "METHOD 1668, REVISION A: CHLORINATED BIPHENYL CONGENERS IN WATER, SOIL, SEDIMENT, AND TISSUE BY HRGC/HRMS" EPA-821-R-00-002 12/99

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SAMPLE SUMMARY

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WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M31DW	001	055364-T2-060414-FT-CRAWFISH-20	06/04/14	09:04
M31D0	002	055364-T2-060214-FT-CRAWFISH-21	06/02/14	08:35
M31D1	003	055364-T2-060414-SE-COMP-1	06/04/14	11:55
M31D2	004	055364-T2-060414-SE-COMP-2	06/04/14	12:10
M31D3	005	055364-T2-060414-SE-EB-1	06/04/14	12:20

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

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The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

For solid and sediments samples, when percent moisture is included in the report header field, the sample results are reported on a dry weight basis. When percent moisture is not contained in the header field, sample results are reported on an as received or wet weight basis.

Sample 055364-T2-060414-FT-CRAWFISH-20 was reported from two extractions (10.3g and 1.0g) to bring all native analytes within the calibration range.

The samples were analyzed at various dilutions to bring all native analytes within the calibration range.

Method blank M32FP1AA exhibited PCB 118 above the minimum level and method blank M32FQ1AA exhibited PCB 105 and PCB 118 above the minimum level. All associated samples were greater than twenty times the detected amounts in the blanks. The data was reported as is with no adverse affects to data quality.

Nomenclature – The standardization strategy described in this report uses the naming convention of SW-846 Method 8290. This convention differs from Method 1668 in the following manner:

Standard Addition Occurs Prior to:	Method 1668	SW-846 Conventions Used in this Report
Sampling	None	Sampling Surrogate
Extraction	Labeled Toxics/LOC/Window Defining	Internal Standard
Cleanups	Labeled Cleanup Standard	Cleanup Standard*
Injection	Labeled Injection Internal Standard	Recovery Standard

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* Cleanup Standard is also referred to as Surrogate Standard on report.

The shorthand notation used for congeners in this report is summarized in Table 2.

Qualifiers – The following flags are used to qualify results for HRMS PCB results:

J – The reported result is an estimate. The amount reported is below the Estimated Minimum Level (EML). EML is defined by the method as the lowest concentration at which an analyte can be measured reliably with common laboratory interferences present. This value has been determined for each congener by MDL and laboratory method blank studies. The value is adjusted to reflect sample specific initial and final volumes.

E – The reported result is an estimate. The amount reported is above the UCL described below.

The E qualifier is applied on the basis of the **Upper Calibration Level (UCL)**. The quantitative definition of the UCL is listed below:

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

B – The analyte is present in the associated method blank at a reportable level. For this analysis, there is no method specified reporting level, other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of 2.5-to-1. Therefore, the presence of any amount of the analyte present in the blank will result a B qualifier on all associated samples.

Note: Some laboratories do not report contamination in the blank unless it is above their lower calibration limit, or an established percentage of the level in the samples, or an established percentage of the regulatory limit. Likewise, some laboratories set a reporting limit at one half the lower calibration limit.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. The criteria include the following areas:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio.)
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity, due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its

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homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer. When the C flag is followed by a number, the number indicates the lowest numbered congener among the coelution set. For example, if 100 pg/L is detected at the retention time of PCB 156, and PCB 157 is known to coelute with PCB 156, the results will be flagged as follows:

PCB 156 100 pg/L C

PCB 157 100 pg/L C156

In certain electronic deliverables the result field for PCB 157 will be null, with "C156" appearing in the qualifier field in accordance with the CARP EDD specification.

X – Other. See explanation in narrative.

Results – The results for the analyses are summarized in the following pages. Please see comments regarding qualifiers, above. Additional information regarding qualifiers is explained in the legends at the end of each result summary. A summary of the shorthand conventions used in this report is provided in Table 2.

Detection Limits – For all analyte results a sample specific detection limit is calculated for that analyte. This is done by first determining the GC/MS peak height of the noise or interferent in the expected region of the analyte signal. This value is multiplied by the number 2.5, which serves as a safety factor. The 2.5 safety factor is disregarded if the noise present in the analyte region is a result of chemical interferences. The resulting signal response value is then used to estimate the minimum detectable analyte amount. The result is the estimated sample detection limit.

When an analyte is not detected, an ND appears in place of the result. The value in the detection limit column is the estimated detection limit for the analyte in that particular sample.

EXAMPLE CALCULATIONS

The following formulas were used for sample calculations. Examples are given for calculating the percent recovery for internal standard $^{13}C_{12}$-PCB 1, the concentration of native PCB 1 and the EDL for PCB 1. All values used in the calculations below are typical (i.e. not extracted from a particular sample). Actual values are found on the IsoCalc Preliminary Sample Report (IPSR) at the position indicated (in parentheses, below):

INTERNAL STANDARD RECOVERY ($^{13}C_{12}$-PCB 1)

$$\text{Percent Recovery} = \frac{\Sigma A_{IS} \bullet W_{RS} \bullet 100\%}{\Sigma A_{RS} \bullet W_{IS} \bullet RRF}$$

ΣA_{IS} = Sum of areas for the Internal Standard quantitation ions. (IPSR – Column "Area", Row "13C12-PCB 1")

W_{RS} = Mass in ng of the Recovery Standard. (IPSR – Column "Std Amt", Row "13C12-PCB 9")

ΣA_{RS} = Sum of areas for the Recovery Standard quantitation ions. (IPSR – Column "Area", Row "13C12-PCB 9")

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W_{IS} = Mass in ng of the Internal Standard. (IPSR – Column "Std Amt", Row "13C12-PCB 1")

RRF = Internal Standard mean relative response factor from the initial multipoint calibration. (IPSR - Column "RF", Row "13C12-PCB 1".)

Substituting typical values ,

$$\frac{1106275 \bullet 2.000\ (ng) \bullet 100\%}{1205581 \bullet 2.000\ (ng) \bullet 1.412} = 65\%\ \text{Recovery}$$

NATIVE ANALYTE QUANTITATION (PCB 1)

$$\text{Conc} = \frac{\Sigma A_X \bullet W_{IS}}{\Sigma A_{IS} \bullet V \bullet 0.001\ (mL/L) \bullet RRF}$$

ΣA_X = Sum of areas for analyte quantitation ions. (IPSR – Area Column "Area", Row "PCB 1")

W_{IS} = Mass in ng of Internal Standard. (IPSR – Column "Std Amt", Row "13C12-PCB 1")

ΣA_{IS} = Sum areas for the Internal Standard. (IPSR – Column "Area", Row 13C12-PCB 1)

V = Volume of sample extracted in mL. (IPSR – Header Column 2, Row "Initial Wt/Vol")

RRF = Native analyte mean relative response factor from the initial calibration, or daily response factor as appropriate. (IPSR – Column "RF", Row "PCB 1")

Substituting typical values,

$$\frac{8951 \bullet 2.000\ (ng)}{1106275 \bullet 2200\ (mL) \bullet 0.001\ (mL/L) \bullet 1.136} = 0.00647\ ng/L = 6.47\ pg/L$$

CALCULATION OF SAMPLE SPECIFIC ESTIMATED DETECTION LIMIT

This calculation uses the noise values found on the IsoCalc Preliminary Peak Report (IPPR), which follows the IPSR. All the other values used in the equation are found on the IPSR.)

$$\frac{\Sigma I_X \bullet W_{IS} \bullet T_{SN}}{\Sigma I_{IS} \bullet V \bullet 0.001\ (mL/L) \bullet RRF}$$

ΣI_X = Sum of the intensities of the noise levels of the characteristic ions in the region of analyte elution. (IPPR – Columns "Height1" and "Height2", Row {mass} 188, Sub-Row "Noise").

W_{IS} = Mass in ng of the Internal Standard. (IPSR – Column "Std Amt", Row "13C12-PCB 1").

T_{SN} = Minimum Signal-to-Noise threshold. = 2.5. A constant, specified by the method.

ΣI_{IS} = Intensity of the corresponding ^{13}C ions. (IPSR – Column "Height", Row "13C12-PCB 9")

V = Volume of sample extracted in mL. (IPSR – Header Column 2, Row "Initial Wt/Vol")

RRF = Native analyte mean relative response factor from the initial calibration or daily standard as

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appropriate. (IPSR – Column "RF", Row "PCB 1")

$$\text{Substituting typical values } \frac{79 \bullet 2000\ (pg) \bullet 2.5}{334600 \bullet 2200\ (mL) \bullet 0.001\ (mL/L) \bullet 1.136} = 0.466\ pg/L$$

In sample data, peaks must have an intensity of 2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above, and a bit of algebra reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 X the noise on the calibration. This is the result of normal variability. Because the source method for the EDL (EPA 1668) does not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Table 1							
Concentration of PCBs in Calibration Solutions							
		CS 0.5	CS 1	CS 2	CS 3[2]	CS 4	CS 5
Analyte Type	BZ/IUPAC[1]	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL
Congeners							
2-MoCB	1	0.5	1.0	5.0	50	400	2000
4-MoCB	3	0.5	1.0	5.0	50	400	2000
2,2'-DiCB	4	0.5	1.0	5.0	50	400	2000
4,4'-DiCB	15	0.5	1.0	5.0	50	400	2000
2,2',6'-TrCB	19	0.5	1.0	5.0	50	400	2000
3,4,4'-TrCB	37	0.5	1.0	5.0	50	400	2000
2,2',6,6'-TeCB	54	0.5	1.0	5.0	50	400	2000
3,3',4,4'-TeCB	77	0.5	1.0	5.0	50	400	2000
3,4,4',5-TeCB	81	0.5	1.0	5.0	50	400	2000
2,2',4,6,6'-PeCB	104	0.5	1.0	5.0	50	400	2000
2,3,3',4,4'-PeCB	105	0.5	1.0	5.0	50	400	2000
2,3,4,4',5-PeCB	114	0.5	1.0	5.0	50	400	2000
2,3',4,4',5-PeCB	118	0.5	1.0	5.0	50	400	2000
2',3,4,4',5-PeCB	123	0.5	1.0	5.0	50	400	2000
3,3',4,4',5-PeCB	126	0.5	1.0	5.0	50	400	2000
2,2',4,4',6,6'-HxCB	155	0.5	1.0	5.0	50	400	2000
2,3,3',4,4',5-HxCB	156	0.5	1.0	5.0	50	400	2000
2,3,3',4,4',5'-HxCB	157	0.5	1.0	5.0	50	400	2000
2,3',4,4',5,5'-HxCB	167	0.5	1.0	5.0	50	400	2000
3,3',4,4',5,5'-HxCB	169	0.5	1.0	5.0	50	400	2000
2,2',3,4',5,6,6'-HpCB	188	0.5	1.0	5.0	50	400	2000
2,3,3',4,4',5,5'-HpCB	189	0.5	1.0	5.0	50	400	2000
2,2',3,3',5,5',6,6'-OcCB	202	0.5	1.0	5.0	50	400	2000
2,3,3',4,4',5,5',6-OcCB	205	0.5	1.0	5.0	50	400	2000
2,2',3,3',4,4',5,5',6-NoCB	206	0.5	1.0	5.0	50	400	2000
2,2',3,3',4',5,5',6,6'-NoCB	208	0.5	1.0	5.0	50	400	2000
DeCB	209	0.5	1.0	5.0	50	400	2000
All other CB congeners		0.5	1.0	5.0	50	400	2000
Labeled Congeners							
$^{13}C_{12}$-2-MoCB	1L	100	100	100	100	100	100

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Table 1							
Concentration of PCBs in Calibration Solutions							
		CS 0.5	CS 1	CS 2	CS 3[2]	CS 4	CS 5
Analyte Type	BZ/IUPAC[1]	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL
$^{13}C_{12}$-4-MoCB	3L	100	100	100	100	100	100
$^{13}C_{12}$-2,2'-DiCB	4L	100	100	100	100	100	100
$^{13}C_{12}$-4,4'-DiCB	15L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',6-TrCB	19L	100	100	100	100	100	100
$^{13}C_{12}$-3,4,4'-TrCB	37L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',6,6'-TeCB	54L	100	100	100	100	100	100
$^{13}C_{12}$-3,3',4,4'-TeCB	77L	100	100	100	100	100	100
$^{13}C_{12}$-3,4,4',5-TeCB	81L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',4,6,6'-PeCB	104L	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4'-PeCB	105L	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,4',5-PeCB	114L	100	100	100	100	100	100
$^{13}C_{12}$-2,3',4,4',5-PeCB	118L	100	100	100	100	100	100
$^{13}C_{12}$-2',3,4,4',5-PeCB	123L	100	100	100	100	100	100
$^{13}C_{12}$-3,3',4,4',5-PeCB	126L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',4,4',6,6'-HxCB	155L	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4',5-HxCB	156L	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4',5'-HxCB	157L	100	100	100	100	100	100
$^{13}C_{12}$-2,3',4,4',5,5'-HxCB	167L	100	100	100	100	100	100
$^{13}C_{12}$-3,3',4,4',5,5'-HxCB	169L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',4,4',5-HpCB	170L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,4',5,6,6'-HpCB	188L	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4',5,5'-HpCB	189L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',5,5',6,6'-OcCB	202L	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4',5,5',6-OcCB	205L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',4,4',5,5',6-NoCB	206L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',4',5,5',6,6'-NoCB	208L	100	100	100	100	100	100
$^{13}C_{12}$-DeCB	209L	100	100	100	100	100	100
Cleanup Standards							
$^{13}C_{12}$-2,4,4'-TriCB	28L	0.5	1.0	5.0	50	400	--
$^{13}C_{12}$-2,3,3',5,5'-PeCB	111L	0.5	1.0	5.0	50	400	--
$^{13}C_{12}$-2,2',3,3',5,5',6-HpCB	178L	0.5	1.0	5.0	50	400	--
Recovery Standards							
$^{13}C_{12}$-2,5-DiCB	9L	100	100	100	100	100	100
$^{13}C_{12}$-2,4',5-TriCB	31L	100	100	100	100	100	100
$^{13}C_{12}$-2,4',6-TriCB	32L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',5,5'-TeCB	52L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',4',5,5'-PeCB	101L	100	100	100	100	100	100
$^{13}C_{12}$-3,3',4,5,5'-PeCB	127L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3',4,4',5'-HxCB	138L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,4,4',5,5'-HpCB	180L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',4,4',5,5'-OcCB	194L	100	100	100	100	100	100
Labeled Sampling Surrogates							
$^{13}C_{12}$-2,4'-DiCB	8L	0.5	1.0	5.0	50	400	--
$^{13}C_{12}$-3,3',4,5'-TeCB	79L	0.5	1.0	5.0	50	400	--
$^{13}C_{12}$-2,2',3,5',6-PeCB	95L	0.5	1.0	5.0	50	400	--
$^{13}C_{12}$-2,2',4,4',5,5'-HxCB	153L	0.5	1.0	5.0	50	400	--

1. Suffix "L" indicates labeled compound.
2. Calibration verification solution.

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Table 2					
PCB Shorthand Nomenclature[4] Used in this Report					
BZ/IUPAC Number[1].	PCB Chemical Structure Name[2]	CAS Registry[3] Number	BZ/IUPAC Number[1].	PCB Chemical Structure Name[2]	CAS Registry[3] Number
1	2-monochlorobiphenyl	2051-60-7	106	2,3,3',4,5-pentachlorobiphenyl	70424-69-0
2	3-monochlorobiphenyl	2051-61-8	107/109	2,3,3',4',5-pentachlorobiphenyl	70424-68-9
3	4-monochlorobiphenyl	2051-62-9	108/107	2,3,3',4,5'-pentachlorobiphenyl	70362-41-3
4	2,2'-dichlorobiphenyl	13029-08-8	109/108	2,3,3',4,6-pentachlorobiphenyl	74472-35-8
5	2,3-dichlorobiphenyl	16605-91-7	110	2,3,3',4',6-pentachlorobiphenyl	38380-03-9
6	2,3'-dichlorobiphenyl	25569-80-6	111	2,3,3',5,5'-pentachlorobiphenyl	39635-32-0
7	2,4-dichlorobiphenyl	33284-50-3	112	2,3,3',5,6-pentachlorobiphenyl	74472-36-9
8	2,4'-dichlorobiphenyl	34883-43-7	113	2,3,3',5',6-pentachlorobiphenyl	68194-10-5
9	2,5-dichlorobiphenyl	34883-39-1	114	2,3,4,4',5-pentachlorobiphenyl	74472-37-0
10	2,6-dichlorobiphenyl	33146-45-1	115	2,3,4,4',6-pentachlorobiphenyl	74472-38-1
11	3,3'-dichlorobiphenyl	2050-67-1	116	2,3,4,5,6-pentachlorobiphenyl	18259-05-7
12	3,4-dichlorobiphenyl	2974-92-7	117	2,3,4',5,6-pentachlorobiphenyl	68194-11-6
13	3,4'-dichlorobiphenyl	2974-90-5	118	2,3',4,4',5-pentachlorobiphenyl	31508-00-6
14	3,5-dichlorobiphenyl	34883-41-5	119	2,3',4,4',6-pentachlorobiphenyl	56558-17-9
15	4,4'-dichlorobiphenyl	2050-68-2	120	2,3',4,5,5'-pentachlorobiphenyl	68194-12-7
16	2,2',3-trichlorobiphenyl	38444-78-9	121	2,3',4,5',6-pentachlorobiphenyl	56558-18-0
17	2,2',4-trichlorobiphenyl	37680-66-3	122	2',3,3',4,5-pentachlorobiphenyl (2,3,3',4',5'-pentachlorobiphenyl)	76842-07-4
18	2,2',5-trichlorobiphenyl	37680-65-2	123	2',3,4,4',5-pentachlorobiphenyl (2,3',4,4',5'-pentachlorobiphenyl)	65510-44-3
19	2,2',6-trichlorobiphenyl	38444-73-4	124	2',3,4,5,5'-pentachlorobiphenyl (2,3',4',5',5-pentachlorobiphenyl)	70424-70-3
20	2,3,3'-trichlorobiphenyl	38444-84-7	125	2',3,4,5,6'-pentachlorobiphenyl (2,3',4',5',6-pentachlorobiphenyl)	74472-39-2
21	2,3,4-trichlorobiphenyl	55702-46-0	126	3,3',4,4',5-pentachlorobiphenyl	57465-28-8
22	2,3,4'-trichlorobiphenyl	38444-85-8	127	3,3',4,5,5'-pentachlorobiphenyl	39635-33-1
23	2,3,5-trichlorobiphenyl	55720-44-0	128	2,2',3,3',4,4'-hexachlorobiphenyl	38380-07-3
24	2,3,6-trichlorobiphenyl	55702-45-9	129	2,2',3,3',4,5-hexachlorobiphenyl	55215-18-4
25	2,3',4-trichlorobiphenyl	55712-37-3	130	2,2',3,3',4,5'-hexachlorobiphenyl	52663-66-8
26	2,3',5-trichlorobiphenyl	38444-81-4	131	2,2',3,3',4,6-hexachlorobiphenyl	61798-70-7
27	2,3',6-trichlorobiphenyl	38444-76-7	132	2,2',3,3',4,6'-hexachlorobiphenyl	38380-05-1
28	2,4,4'-trichlorobiphenyl	7012-37-5	133	2,2',3,3',5,5'-hexachlorobiphenyl	35694-04-3
29	2,4,5-trichlorobiphenyl	15862-07-4	134	2,2',3,3',5,6-hexachlorobiphenyl	52704-70-8
30	2,4,6-trichlorobiphenyl	35693-92-6	135	2,2',3,3',5,6'-hexachlorobiphenyl	52744-13-5
31	2,4',5-trichlorobiphenyl	16606-02-3	136	2,2',3,3',6,6'-hexachlorobiphenyl	38411-22-2
32	2,4',6-trichlorobiphenyl	38444-77-8	137	2,2',3,4,4',5-hexachlorobiphenyl	35694-06-5
33	2',3,4-trichlorobiphenyl (2,3',4'-trichlorobiphenyl)	38444-86-9	138	2,2',3,4,4',5'-hexachlorobiphenyl	35065-28-2
34	2',3,5-trichlorobiphenyl (2,3',5'-trichlorobiphenyl)	37680-68-5	139	2,2',3,4,4',6-hexachlorobiphenyl	56030-56-9
35	3,3',4-trichlorobiphenyl	37680-69-6	140	2,2',3,4,4',6'-hexachlorobiphenyl	59291-64-4
36	3,3',5-trichlorobiphenyl	38444-87-0	141	2,2',3,4,5,5'-hexachlorobiphenyl	52712-04-6
37	3,4,4'-trichlorobiphenyl	38444-90-5	142	2,2',3,4,5,6-hexachlorobiphenyl	41411-61-4
38	3,4,5-trichlorobiphenyl	53555-66-1	143	2,2',3,4,5,6'-hexachlorobiphenyl	68194-15-0
39	3,4',5-trichlorobiphenyl	38444-88-1	144	2,2',3,4,5',6-hexachlorobiphenyl	68194-14-9
40	2,2',3,3'-tetrachlorobiphenyl	38444-93-8	145	2,2',3,4,6,6'-hexachlorobiphenyl	74472-40-5
41	2,2',3,4-tetrachlorobiphenyl	52663-59-9	146	2,2',3,4',5,5'-hexachlorobiphenyl	51908-16-8
42	2,2',3,4'-tetrachlorobiphenyl	36559-22-5	147	2,2',3,4',5,6-hexachlorobiphenyl	68194-13-8
43	2,2',3,5-tetrachlorobiphenyl	70362-46-8	148	2,2',3,4',5,6'-hexachlorobiphenyl	74472-41-6
44	2,2',3,5'-tetrachlorobiphenyl	41464-39-5	149	2,2',3,4',5',6-hexachlorobiphenyl	38380-04-0
45	2,2',3,6-tetrachlorobiphenyl	70362-45-7	150	2,2',3,4',6,6'-hexachlorobiphenyl	68194-08-1

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Table 2					
PCB Shorthand Nomenclature[4] Used in this Report					
BZ/IUPAC Number[1].	PCB Chemical Structure Name[2]	CAS Registry[3] Number	BZ/IUPAC Number[1].	PCB Chemical Structure Name[2]	CAS Registry[3] Number
46	2,2',3,6'-tetrachlorobiphenyl	41464-47-5	151	2,2',3,5,5',6-hexachlorobiphenyl	52663-63-5
47	2,2',4,4'-tetrachlorobiphenyl	2437-79-8	152	2,2',3,5,6,6'-hexachlorobiphenyl	68194-09-2
48	2,2',4,5-tetrachlorobiphenyl	70362-47-9	153	2,2',4,4',5,5'-hexachlorobiphenyl	35065-27-1
49	2,2',4,5'-tetrachlorobiphenyl	41464-40-8	154	2,2',4,4',5,6'-hexachlorobiphenyl	60145-22-4
50	2,2',4,6-tetrachlorobiphenyl	62796-65-0	155	2,2',4,4',6,6'-hexachlorobiphenyl	33979-03-2
51	2,2',4,6'-tetrachlorobiphenyl	68194-04-7	156	2,3,3',4,4',5-hexachlorobiphenyl	38380-08-4
52	2,2',5,5'-tetrachlorobiphenyl	35693-99-3	157	2,3,3',4,4',5'-hexachlorobiphenyl	69782-90-7
53	2,2',5,6'-tetrachlorobiphenyl	41464-41-9	158	2,3,3',4,4',6-hexachlorobiphenyl	74472-42-7
54	2,2',6,6'-tetrachlorobiphenyl	15968-05-5	159	2,3,3',4,5,5'-hexachlorobiphenyl	39635-35-3
55	2,3,3',4-tetrachlorobiphenyl	74338-24-2	160	2,3,3',4,5,6-hexachlorobiphenyl	41411-62-5
56	2,3,3',4'-tetrachlorobiphenyl	41464-43-1	161	2,3,3',4,5',6-hexachlorobiphenyl	74472-43-8
57	2,3,3',5-tetrachlorobiphenyl	70424-67-8	162	2,3,3',4',5,5'-hexachlorobiphenyl	39635-34-2
58	2,3,3',5'-tetrachlorobiphenyl	41464-49-7	163	2,3,3',4',5,6-hexachlorobiphenyl	74472-44-9
59	2,3,3',6-tetrachlorobiphenyl	74472-33-6	164	2,3,3',4',5',6-hexachlorobiphenyl	74472-45-0
60	2,3,4,4'-tetrachlorobiphenyl	33025-41-1	165	2,3,3',5,5',6-hexachlorobiphenyl	74472-46-1
61	2,3,4,5-tetrachlorobiphenyl	33284-53-6	166	2,3,4,4',5,6-hexachlorobiphenyl	41411-63-6
62	2,3,4,6-tetrachlorobiphenyl	54230-22-7	167	2,3',4,4',5,5'-hexachlorobiphenyl	52663-72-6
63	2,3,4',5-tetrachlorobiphenyl	74472-34-7	168	2,3',4,4',5',6-hexachlorobiphenyl	59291-65-5
64	2,3,4',6-tetrachlorobiphenyl	52663-58-8	169	3,3',4,4',5,5'-hexachlorobiphenyl	32774-16-6
65	2,3,5,6-tetrachlorobiphenyl	33284-54-7	170	2,2',3,3',4,4',5-heptachlorobiphenyl	35065-30-6
66	2,3',4,4'-tetrachlorobiphenyl	32598-10-0	171	2,2',3,3',4,4',6-heptachlorobiphenyl	52663-71-5
67	2,3',4,5-tetrachlorobiphenyl	73575-53-8	172	2,2',3,3',4,5,5'-heptachlorobiphenyl	52663-74-8
68	2,3',4,5'-tetrachlorobiphenyl	73575-52-7	173	2,2',3,3',4,5,6-heptachlorobiphenyl	68194-16-1
69	2,3',4,6-tetrachlorobiphenyl	60233-24-1	174	2,2',3,3',4,5,6'-heptachlorobiphenyl	38411-25-5
70	2,3',4',5-tetrachlorobiphenyl	32598-11-1	175	2,2',3,3',4,5',6-heptachlorobiphenyl	40186-70-7
71	2,3',4',6-tetrachlorobiphenyl	41464-46-4	176	2,2',3,3',4,6,6'-heptachlorobiphenyl	52663-65-7
72	2,3',5,5'-tetrachlorobiphenyl	41464-42-0	177	2,2',3,3',4',5,6-heptachlorobiphenyl (2,2',3,3',4,5',6'-heptachlorobiphenyl)	52663-70-4
73	2,3',5',6-tetrachlorobiphenyl	74338-23-1	178	2,2',3,3',5,5',6-heptachlorobiphenyl	52663-67-9
74	2,4,4',5-tetrachlorobiphenyl	32690-93-0	179	2,2',3,3',5,6,6'-heptachlorobiphenyl	52663-64-6
75	2,4,4',6-tetrachlorobiphenyl	32598-12-2	180	2,2',3,4,4',5,5'-heptachlorobiphenyl	35065-29-3
76	2',3,4,5-tetrachlorobiphenyl (2,3',4',5'-tetrachlorobiphenyl)	70362-48-0	181	2,2',3,4,4',5,6-heptachlorobiphenyl	74472-47-2
77	3,3',4,4'-tetrachlorobiphenyl	32598-13-3	182	2,2',3,4,4',5,6'-heptachlorobiphenyl	60145-23-5
78	3,3',4,5-tetrachlorobiphenyl	70362-49-1	183	2,2',3,4,4',5',6-heptachlorobiphenyl	52663-69-1
79	3,3',4,5'-tetrachlorobiphenyl	41464-48-6	184	2,2',3,4,4',6,6'-heptachlorobiphenyl	74472-48-3
80	3,3',5,5'-tetrachlorobiphenyl	33284-52-5	185	2,2',3,4,5,5',6-heptachlorobiphenyl	52712-05-7
81	3,4,4',5-tetrachlorobiphenyl	70362-50-4	186	2,2',3,4,5,6,6'-heptachlorobiphenyl	74472-49-4
82	2,2',3,3',4-pentachlorobiphenyl	52663-62-4	187	2,2',3,4',5,5',6-heptachlorobiphenyl	52663-68-0
83	2,2',3,3',5-pentachlorobiphenyl	60145-20-2	188	2,2',3,4',5,6,6'-heptachlorobiphenyl	74487-85-7
84	2,2',3,3',6-pentachlorobiphenyl	52663-60-2	189	2,3,3',4,4',5,5'-heptachlorobiphenyl	39635-31-9
85	2,2',3,4,4'-pentachlorobiphenyl	65510-45-4	190	2,3,3',4,4',5,6-heptachlorobiphenyl	41411-64-7
86	2,2',3,4,5-pentachlorobiphenyl	55312-69-1	191	2,3,3',4,4',5',6-heptachlorobiphenyl	74472-50-7
87	2,2',3,4,5'-pentachlorobiphenyl	38380-02-8	192	2,3,3',4,5,5',6-heptachlorobiphenyl	74472-51-8
88	2,2',3,4,6-pentachlorobiphenyl	55215-17-3	193	2,3,3',4',5,5',6-heptachlorobiphenyl	69782-91-8
89	2,2',3,4,6'-pentachlorobiphenyl	73575-57-2	194	2,2',3,3',4,4',5,5'-octachlorobiphenyl	35694-08-7
90	2,2',3,4',5-pentachlorobiphenyl	68194-07-0	195	2,2',3,3',4,4',5,6-octachlorobiphenyl	52663-78-2
91	2,2',3,4',6-pentachlorobiphenyl	68194-05-8	196	2,2',3,3',4,4',5,6'-octachlorobiphenyl	42740-50-1
92	2,2',3,5,5'-pentachlorobiphenyl	52663-61-3	197	2,2',3,3',4,4',6,6'-octachlorobiphenyl	33091-17-7

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Table 2					
PCB Shorthand Nomenclature[4] Used in this Report					
BZ/IUPAC Number[1].	PCB Chemical Structure Name[2]	CAS Registry[3] Number	BZ/IUPAC Number[1].	PCB Chemical Structure Name[2]	CAS Registry[3] Number
93	2,2',3,5,6-pentachlorobiphenyl	73575-56-1	198	2,2',3,3',4,5,5',6-octachlorobiphenyl	68194-17-2
94	2,2',3,5,6'-pentachlorobiphenyl	73575-55-0	199/200	2,2',3,3',4,5,6,6'-octachlorobiphenyl	52663-73-7
95	2,2',3,5',6-pentachlorobiphenyl	38379-99-6	200/201	2,2',3,3',4,5',6,6'-octachlorobiphenyl	40186-71-8
96	2,2',3,6,6'-pentachlorobiphenyl	73575-54-9	201/199	2,2',3,3',4,5,5',6'-octachlorobiphenyl	52663-75-9
97	2,2',3',4,5-pentachlorobiphenyl (2,2',3,4',5'-pentachlorobiphenyl)	41464-51-1	202	2,2',3,3',5,5',6,6'-octachlorobiphenyl	2136-99-4
98	2,2',3',4,6-pentachlorobiphenyl (2,2',3,4',6'-pentachlorobiphenyl)	60233-25-2	203	2,2',3,4,4',5,5',6-octachlorobiphenyl	52663-76-0
99	2,2',4,4',5-pentachlorobiphenyl	38380-01-7	204	2,2',3,4,4',5,6,6'-octachlorobiphenyl	74472-52-9
100	2,2',4,4',6-pentachlorobiphenyl	39485-83-1	205	2,3,3',4,4',5,5',6-octachlorobiphenyl	74472-53-0
101	2,2',4,5,5'-pentachlorobiphenyl	37680-73-2	206	2,2',3,3',4,4',5,5',6-nonachlorobiphenyl	40186-72-9
102	2,2',4,5,6-pentachlorobiphenyl	68194-06-9	207	2,2',3,3',4,4',5,6,6'-nonachlorobiphenyl	52663-79-3
103	2,2',4,5',6-pentachlorobiphenyl	60145-21-3	208	2,2',3,3',4,5,5',6,6'-nonachlorobiphenyl	52663-77-1
104	2,2',4,6,6'-pentachlorobiphenyl	56558-16-8	209	2,2',3,3',4,4',5,5',6,6'-decachlorobiphenyl	2051-24-3
105	2,3,3',4,4'-pentachlorobiphenyl	32598-14-4			

1. The BZ number is from Ballschmiter and Zell (1980). The IUPAC number, when different from the BZ, follows the recommended changes to the BZ number per Schulte and Malisch (1983) and Guitart et al. (1993).
2. The chemical structure names are from Ballschmiter and Zell (1980). IUPAC nomenclature structure names are listed in parenthesis when different from the BZ name (source CAS Registry).
3. Chemical Abstract Service Registry number (source CAS Registry and 1668 Table 1).
4. A complete discussion of PCB Nomenclature may be found in Mills III, S.A. et al., A summary of the 209 PCB congener nomenclature, Chemosphere (2007), doi:10.1016/j.chemosphere.2007.03.052.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Indiana	State Program	5	C-TN-02
TestAmerica Knoxville	Iowa	State Program	7	375
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA110001
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Minnesota	NELAC	5	047-999-429
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	2014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-TX
TestAmerica Knoxville	Federal	USDA		P330-11-00035
TestAmerica Knoxville	Utah	NELAC	8	QUAN3
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-FT-CRAWFISH-20

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 001	**Work Order #....:**	M31DW1AA	**Matrix....:**	TA
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	10
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14		
Prep Batch # ....:	4163011				
Initial Wgt/Vol :	10.3 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	16		0.097	0.013	ng/g
PCB 81 (BZ)	0.22	Q	0.097	0.013	ng/g
PCB 126 (BZ)	1.1	Q	0.097	0.032	ng/g
PCB 123 (BZ)	17		0.097	0.025	ng/g
PCB 114 (BZ)	19		0.097	0.024	ng/g
PCB 169 (BZ)	0.30		0.097	0.027	ng/g
PCB 156 (BZ)	77	B C	0.097	0.043	ng/g
PCB 157 (BZ)	77	B C156	0.097	0.043	ng/g
PCB 167 (BZ)	24		0.097	0.025	ng/g
PCB 189 (BZ)	2.2		0.097	0.015	ng/g

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-FT-CRAWFISH-20

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 001	**Work Order #....:**	M31DW1AA	**Matrix....:**	TA
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	10
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14		
Prep Batch # ....:	4163011				
Initial Wgt/Vol :	10.3 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	65		30 - 140
13C12-PCB 3	60		30 - 140
13C12-PCB 4	75		30 - 140
13C12-PCB 15	71		30 - 140
13C12-PCB 19	93		30 - 140
13C12-PCB 37	81		30 - 140
13C12-PCB 54	80		30 - 140
13C12-PCB 77	77		30 - 140
13C12-PCB 81	76		30 - 140
13C12-PCB 104	80		30 - 140
13C12-PCB 105	90		30 - 140
13C12-PCB 114	88		30 - 140
13C12-PCB 118	90		30 - 140
13C12-PCB 123	88		30 - 140
13C12-PCB 126	76		30 - 140
13C12-PCB 155	89		30 - 140
13C12-PCB 156	82	C	30 - 140
13C12-PCB 157	82	C	30 - 140
13C12-PCB 167	80		30 - 140
13C12-PCB 169	83		30 - 140
13C12-PCB 170	82		30 - 140
13C12-PCB 188	89		30 - 140
13C12-PCB 189	85		30 - 140
13C12-PCB 202	89		30 - 140
13C12-PCB 205	77		30 - 140
13C12-PCB 206	89		30 - 140
13C12-PCB 208	90		30 - 140
13C12-PCB 209	82		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	84	40 - 125
13C12-PCB 111	85	40 - 125
13C12-PCB 178	77	40 - 125

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-FT-CRAWFISH-20

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 001	**Work Order #....:**	M31DW1AA	**Matrix....:**	TA
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	10
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14		
Prep Batch # ....:	4163011				
Initial Wgt/Vol :	10.3 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

C Co-eluting isomer.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-FT-CRAWFISH-20

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 001	**Work Order #....:**	M31DW2AA	**Matrix....:**	TA
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	5
Prep Date....:	06/23/14	**Analysis Date....:**	06/25/14		
Prep Batch # ....:	4174018				
Initial Wgt/Vol :	1 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 105 (BZ)	**79**	**B**	**0.50**	**0.087**	**ng/g**
PCB 118 (BZ)	**220**	**B**	**0.50**	**0.084**	**ng/g**

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	54		30 - 140
13C12-PCB 3	51		30 - 140
13C12-PCB 4	64		30 - 140
13C12-PCB 15	61		30 - 140
13C12-PCB 19	85		30 - 140
13C12-PCB 37	75		30 - 140
13C12-PCB 54	74		30 - 140
13C12-PCB 77	70		30 - 140
13C12-PCB 81	76		30 - 140
13C12-PCB 104	77		30 - 140
13C12-PCB 105	80		30 - 140
13C12-PCB 114	82		30 - 140
13C12-PCB 118	80		30 - 140
13C12-PCB 123	78		30 - 140
13C12-PCB 126	73		30 - 140
13C12-PCB 155	80		30 - 140
13C12-PCB 156	84	C	30 - 140
13C12-PCB 157	84	C	30 - 140
13C12-PCB 167	81		30 - 140
13C12-PCB 169	86		30 - 140
13C12-PCB 170	80		30 - 140
13C12-PCB 188	85		30 - 140
13C12-PCB 189	83		30 - 140
13C12-PCB 202	85		30 - 140
13C12-PCB 205	73		30 - 140
13C12-PCB 206	90		30 - 140
13C12-PCB 208	89		30 - 140
13C12-PCB 209	80		30 - 140

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-FT-CRAWFISH-20

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 001	**Work Order #....:**	M31DW2AA	**Matrix....:**	TA
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	5
Prep Date....:	06/23/14	**Analysis Date....:**	06/25/14		
Prep Batch # ....:	4174018				
Initial Wgt/Vol :	1 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	84	40 - 125
13C12-PCB 111	80	40 - 125
13C12-PCB 178	83	40 - 125

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

C Co-eluting isomer.

TestAmerica Pittsburgh

Sample ID: 055364-T2-060214-FT-CRAWFISH-21

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 002	**Work Order #....:**	M31D01AA	**Matrix....:**	TA
Date Sampled....:	06/02/14	**Date Received....:**	06/10/14	**Dilution Factor:**	12
Prep Date....:	06/12/14	**Analysis Date....:**	06/19/14		
Prep Batch # ....:	4163011				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	2.6		0.12	0.012	ng/g
PCB 81 (BZ)	0.054	J	0.12	0.012	ng/g
PCB 126 (BZ)	0.27	Q	0.12	0.025	ng/g
PCB 105 (BZ)	79	B	0.12	0.018	ng/g
PCB 118 (BZ)	230	B	0.12	0.016	ng/g
PCB 123 (BZ)	5.4		0.12	0.018	ng/g
PCB 114 (BZ)	4.3		0.12	0.016	ng/g
PCB 169 (BZ)	0.062	J	0.12	0.018	ng/g
PCB 156 (BZ)	23	B C	0.12	0.029	ng/g
PCB 157 (BZ)	23	B C156	0.12	0.029	ng/g
PCB 167 (BZ)	7.1		0.12	0.016	ng/g
PCB 189 (BZ)	0.64		0.12	0.011	ng/g

TestAmerica Pittsburgh

Sample ID: 055364-T2-060214-FT-CRAWFISH-21

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 002	**Work Order #....:**	M31D01AA	**Matrix....:**	TA
Date Sampled....:	06/02/14	**Date Received....:**	06/10/14	**Dilution Factor:**	12
Prep Date....:	06/12/14	**Analysis Date....:**	06/19/14		
Prep Batch # ....:	4163011				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	54		30 - 140
13C12-PCB 3	48		30 - 140
13C12-PCB 4	72		30 - 140
13C12-PCB 15	69		30 - 140
13C12-PCB 19	81		30 - 140
13C12-PCB 37	76		30 - 140
13C12-PCB 54	75		30 - 140
13C12-PCB 77	79		30 - 140
13C12-PCB 81	77		30 - 140
13C12-PCB 104	79		30 - 140
13C12-PCB 105	85		30 - 140
13C12-PCB 114	88		30 - 140
13C12-PCB 118	85		30 - 140
13C12-PCB 123	80		30 - 140
13C12-PCB 126	72		30 - 140
13C12-PCB 155	86		30 - 140
13C12-PCB 156	82	C	30 - 140
13C12-PCB 157	82	C	30 - 140
13C12-PCB 167	85		30 - 140
13C12-PCB 169	86		30 - 140
13C12-PCB 170	82		30 - 140
13C12-PCB 188	83		30 - 140
13C12-PCB 189	88		30 - 140
13C12-PCB 202	92		30 - 140
13C12-PCB 205	78		30 - 140
13C12-PCB 206	94		30 - 140
13C12-PCB 208	87		30 - 140
13C12-PCB 209	84		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	83	40 - 125
13C12-PCB 111	81	40 - 125
13C12-PCB 178	82	40 - 125

TestAmerica Pittsburgh

Sample ID: 055364-T2-060214-FT-CRAWFISH-21

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 002	**Work Order #....:**	M31D01AA	**Matrix....:**	TA
Date Sampled....:	06/02/14	**Date Received....:**	06/10/14	**Dilution Factor:**	12
Prep Date....:	06/12/14	**Analysis Date....:**	06/19/14		
Prep Batch # ....:	4163011				
Initial Wgt/Vol :	10.2 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-SE-COMP-1

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 003	**Work Order #....:**	M31D11AD	**Matrix....:**	SE
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	1
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14	**Percent Moisture**	25
Prep Batch # ....:	4163010				
Initial Wgt/Vol :	13.8 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	0.0056	Q J	0.0096	0.00071	ng/g
PCB 81 (BZ)	0.00078	Q J	0.0096	0.00066	ng/g
PCB 126 (BZ)	0.0021	Q J	0.0096	0.0010	ng/g
PCB 105 (BZ)	0.13	B	0.0096	0.00086	ng/g
PCB 118 (BZ)	0.45	B	0.0096	0.00085	ng/g
PCB 123 (BZ)	0.0089	Q J	0.0096	0.00089	ng/g
PCB 114 (BZ)	0.0073	Q J	0.0096	0.00080	ng/g
PCB 169 (BZ)	0.0012	Q J	0.0096	0.00076	ng/g
PCB 156 (BZ)	0.068	B C	0.0096	0.0015	ng/g
PCB 157 (BZ)	0.068	B C156	0.0096	0.0015	ng/g
PCB 167 (BZ)	0.022		0.0096	0.00079	ng/g
PCB 189 (BZ)	0.0060	J	0.0096	0.00058	ng/g

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-SE-COMP-1

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 003	**Work Order #....:**	M31D11AD	**Matrix....:**	SE
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	1
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14	**Percent Moisture**	25
Prep Batch # ....:	4163010				
Initial Wgt/Vol :	13.8 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	57		30 - 140
13C12-PCB 3	51		30 - 140
13C12-PCB 4	67		30 - 140
13C12-PCB 15	62		30 - 140
13C12-PCB 19	83		30 - 140
13C12-PCB 37	79		30 - 140
13C12-PCB 54	80		30 - 140
13C12-PCB 77	75		30 - 140
13C12-PCB 81	73		30 - 140
13C12-PCB 104	83		30 - 140
13C12-PCB 105	85		30 - 140
13C12-PCB 114	86		30 - 140
13C12-PCB 118	83		30 - 140
13C12-PCB 123	83		30 - 140
13C12-PCB 126	81		30 - 140
13C12-PCB 155	91		30 - 140
13C12-PCB 156	87	C	30 - 140
13C12-PCB 157	87	C	30 - 140
13C12-PCB 167	90		30 - 140
13C12-PCB 169	96		30 - 140
13C12-PCB 170	87		30 - 140
13C12-PCB 188	88		30 - 140
13C12-PCB 189	87		30 - 140
13C12-PCB 202	96		30 - 140
13C12-PCB 205	81		30 - 140
13C12-PCB 206	99		30 - 140
13C12-PCB 208	92		30 - 140
13C12-PCB 209	87		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	85	40 - 125
13C12-PCB 111	87	40 - 125
13C12-PCB 178	86	40 - 125

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-SE-COMP-1

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 003	**Work Order #....:**	M31D11AD	**Matrix....:**	SE
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	1
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14	**Percent Moisture**	25
Prep Batch # ....:	4163010				
Initial Wgt/Vol :	13.8 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-SE-COMP-2

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 004	**Work Order #....:**	M31D21AD	**Matrix....:**	SE
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	10
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14	**Percent Moisture**	30
Prep Batch # ....:	4163010				
Initial Wgt/Vol :	2.9 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	18		0.49	0.12	ng/g
PCB 81 (BZ)	0.45	Q J	0.49	0.12	ng/g
PCB 126 (BZ)	1.8		0.49	0.18	ng/g
PCB 105 (BZ)	270	B	0.49	0.16	ng/g
PCB 118 (BZ)	620	B	0.49	0.14	ng/g
PCB 123 (BZ)	11	Q	0.49	0.15	ng/g
PCB 114 (BZ)	9.4		0.49	0.14	ng/g
PCB 169 (BZ)	0.41	J	0.49	0.11	ng/g
PCB 156 (BZ)	83	B C	0.49	0.20	ng/g
PCB 157 (BZ)	83	B C156	0.49	0.20	ng/g
PCB 167 (BZ)	22		0.49	0.11	ng/g
PCB 189 (BZ)	3.0		0.49	0.071	ng/g

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Sample ID: 055364-T2-060414-SE-COMP-2

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 004	**Work Order #....:**	M31D21AD	**Matrix....:**	SE
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	10
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14	**Percent Moisture**	30
Prep Batch # ....:	4163010				
Initial Wgt/Vol :	2.9 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	63		30 - 140
13C12-PCB 3	56		30 - 140
13C12-PCB 4	83		30 - 140
13C12-PCB 15	72		30 - 140
13C12-PCB 19	91		30 - 140
13C12-PCB 37	83		30 - 140
13C12-PCB 54	84		30 - 140
13C12-PCB 77	81		30 - 140
13C12-PCB 81	73		30 - 140
13C12-PCB 104	90		30 - 140
13C12-PCB 105	89		30 - 140
13C12-PCB 114	94		30 - 140
13C12-PCB 118	91		30 - 140
13C12-PCB 123	86		30 - 140
13C12-PCB 126	83		30 - 140
13C12-PCB 155	103		30 - 140
13C12-PCB 156	92	C	30 - 140
13C12-PCB 157	92	C	30 - 140
13C12-PCB 167	91		30 - 140
13C12-PCB 169	92		30 - 140
13C12-PCB 170	92		30 - 140
13C12-PCB 188	95		30 - 140
13C12-PCB 189	90		30 - 140
13C12-PCB 202	102		30 - 140
13C12-PCB 205	82		30 - 140
13C12-PCB 206	101		30 - 140
13C12-PCB 208	99		30 - 140
13C12-PCB 209	91		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	89	40 - 125
13C12-PCB 111	90	40 - 125
13C12-PCB 178	87	40 - 125

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-SE-COMP-2

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 004	**Work Order #....:**	M31D21AD	**Matrix....:**	SE
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	10
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14	**Percent Moisture**	30
Prep Batch # ....:	4163010				
Initial Wgt/Vol :	2.9 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

QUALIFIERS

B	Method blank contamination. The associated method blank contains the target analyte at a reportable level.
C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-SE-EB-1

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 005	**Work Order #....:**	M31D31AA	**Matrix....:**	WS
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	1
Prep Date....:	06/11/14	**Analysis Date....:**	06/13/14		
Prep Batch # ....:	4162013				
Initial Wgt/Vol :	1051 mL	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

PARAMETER	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	ND	0.038	0.0010	ng/L
PCB 81 (BZ)	ND	0.038	0.0010	ng/L
PCB 105 (BZ)	ND	0.038	0.0012	ng/L
PCB 114 (BZ)	ND	0.038	0.0011	ng/L
PCB 118 (BZ)	ND	0.038	0.0012	ng/L
PCB 123 (BZ)	ND	0.038	0.0013	ng/L
PCB 126 (BZ)	ND	0.038	0.0014	ng/L
PCB 156 (BZ)	ND	0.038	0.0021	ng/L
PCB 157 (BZ)	ND	0.038	0.0021	ng/L
PCB 167 (BZ)	ND	0.038	0.0011	ng/L
PCB 169 (BZ)	ND	0.038	0.0011	ng/L
PCB 189 (BZ)	ND	0.038	0.0011	ng/L

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Sample ID: 055364-T2-060414-SE-EB-1

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 005	**Work Order #....:**	M31D31AA	**Matrix....:**	WS
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	1
Prep Date....:	06/11/14	**Analysis Date....:**	06/13/14		
Prep Batch # ....:	4162013				
Initial Wgt/Vol :	1051 mL	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	51		30 - 140
13C12-PCB 3	49		30 - 140
13C12-PCB 4	59		30 - 140
13C12-PCB 15	55		30 - 140
13C12-PCB 19	63		30 - 140
13C12-PCB 37	54		30 - 140
13C12-PCB 54	54		30 - 140
13C12-PCB 77	44		30 - 140
13C12-PCB 81	42		30 - 140
13C12-PCB 104	42		30 - 140
13C12-PCB 105	43		30 - 140
13C12-PCB 114	43		30 - 140
13C12-PCB 118	41		30 - 140
13C12-PCB 123	41		30 - 140
13C12-PCB 126	41		30 - 140
13C12-PCB 155	44		30 - 140
13C12-PCB 156	42	C	30 - 140
13C12-PCB 157	42	C	30 - 140
13C12-PCB 167	45		30 - 140
13C12-PCB 169	48		30 - 140
13C12-PCB 170	43		30 - 140
13C12-PCB 188	42		30 - 140
13C12-PCB 189	43		30 - 140
13C12-PCB 202	47		30 - 140
13C12-PCB 205	40		30 - 140
13C12-PCB 206	50		30 - 140
13C12-PCB 208	48		30 - 140
13C12-PCB 209	46		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	84	40 - 125
13C12-PCB 111	85	40 - 125
13C12-PCB 178	80	40 - 125

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-SE-EB-1

Trace Level Organic Compounds

Lot - Sample #....:	H4F100407 - 005	**Work Order #....:**	M31D31AA	**Matrix....:**	WS
Date Sampled....:	06/04/14	**Date Received....:**	06/10/14	**Dilution Factor:**	1
Prep Date....:	06/11/14	**Analysis Date....:**	06/13/14		
Prep Batch # ....:	4162013				
Initial Wgt/Vol :	1051 mL	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

QUALIFIERS

C Co-eluting isomer.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H4F110000 - 013B **Work Order #....:** M311J1AA **Matrix....:** WATER
Dilution Factor: 1
Prep Date....: 06/11/14 **Analysis Date....:** 06/13/14
Prep Batch # ....: 4162013
Initial Wgt/Vol : 1000 mL **Instrument ID....:** M1D **Method:** EPA-22 1668A
Analyst ID....: Jon M. Nordquist

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	ND		0.040	0.0013	ng/L
PCB 81 (BZ)	ND		0.040	0.0012	ng/L
PCB 105 (BZ)	ND		0.040	0.0013	ng/L
PCB 114 (BZ)	ND		0.040	0.0012	ng/L
PCB 118 (BZ)	**0.0035**	**Q J**	**0.040**	**0.0013**	**ng/L**
PCB 123 (BZ)	ND		0.040	0.0015	ng/L
PCB 126 (BZ)	ND		0.040	0.0015	ng/L
PCB 156 (BZ)	ND		0.040	0.0024	ng/L
PCB 157 (BZ)	ND		0.040	0.0024	ng/L
PCB 167 (BZ)	ND		0.040	0.0013	ng/L
PCB 169 (BZ)	ND		0.040	0.0013	ng/L
PCB 189 (BZ)	ND		0.040	0.0013	ng/L

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H4F110000 - 013B **Work Order #....:** M311J1AA **Matrix....:** WATER
Dilution Factor: 1
Prep Date....: 06/11/14 **Analysis Date....:** 06/13/14
Prep Batch # ....: 4162013
Initial Wgt/Vol : 1000 mL **Instrument ID....:** M1D **Method:** EPA-22 1668A
Analyst ID....: Jon M. Nordquist

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	46		30 - 140
13C12-PCB 3	43		30 - 140
13C12-PCB 4	59		30 - 140
13C12-PCB 15	57		30 - 140
13C12-PCB 19	66		30 - 140
13C12-PCB 37	70		30 - 140
13C12-PCB 54	64		30 - 140
13C12-PCB 77	68		30 - 140
13C12-PCB 81	66		30 - 140
13C12-PCB 104	66		30 - 140
13C12-PCB 105	75		30 - 140
13C12-PCB 114	74		30 - 140
13C12-PCB 118	72		30 - 140
13C12-PCB 123	70		30 - 140
13C12-PCB 126	72		30 - 140
13C12-PCB 155	70		30 - 140
13C12-PCB 156	77	C	30 - 140
13C12-PCB 157	77	C	30 - 140
13C12-PCB 167	80		30 - 140
13C12-PCB 169	82		30 - 140
13C12-PCB 170	74		30 - 140
13C12-PCB 188	71		30 - 140
13C12-PCB 189	78		30 - 140
13C12-PCB 202	79		30 - 140
13C12-PCB 205	69		30 - 140
13C12-PCB 206	81		30 - 140
13C12-PCB 208	84		30 - 140
13C12-PCB 209	70		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	86	40 - 125
13C12-PCB 111	89	40 - 125
13C12-PCB 178	87	40 - 125

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Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4F110000 - 013B	**Work Order #....:**	M311J1AA	**Matrix....:**	WATER
Dilution Factor:	1				
Prep Date....:	06/11/14	**Analysis Date....:**	06/13/14		
Prep Batch # ....:	4162013				
Initial Wgt/Vol :	1000 mL	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

QUALIFIERS

C Co-eluting isomer.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H4F100407 **Work Order # ...:** M311J1AC-LCS **Matrix .....:** WATER
LCS Lot-Sample# : H4F110000 - 013
Prep Date .....: 06/11/14 **Analysis Date ..:** 06/13/14
Prep Batch # ...: 4162013
Dilution Factor : 1
Analyst ID.....: Jon M. Nordquist **Instrument ID..:** M1D **Method.....:** EPA-22 1668A
Initial Wgt/Vol: 1000 mL

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
PCB 77 (BZ)	**1.00**	**1.02**	**ng/L**	**102**		**(50 - 150)**
PCB 81 (BZ)	**1.00**	**1.02**	**ng/L**	**102**		**(50 - 150)**
PCB 105 (BZ)	**1.00**	**1.17**	**ng/L**	**117**		**(50 - 150)**
PCB 114 (BZ)	**1.00**	**1.19**	**ng/L**	**119**		**(50 - 150)**
PCB 118 (BZ)	**1.00**	**1.20**	**ng/L**	**120**	**B**	**(50 - 150)**
PCB 123 (BZ)	**1.00**	**1.34**	**ng/L**	**134**		**(50 - 150)**
PCB 126 (BZ)	**1.00**	**1.25**	**ng/L**	**125**		**(50 - 150)**
PCB 156 (BZ)	**2.00**	**2.34**	**ng/L**	**117**	**C**	**(50 - 150)**
PCB 157 (BZ)	**2.00**	**2.34**	**ng/L**	**117**	**C C156**	**(50 - 150)**
PCB 167 (BZ)	**1.00**	**1.17**	**ng/L**	**117**		**(50 - 150)**
PCB 169 (BZ)	**1.00**	**1.02**	**ng/L**	**102**		**(50 - 150)**
PCB 189 (BZ)	**1.00**	**1.23**	**ng/L**	**123**		**(50 - 150)**

INTERNAL STANDARD	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	51		(30 - 140)
13C12-PCB 3	49		(30 - 140)
13C12-PCB 4	65		(30 - 140)
13C12-PCB 15	64		(30 - 140)
13C12-PCB 19	75		(30 - 140)
13C12-PCB 37	75		(30 - 140)
13C12-PCB 54	73		(30 - 140)
13C12-PCB 77	73		(30 - 140)
13C12-PCB 81	71		(30 - 140)
13C12-PCB 104	69		(30 - 140)
13C12-PCB 105	76		(30 - 140)
13C12-PCB 114	75		(30 - 140)
13C12-PCB 118	73		(30 - 140)
13C12-PCB 123	72		(30 - 140)
13C12-PCB 126	75		(30 - 140)
13C12-PCB 155	73		(30 - 140)
13C12-PCB 156	82	**C**	(30 - 140)
13C12-PCB 157	82	**C**	(30 - 140)
13C12-PCB 167	81		(30 - 140)
13C12-PCB 169	87		(30 - 140)
13C12-PCB 170	79		(30 - 140)
13C12-PCB 188	75		(30 - 140)
13C12-PCB 189	78		(30 - 140)
13C12-PCB 202	84		(30 - 140)
13C12-PCB 205	70		(30 - 140)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H4F100407 **Work Order # ...:** M311J1AC-LCS **Matrix .....:** WATER
LCS Lot-Sample# : H4F110000 - 013

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 206	84	(30 - 140)
13C12-PCB 208	88	(30 - 140)
13C12-PCB 209	73	(30 - 140)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	82	(40 - 125)
13C12-PCB 111	82	(40 - 125)
13C12-PCB 178	79	(40 - 125)

Notes:

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

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

C Co-eluting isomer.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4F120000 - 010B	**Work Order #....:**	M32FP1AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14	**Percent Moisture:**	0.0
Prep Batch # ....:	4163010				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	ND		0.010	0.00062	ng/g
PCB 81 (BZ)	ND		0.010	0.00060	ng/g
PCB 126 (BZ)	ND		0.010	0.00086	ng/g
PCB 105 (BZ)	**0.0062**	**J**	**0.010**	**0.00075**	**ng/g**
PCB 118 (BZ)	**0.011**		**0.010**	**0.00075**	**ng/g**
PCB 123 (BZ)	ND		0.010	0.00077	ng/g
PCB 114 (BZ)	ND		0.010	0.00071	ng/g
PCB 169 (BZ)	ND		0.010	0.00061	ng/g
PCB 156 (BZ)	**0.0013**	**Q C J**	**0.010**	**0.0010**	**ng/g**
PCB 157 (BZ)	**0.0013**	**Q C156 J**	**0.010**	**0.0010**	**ng/g**
PCB 167 (BZ)	ND		0.010	0.00060	ng/g
PCB 189 (BZ)	ND		0.010	0.00046	ng/g

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4F120000 - 010B	**Work Order #....:**	M32FP1AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14	**Percent Moisture:**	0.0
Prep Batch # ....:	4163010				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	61		30 - 140
13C12-PCB 3	55		30 - 140
13C12-PCB 4	70		30 - 140
13C12-PCB 15	62		30 - 140
13C12-PCB 19	87		30 - 140
13C12-PCB 37	76		30 - 140
13C12-PCB 54	83		30 - 140
13C12-PCB 77	74		30 - 140
13C12-PCB 81	73		30 - 140
13C12-PCB 104	83		30 - 140
13C12-PCB 105	84		30 - 140
13C12-PCB 114	85		30 - 140
13C12-PCB 118	82		30 - 140
13C12-PCB 123	82		30 - 140
13C12-PCB 126	80		30 - 140
13C12-PCB 155	91		30 - 140
13C12-PCB 156	93	C	30 - 140
13C12-PCB 157	93	C	30 - 140
13C12-PCB 167	90		30 - 140
13C12-PCB 169	94		30 - 140
13C12-PCB 170	87		30 - 140
13C12-PCB 188	88		30 - 140
13C12-PCB 189	83		30 - 140
13C12-PCB 202	96		30 - 140
13C12-PCB 205	77		30 - 140
13C12-PCB 206	95		30 - 140
13C12-PCB 208	89		30 - 140
13C12-PCB 209	85		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	83	40 - 125
13C12-PCB 111	86	40 - 125
13C12-PCB 178	83	40 - 125

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Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4F120000 - 010B	**Work Order #....:**	M32FP1AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14	**Percent Moisture:**	0.0
Prep Batch # ....:	4163010				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

QUALIFIERS

C Co-eluting isomer.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H4F100407 **Work Order # ...:** M32FP1AC-LCS **Matrix .....:** SOLID
LCS Lot-Sample# : H4F120000 - 010
Prep Date .....: 06/12/14 **Analysis Date ..:** 06/16/14
Prep Batch # ...: 4163010
Dilution Factor : 1
Analyst ID.....: Jon M. Nordquist **Instrument ID..:** M1D **Method.....:** EPA-22 1668A
Initial Wgt/Vol: 10 g

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
PCB 77 (BZ)	**0.500**	**0.484**	**ng/g**	**97**		**(50 - 150)**
PCB 81 (BZ)	**0.500**	**0.467**	**ng/g**	**93**		**(50 - 150)**
PCB 126 (BZ)	**0.500**	**0.586**	**ng/g**	**117**		**(50 - 150)**
PCB 105 (BZ)	**0.500**	**0.537**	**ng/g**	**107**	**B**	**(50 - 150)**
PCB 118 (BZ)	**0.500**	**0.544**	**ng/g**	**109**	**B**	**(50 - 150)**
PCB 123 (BZ)	**0.500**	**0.610**	**ng/g**	**122**		**(50 - 150)**
PCB 114 (BZ)	**0.500**	**0.568**	**ng/g**	**114**		**(50 - 150)**
PCB 169 (BZ)	**0.500**	**0.488**	**ng/g**	**98**		**(50 - 150)**
PCB 156 (BZ)	**1.00**	**1.06**	**ng/g**	**106**	**B C**	**(50 - 150)**
PCB 157 (BZ)	**1.00**	**1.06**	**ng/g**	**106**	**B C156**	**(50 - 150)**
PCB 167 (BZ)	**0.500**	**0.547**	**ng/g**	**109**		**(50 - 150)**
PCB 189 (BZ)	**0.500**	**0.561**	**ng/g**	**112**		**(50 - 150)**

INTERNAL STANDARD	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	56		(30 - 140)
13C12-PCB 3	53		(30 - 140)
13C12-PCB 4	70		(30 - 140)
13C12-PCB 15	66		(30 - 140)
13C12-PCB 19	86		(30 - 140)
13C12-PCB 37	78		(30 - 140)
13C12-PCB 54	80		(30 - 140)
13C12-PCB 77	76		(30 - 140)
13C12-PCB 81	75		(30 - 140)
13C12-PCB 104	80		(30 - 140)
13C12-PCB 105	85		(30 - 140)
13C12-PCB 114	83		(30 - 140)
13C12-PCB 118	82		(30 - 140)
13C12-PCB 123	81		(30 - 140)
13C12-PCB 126	80		(30 - 140)
13C12-PCB 155	87		(30 - 140)
13C12-PCB 156	90	**C**	(30 - 140)
13C12-PCB 157	90	**C**	(30 - 140)
13C12-PCB 167	88		(30 - 140)
13C12-PCB 169	94		(30 - 140)
13C12-PCB 170	85		(30 - 140)
13C12-PCB 188	87		(30 - 140)
13C12-PCB 189	86		(30 - 140)
13C12-PCB 202	93		(30 - 140)
13C12-PCB 205	79		(30 - 140)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H4F100407 **Work Order # ...:** M32FP1AC-LCS **Matrix .....:** SOLID
LCS Lot-Sample# : H4F120000 - 010

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 206	97	(30 - 140)
13C12-PCB 208	92	(30 - 140)
13C12-PCB 209	89	(30 - 140)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	81	(40 - 125)
13C12-PCB 111	84	(40 - 125)
13C12-PCB 178	82	(40 - 125)

Notes:

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

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

C Co-eluting isomer.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H4F120000 - 011B **Work Order #....:** M32FQ1AA **Matrix....:** BIOLOGICAL
Dilution Factor: 1
Prep Date....: 06/12/14 **Analysis Date....:** 06/17/14
Prep Batch # ....: 4163011
Initial Wgt/Vol : 10 g **Instrument ID....:** M1D **Method:** EPA-22 1668A
Analyst ID....: Patricia(Trish) M. Parsly

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	ND		0.010	0.00054	ng/g
PCB 81 (BZ)	ND		0.010	0.00054	ng/g
PCB 126 (BZ)	ND		0.010	0.00080	ng/g
PCB 105 (BZ)	**0.017**		**0.010**	**0.00070**	**ng/g**
PCB 118 (BZ)	**0.037**		**0.010**	**0.00068**	**ng/g**
PCB 123 (BZ)	ND		0.010	0.00073	ng/g
PCB 114 (BZ)	ND		0.010	0.00066	ng/g
PCB 169 (BZ)	ND		0.010	0.00056	ng/g
PCB 156 (BZ)	**0.0035**	**Q C J**	**0.010**	**0.00099**	**ng/g**
PCB 157 (BZ)	**0.0035**	**Q C156 J**	**0.010**	**0.00099**	**ng/g**
PCB 167 (BZ)	ND		0.010	0.00054	ng/g
PCB 189 (BZ)	ND		0.010	0.00043	ng/g

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4F120000 - 011B	**Work Order #....:**	M32FQ1AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14		
Prep Batch # ....:	4163011				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	62		30 - 140
13C12-PCB 3	57		30 - 140
13C12-PCB 4	71		30 - 140
13C12-PCB 15	63		30 - 140
13C12-PCB 19	88		30 - 140
13C12-PCB 37	76		30 - 140
13C12-PCB 54	84		30 - 140
13C12-PCB 77	73		30 - 140
13C12-PCB 81	73		30 - 140
13C12-PCB 104	83		30 - 140
13C12-PCB 105	84		30 - 140
13C12-PCB 114	84		30 - 140
13C12-PCB 118	82		30 - 140
13C12-PCB 123	80		30 - 140
13C12-PCB 126	79		30 - 140
13C12-PCB 155	91		30 - 140
13C12-PCB 156	91	C	30 - 140
13C12-PCB 157	91	C	30 - 140
13C12-PCB 167	88		30 - 140
13C12-PCB 169	94		30 - 140
13C12-PCB 170	84		30 - 140
13C12-PCB 188	85		30 - 140
13C12-PCB 189	84		30 - 140
13C12-PCB 202	93		30 - 140
13C12-PCB 205	78		30 - 140
13C12-PCB 206	98		30 - 140
13C12-PCB 208	89		30 - 140
13C12-PCB 209	86		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	83	40 - 125
13C12-PCB 111	84	40 - 125
13C12-PCB 178	81	40 - 125

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Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4F120000 - 011B	**Work Order #....:**	M32FQ1AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/12/14	**Analysis Date....:**	06/17/14		
Prep Batch # ....:	4163011				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

QUALIFIERS

C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

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LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H4F100407 **Work Order # ...:** M32FQ1AC-LCS **Matrix .....:** BIOLOGICA
LCS Lot-Sample# : H4F120000 - 011
Prep Date .....: 06/12/14 **Analysis Date ..:** 06/16/14
Prep Batch # ...: 4163011
Dilution Factor : 1
Analyst ID.....: Jon M. Nordquist **Instrument ID..:** M1D **Method.....:** EPA-22 1668A
Initial Wgt/Vol: 10 g

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
PCB 77 (BZ)	**0.500**	**0.485**	**ng/g**	**97**		**(50 - 150)**
PCB 81 (BZ)	**0.500**	**0.471**	**ng/g**	**94**		**(50 - 150)**
PCB 126 (BZ)	**0.500**	**0.582**	**ng/g**	**116**		**(50 - 150)**
PCB 105 (BZ)	**0.500**	**0.545**	**ng/g**	**109**	**B**	**(50 - 150)**
PCB 118 (BZ)	**0.500**	**0.544**	**ng/g**	**109**	**B**	**(50 - 150)**
PCB 123 (BZ)	**0.500**	**0.611**	**ng/g**	**122**		**(50 - 150)**
PCB 114 (BZ)	**0.500**	**0.558**	**ng/g**	**112**		**(50 - 150)**
PCB 169 (BZ)	**0.500**	**0.486**	**ng/g**	**97**		**(50 - 150)**
PCB 156 (BZ)	**1.00**	**1.05**	**ng/g**	**105**	**B C**	**(50 - 150)**
PCB 157 (BZ)	**1.00**	**1.05**	**ng/g**	**105**	**B C156**	**(50 - 150)**
PCB 167 (BZ)	**0.500**	**0.547**	**ng/g**	**109**		**(50 - 150)**
PCB 189 (BZ)	**0.500**	**0.565**	**ng/g**	**113**		**(50 - 150)**

INTERNAL STANDARD	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	56		(30 - 140)
13C12-PCB 3	52		(30 - 140)
13C12-PCB 4	66		(30 - 140)
13C12-PCB 15	63		(30 - 140)
13C12-PCB 19	86		(30 - 140)
13C12-PCB 37	78		(30 - 140)
13C12-PCB 54	78		(30 - 140)
13C12-PCB 77	76		(30 - 140)
13C12-PCB 81	76		(30 - 140)
13C12-PCB 104	77		(30 - 140)
13C12-PCB 105	82		(30 - 140)
13C12-PCB 114	82		(30 - 140)
13C12-PCB 118	80		(30 - 140)
13C12-PCB 123	79		(30 - 140)
13C12-PCB 126	78		(30 - 140)
13C12-PCB 155	85		(30 - 140)
13C12-PCB 156	90	**C**	(30 - 140)
13C12-PCB 157	90	**C**	(30 - 140)
13C12-PCB 167	86		(30 - 140)
13C12-PCB 169	93		(30 - 140)
13C12-PCB 170	85		(30 - 140)
13C12-PCB 188	85		(30 - 140)
13C12-PCB 189	84		(30 - 140)
13C12-PCB 202	91		(30 - 140)
13C12-PCB 205	77		(30 - 140)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H4F100407 **Work Order # ...:** M32FQ1AC-LCS **Matrix .....:** BIOLOGICA
LCS Lot-Sample# : H4F120000 - 011

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 206	96	(30 - 140)
13C12-PCB 208	90	(30 - 140)
13C12-PCB 209	85	(30 - 140)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	80	(40 - 125)
13C12-PCB 111	84	(40 - 125)
13C12-PCB 178	82	(40 - 125)

Notes:

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

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

C Co-eluting isomer.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4F230000 - 018B	**Work Order #....:**	M35M11AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/23/14	**Analysis Date....:**	06/25/14		
Prep Batch # ....:	4174018				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 105 (BZ)	**0.00095**	**Q J**	**0.010**	**0.00054**	**ng/g**
PCB 118 (BZ)	**0.0015**	**Q J**	**0.010**	**0.00053**	**ng/g**

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	57		30 - 140
13C12-PCB 3	52		30 - 140
13C12-PCB 4	67		30 - 140
13C12-PCB 15	59		30 - 140
13C12-PCB 19	79		30 - 140
13C12-PCB 37	72		30 - 140
13C12-PCB 54	67		30 - 140
13C12-PCB 77	71		30 - 140
13C12-PCB 81	69		30 - 140
13C12-PCB 104	71		30 - 140
13C12-PCB 105	78		30 - 140
13C12-PCB 114	80		30 - 140
13C12-PCB 118	78		30 - 140
13C12-PCB 123	75		30 - 140
13C12-PCB 126	74		30 - 140
13C12-PCB 155	77		30 - 140
13C12-PCB 156	83	C	30 - 140
13C12-PCB 157	83	C	30 - 140
13C12-PCB 167	83		30 - 140
13C12-PCB 169	87		30 - 140
13C12-PCB 170	81		30 - 140
13C12-PCB 188	81		30 - 140
13C12-PCB 189	83		30 - 140
13C12-PCB 202	86		30 - 140
13C12-PCB 205	73		30 - 140
13C12-PCB 206	87		30 - 140
13C12-PCB 208	86		30 - 140
13C12-PCB 209	75		30 - 140

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4F230000 - 018B	**Work Order #....:**	M35M11AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/23/14	**Analysis Date....:**	06/25/14		
Prep Batch # ....:	4174018				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	79	40 - 125
13C12-PCB 111	82	40 - 125
13C12-PCB 178	78	40 - 125

QUALIFIERS

C Co-eluting isomer.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H4F100407 **Work Order # ...:** M35M11AC-LCS **Matrix .....:** BIOLOGICA
LCS Lot-Sample# : H4F230000 - 018
Prep Date .....: 06/23/14 **Analysis Date ..:** 06/25/14
Prep Batch # ...: 4174018
Dilution Factor : 1
Analyst ID.....: Jon M. Nordquist **Instrument ID..:** M1D **Method.....:** EPA-22 1668A
Initial Wgt/Vol: 10 g

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS
PCB 105 (BZ)	**0.500**	**0.548**	**ng/g**	**110 B**	**(50 - 150)**
PCB 118 (BZ)	**0.500**	**0.526**	**ng/g**	**105 B**	**(50 - 150)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 1	55	(30 - 140)
13C12-PCB 3	49	(30 - 140)
13C12-PCB 4	65	(30 - 140)
13C12-PCB 15	61	(30 - 140)
13C12-PCB 19	78	(30 - 140)
13C12-PCB 37	73	(30 - 140)
13C12-PCB 54	67	(30 - 140)
13C12-PCB 77	75	(30 - 140)
13C12-PCB 81	73	(30 - 140)
13C12-PCB 104	73	(30 - 140)
13C12-PCB 105	78	(30 - 140)
13C12-PCB 114	79	(30 - 140)
13C12-PCB 118	78	(30 - 140)
13C12-PCB 123	76	(30 - 140)
13C12-PCB 126	75	(30 - 140)
13C12-PCB 155	77	(30 - 140)
13C12-PCB 156	79 **C**	(30 - 140)
13C12-PCB 157	79 **C**	(30 - 140)
13C12-PCB 167	83	(30 - 140)
13C12-PCB 169	86	(30 - 140)
13C12-PCB 170	82	(30 - 140)
13C12-PCB 188	84	(30 - 140)
13C12-PCB 189	84	(30 - 140)
13C12-PCB 202	89	(30 - 140)
13C12-PCB 205	75	(30 - 140)
13C12-PCB 206	88	(30 - 140)
13C12-PCB 208	85	(30 - 140)
13C12-PCB 209	75	(30 - 140)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	77	(40 - 125)
13C12-PCB 111	86	(40 - 125)
13C12-PCB 178	83	(40 - 125)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Notes:

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

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

C Co-eluting isomer.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

H4F100407

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Colussy, Jill L	Carrier Tracking No(s):	COC No: 180-155940.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jill.colussy@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-33598-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 6/19/2014			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: 0055364, Devils Swamp	Project #: 18009365			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (TISSUE-PCB CONGENER BY 1668A-WHO)/ TISSUE-PCB CONGENER BY 1668A-WHO	SUB (1668A, PCB Congeners WHO List)/ 1668A, PCB Congeners WHO list	SUB (1668A, PCB Congeners WHO list)/ 1668A, PCB Congeners WHO list	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
055364-T2-060414-FT-CRAWFISH-20 (180-33598-1)	6/4/14	09:04 Eastern		Tissue			X			1	includes 25% tissue surcharge, $35 GPC, 5% data package surcharge
055364-T2-060214-FT-CRAWFISH-21 (180-33598-2)	6/2/14	08:35 Eastern		Tissue			X			1	includes 25% tissue surcharge, $35 GPC, 5% data package surcharge
055364-T2-060414-SE-COMP-1 (180-33598-3)	6/4/14	11:55 Eastern		Sediment				X		1	
055364-T2-060414-SE-COMP-2 (180-33598-4)	6/4/14	12:10 Eastern		Sediment				X		1	
055364-T2-060414-SE-EB-1 (180-33598-5)	6/4/14	12:20 Eastern		Water					X	2	
CUSTODY SEALS INTACT											
RECEIVED AT RT 1.7 / CT 1.7°C											
BKD 6-10-14											
1 COOLER FED X# 5682 3722 1636											

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/9/14 1700	TA Pitt	[signature]	6-10-14 10:00	TA KNOX

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: 174F100407

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SL60 Correction factor: 0.0	✓	✓		☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?	✓		✓	☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: 31772016/02	✓			☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		✓		☐ **19a** Other

Comments/Actions Taken

pH test strip lot number: _____

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 90633 PM Instructions: NA

Sample Receiving Associate: [signature] Date: 6-10-14

QA026R28.doc, 042414

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 180-33598-1

Login Number: 33598

List Source: TestAmerica Pittsburgh

List Number: 1

Creator: Kovitch, Christina M

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

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 180-33598-1

Login Number: 33598
List Number: 2
Creator: Marion, Greg T

List Source: TestAmerica Burlington
List Creation: 06/10/14 02:04 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	CUSTODY SEAL TAPE
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.6ºC IR GUN ID 181/CF=0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

TestAmerica Job ID: 180-33804-1
Client Project/Site: 0055364, Devils Swamp

For:
Conestoga-Rovers & Associates, Inc.
9033 Meridian Way
West Chester, Ohio 45069

Attn: Deborah Brennan

Authorized for release by:
8/1/2014 3:14:52 PM

Jill Colussy, Project Manager I
(412)963-2444
jill.colussy@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 180-33804-1

Laboratory: TestAmerica Pittsburgh

Narrative

CASE NARRATIVE

Client: Conestoga-Rovers & Associates, Inc.

Project: 0055364, Devils Swamp

Report Number: 180-33804-1

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

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

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

RECEIPT
The samples were received on 6/12/2014 10:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0º C.

GRAIN SIZE
No difficulties were encountered during the analysis.

GENERAL CHEMISTRY
Please note that the reporting limit for Lloyd Kahn TOC analysis is a nominal value and does not reflect adjustments in sample mass processed on an individual basis.

SUBCONTRACT WORK
Methods PCBCONGENERSSO, TISSUE-PCB CONGENER BY 1668A-WHO: These methods were subcontracted to TestAmerica Knoxville. The subcontract certifications are different from those listed on the TestAmerica cover page of this final report.

Glossary

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

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33804-1

Laboratory: TestAmerica Pittsburgh

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-15
California	NELAP	9	4224CA	03-31-14 *
Connecticut	State Program	1	PH-0688	09-30-14
Florida	NELAP	4	E871008	06-30-15
Illinois	NELAP	5	002602	06-30-15
Kansas	NELAP	7	E-10350	01-31-15
Louisiana	NELAP	6	04041	06-30-15
New Hampshire	NELAP	1	203011	04-04-15
New Jersey	NELAP	2	PA005	06-30-15
New York	NELAP	2	11182	03-31-15
North Carolina (WW/SW)	State Program	4	434	12-31-14
Pennsylvania	NELAP	3	02-00416	04-30-15
South Carolina	State Program	4	89014	04-30-14 *
Texas	NELAP	6	T104704528	03-31-15
US Fish & Wildlife	Federal		LE94312A-1	11-30-14
USDA	Federal		P330-10-00139	05-23-16
Utah	NELAP	8	STLP	05-31-15
Virginia	NELAP	3	460189	09-14-14
West Virginia DEP	State Program	3	142	01-31-15
Wisconsin	State Program	5	998027800	08-31-14

Laboratory: TestAmerica Burlington

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0751	09-30-15
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-13-15
Florida	NELAP	4	E87467	06-30-15
L-A-B	DoD ELAP		L2336	02-26-17
Louisiana	NELAP	6	176292	06-30-14
Maine	State Program	1	VT00008	04-17-15
Minnesota	NELAP	5	050-999-436	12-31-14
New Hampshire	NELAP	1	2006	12-18-14
New Jersey	NELAP	2	VT972	06-30-15
New York	NELAP	2	10391	03-31-15
Pennsylvania	NELAP	3	68-00489	04-30-15
Rhode Island	State Program	1	LAO00298	12-30-14
US Fish & Wildlife	Federal		LE-058448-0	02-28-15
USDA	Federal		P330-11-00093	10-28-16
Vermont	State Program	1	VT-4000	12-31-14
Virginia	NELAP	3	460209	12-14-14

* Certification renewal pending - certification considered valid.

Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33804-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-33804-1	055364-T2-060914-FT-CRAWFISH-22	Tissue	06/09/14 10:33	06/12/14 10:25
180-33804-2	055364-T2-051914-FT-CRAWFISH-23	Tissue	05/19/14 08:45	06/12/14 10:25
180-33804-3	055364-T2-060414-FT-CRAWFISH-24	Tissue	06/04/14 09:12	06/12/14 10:25
180-33804-4	055364-T2-061114-SE-COMP-3	Sediment	06/11/14 11:15	06/12/14 10:25
180-33804-5	055364-T2-061114-SE-COMP-4	Sediment	06/11/14 11:00	06/12/14 10:25
180-33804-6	055364-T2-061114-SE-COMP-5	Sediment	06/11/14 11:30	06/12/14 10:25

Method Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33804-1

Method	Method Description	Protocol	Laboratory
2540G	SM 2540G	SM22	TAL PIT
Lipids	Percent Lipids	TestAmerica SOP	TAL PIT
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL PIT
D422	Grain Size	ASTM	TAL BUR

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SM22 = SM22

TestAmerica SOP = TestAmerica, Inc., Standard Operating Procedure

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33804-1

Client Sample ID: 055364-T2-060914-FT-CRAWFISH-22 — Lab Sample ID: 180-33804-1

Date Collected: 06/09/14 10:33 — **Matrix: Tissue**
Date Received: 06/12/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			109603	06/25/14 11:52	AJB	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Pre Prep	In House					108522	06/13/14 14:00	LWM	TAL PIT
Total/NA	Pre Prep	Frozen Storage					108521	06/13/14 14:00	LWM	TAL PIT
Total/NA	Analysis	Lipids		1	10.1 g	10.0 mL	109704	06/26/14 06:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Prep	3541			10.1 g	10.0 mL	109663	06/26/14 06:20	KLG	TAL PIT

Client Sample ID: 055364-T2-051914-FT-CRAWFISH-23 — Lab Sample ID: 180-33804-2

Date Collected: 05/19/14 08:45 — **Matrix: Tissue**
Date Received: 06/12/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			109603	06/25/14 11:52	AJB	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Pre Prep	In House					108522	06/13/14 14:00	LWM	TAL PIT
Total/NA	Pre Prep	Frozen Storage					108521	06/13/14 14:00	LWM	TAL PIT
Total/NA	Analysis	Lipids		1	10.0 g	10.0 mL	109704	06/26/14 06:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Prep	3541			10.0 g	10.0 mL	109663	06/26/14 06:20	KLG	TAL PIT

Client Sample ID: 055364-T2-060414-FT-CRAWFISH-24 — Lab Sample ID: 180-33804-3

Date Collected: 06/04/14 09:12 — **Matrix: Tissue**
Date Received: 06/12/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			109603	06/25/14 11:52	AJB	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Pre Prep	In House					108522	06/13/14 14:00	LWM	TAL PIT
Total/NA	Pre Prep	Frozen Storage					108521	06/13/14 14:00	LWM	TAL PIT
Total/NA	Analysis	Lipids		1	10.1 g	10.0 mL	109704	06/26/14 06:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Prep	3541			10.1 g	10.0 mL	109663	06/26/14 06:20	KLG	TAL PIT

Client Sample ID: 055364-T2-061114-SE-COMP-3 — Lab Sample ID: 180-33804-4

Date Collected: 06/11/14 11:15 — **Matrix: Sediment**
Date Received: 06/12/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			108530	06/13/14 15:57	AJB	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Lloyd Kahn		1			109450	06/24/14 09:55	JDD	TAL PIT
	Instrument ID: FLASHEA									

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33804-1

Client Sample ID: 055364-T2-061114-SE-COMP-3

Lab Sample ID: 180-33804-4

Date Collected: 06/11/14 11:15
Matrix: Sediment
Date Received: 06/12/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D422		1	67.83 g		73845	06/16/14 21:13	SML	TAL BUR
	Instrument ID:	D422_import								

Client Sample ID: 055364-T2-061114-SE-COMP-4

Lab Sample ID: 180-33804-5

Date Collected: 06/11/14 11:00
Matrix: Sediment
Date Received: 06/12/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			108530	06/13/14 15:57	AJB	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	Lloyd Kahn		1			109450	06/24/14 10:11	JDD	TAL PIT
	Instrument ID:	FLASHEA								
Total/NA	Analysis	D422		1	77.02 g		73845	06/16/14 22:50	SML	TAL BUR
	Instrument ID:	D422_import								

Client Sample ID: 055364-T2-061114-SE-COMP-5

Lab Sample ID: 180-33804-6

Date Collected: 06/11/14 11:30
Matrix: Sediment
Date Received: 06/12/14 10:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			108530	06/13/14 15:57	AJB	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	Lloyd Kahn		1			109450	06/24/14 10:37	JDD	TAL PIT
	Instrument ID:	FLASHEA								
Total/NA	Analysis	D422		1	58.03 g		73845	06/16/14 22:53	SML	TAL BUR
	Instrument ID:	D422_import								

Laboratory References:

TAL BUR = TestAmerica Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33804-1

Analyst References:

Lab: TAL BUR

Batch Type: Analysis

SML = Scott Lavigne

Lab: TAL PIT

Batch Type: Pre Prep

LWM = Larry Matko

Batch Type: Prep

KLG = Kevin Geehring

Batch Type: Analysis

AJB = Amanda Brunick

JDD = James DeRubeis

MTW = Michael Wesoloski

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33804-1

Client Sample ID: 055364-T2-060914-FT-CRAWFISH-22

Lab Sample ID: 180-33804-1
Date Collected: 06/09/14 10:33
Matrix: Tissue
Date Received: 06/12/14 10:25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	72		0.10	0.10	%			06/25/14 11:52	1
Percent Lipids	1.6		0.099	0.029	%		06/26/14 06:20	06/26/14 06:20	1

Client Sample ID: 055364-T2-051914-FT-CRAWFISH-23

Lab Sample ID: 180-33804-2
Date Collected: 05/19/14 08:45
Matrix: Tissue
Date Received: 06/12/14 10:25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	70		0.10	0.10	%			06/25/14 11:52	1
Percent Lipids	2.1		0.10	0.030	%		06/26/14 06:20	06/26/14 06:20	1

Client Sample ID: 055364-T2-060414-FT-CRAWFISH-24

Lab Sample ID: 180-33804-3
Date Collected: 06/04/14 09:12
Matrix: Tissue
Date Received: 06/12/14 10:25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	72		0.10	0.10	%			06/25/14 11:52	1
Percent Lipids	0.91		0.099	0.029	%		06/26/14 06:20	06/26/14 06:20	1

Client Sample ID: 055364-T2-061114-SE-COMP-3

Lab Sample ID: 180-33804-4
Date Collected: 06/11/14 11:15
Matrix: Sediment
Date Received: 06/12/14 10:25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	28		0.10	0.10	%			06/13/14 15:57	1
Total Organic Carbon - Duplicates	2400		1400	120	mg/Kg	☼		06/24/14 09:55	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			06/16/14 21:13	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/16/14 21:13	1
Sand	2.2				%			06/16/14 21:13	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/16/14 21:13	1
Coarse Sand	0.0				%			06/16/14 21:13	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/16/14 21:13	1
Medium Sand	0.5				%			06/16/14 21:13	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/16/14 21:13	1
Fine Sand	1.7				%			06/16/14 21:13	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/16/14 21:13	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/16/14 21:13	1
Silt	55.5				%			06/16/14 21:13	1
Clay	42.3				%			06/16/14 21:13	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/16/14 21:13	1
Sieve Size #10 - Percent Finer	100.0				% Passing			06/16/14 21:13	1
Sieve Size #20 - Percent Finer	99.6				% Passing			06/16/14 21:13	1
Sieve Size #40 - Percent Finer	99.5				% Passing			06/16/14 21:13	1

Client Sample ID: 055364-T2-061114-SE-COMP-3

Lab Sample ID: 180-33804-4

Date Collected: 06/11/14 11:15

Matrix: Sediment

Date Received: 06/12/14 10:25

Method: D422 - Grain Size (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sieve Size #60 - Percent Finer	99.1				% Passing			06/16/14 21:13	1
Sieve Size #80 - Percent Finer	99.1				% Passing			06/16/14 21:13	1
Sieve Size #100 - Percent Finer	99.0				% Passing			06/16/14 21:13	1
Sieve Size #200 - Percent Finer	97.8				% Passing			06/16/14 21:13	1

Client Sample ID: 055364-T2-061114-SE-COMP-4

Lab Sample ID: 180-33804-5

Date Collected: 06/11/14 11:00

Matrix: Sediment

Date Received: 06/12/14 10:25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	33		0.10	0.10	%			06/13/14 15:57	1
Total Organic Carbon - Duplicates	14000		1500	130	mg/Kg	☼		06/24/14 10:11	1

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			06/16/14 22:50	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/16/14 22:50	1
Sand	8.4				%			06/16/14 22:50	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/16/14 22:50	1
Coarse Sand	0.0				%			06/16/14 22:50	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/16/14 22:50	1
Medium Sand	0.3				%			06/16/14 22:50	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/16/14 22:50	1
Fine Sand	8.1				%			06/16/14 22:50	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/16/14 22:50	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/16/14 22:50	1
Silt	49.2				%			06/16/14 22:50	1
Clay	42.4				%			06/16/14 22:50	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/16/14 22:50	1
Sieve Size #10 - Percent Finer	100.0				% Passing			06/16/14 22:50	1
Sieve Size #20 - Percent Finer	99.9				% Passing			06/16/14 22:50	1
Sieve Size #40 - Percent Finer	99.7				% Passing			06/16/14 22:50	1
Sieve Size #60 - Percent Finer	99.6				% Passing			06/16/14 22:50	1
Sieve Size #80 - Percent Finer	99.4				% Passing			06/16/14 22:50	1
Sieve Size #100 - Percent Finer	99.0				% Passing			06/16/14 22:50	1
Sieve Size #200 - Percent Finer	91.6				% Passing			06/16/14 22:50	1

Client Sample ID: 055364-T2-061114-SE-COMP-5

Lab Sample ID: 180-33804-6

Date Collected: 06/11/14 11:30

Matrix: Sediment

Date Received: 06/12/14 10:25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	32		0.10	0.10	%			06/13/14 15:57	1
Total Organic Carbon - Duplicates	9100		1500	130	mg/Kg	☼		06/24/14 10:37	1

Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33804-1

Client Sample ID: 055364-T2-061114-SE-COMP-5

Lab Sample ID: 180-33804-6

Date Collected: 06/11/14 11:30

Matrix: Sediment

Date Received: 06/12/14 10:25

Method: D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gravel	0.0				%			06/16/14 22:53	1
Sieve Size 3 inch - Percent Finer	100.0				% Passing			06/16/14 22:53	1
Sand	3.1				%			06/16/14 22:53	1
Sieve Size 2 inch - Percent Finer	100.0				% Passing			06/16/14 22:53	1
Coarse Sand	0.0				%			06/16/14 22:53	1
Sieve Size 1.5 inch - Percent Finer	100.0				% Passing			06/16/14 22:53	1
Medium Sand	1.1				%			06/16/14 22:53	1
Sieve Size 1 inch - Percent Finer	100.0				% Passing			06/16/14 22:53	1
Fine Sand	2.0				%			06/16/14 22:53	1
Sieve Size 0.75 inch - Percent Finer	100.0				% Passing			06/16/14 22:53	1
Sieve Size 0.375 inch - Percent Finer	100.0				% Passing			06/16/14 22:53	1
Silt	51.8				%			06/16/14 22:53	1
Clay	45.1				%			06/16/14 22:53	1
Sieve Size #4 - Percent Finer	100.0				% Passing			06/16/14 22:53	1
Sieve Size #10 - Percent Finer	100.0				% Passing			06/16/14 22:53	1
Sieve Size #20 - Percent Finer	99.5				% Passing			06/16/14 22:53	1
Sieve Size #40 - Percent Finer	98.9				% Passing			06/16/14 22:53	1
Sieve Size #60 - Percent Finer	98.3				% Passing			06/16/14 22:53	1
Sieve Size #80 - Percent Finer	98.0				% Passing			06/16/14 22:53	1
Sieve Size #100 - Percent Finer	97.9				% Passing			06/16/14 22:53	1
Sieve Size #200 - Percent Finer	96.9				% Passing			06/16/14 22:53	1

QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33804-1

Method: Lipids - Percent Lipids

Lab Sample ID: MB 180-109663/1-A — **Client Sample ID: Method Blank**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 109704 — **Prep Batch: 109663**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Lipids	ND		0.10	0.030	%		06/26/14 06:20	06/26/14 06:20	1

Lab Sample ID: LCS 180-109663/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 109704 — **Prep Batch: 109663**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Percent Lipids	10.0	9.84		%		98	30 - 150

Lab Sample ID: LCSD 180-109663/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Tissue — **Prep Type: Total/NA**
Analysis Batch: 109704 — **Prep Batch: 109663**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Percent Lipids	10.0	9.04		%		90	30 - 150	8	25

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 180-109450/3 — **Client Sample ID: Method Blank**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 109450

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	89	mg/Kg			06/24/14 07:02	1

Lab Sample ID: LCS 180-109450/4 — **Client Sample ID: Lab Control Sample**
Matrix: Sediment — **Prep Type: Total/NA**
Analysis Batch: 109450

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	35000	37400		mg/Kg		107	75 - 125

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33804-1

General Chemistry

Pre Prep Batch: 108521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33804-1	055364-T2-060914-FT-CRAWFISH-22	Total/NA	Tissue	Frozen Storage	
180-33804-2	055364-T2-051914-FT-CRAWFISH-23	Total/NA	Tissue	Frozen Storage	
180-33804-3	055364-T2-060414-FT-CRAWFISH-24	Total/NA	Tissue	Frozen Storage	

Pre Prep Batch: 108522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33804-1	055364-T2-060914-FT-CRAWFISH-22	Total/NA	Tissue	In House	108521
180-33804-2	055364-T2-051914-FT-CRAWFISH-23	Total/NA	Tissue	In House	108521
180-33804-3	055364-T2-060414-FT-CRAWFISH-24	Total/NA	Tissue	In House	108521

Analysis Batch: 108530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33804-4	055364-T2-061114-SE-COMP-3	Total/NA	Sediment	2540G	
180-33804-5	055364-T2-061114-SE-COMP-4	Total/NA	Sediment	2540G	
180-33804-6	055364-T2-061114-SE-COMP-5	Total/NA	Sediment	2540G	

Analysis Batch: 109450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33804-4	055364-T2-061114-SE-COMP-3	Total/NA	Sediment	Lloyd Kahn	
180-33804-5	055364-T2-061114-SE-COMP-4	Total/NA	Sediment	Lloyd Kahn	
180-33804-6	055364-T2-061114-SE-COMP-5	Total/NA	Sediment	Lloyd Kahn	
LCS 180-109450/4	Lab Control Sample	Total/NA	Sediment	Lloyd Kahn	
MB 180-109450/3	Method Blank	Total/NA	Sediment	Lloyd Kahn	

Analysis Batch: 109603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33804-1	055364-T2-060914-FT-CRAWFISH-22	Total/NA	Tissue	2540G	
180-33804-2	055364-T2-051914-FT-CRAWFISH-23	Total/NA	Tissue	2540G	
180-33804-3	055364-T2-060414-FT-CRAWFISH-24	Total/NA	Tissue	2540G	

Prep Batch: 109663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33804-1	055364-T2-060914-FT-CRAWFISH-22	Total/NA	Tissue	3541	108522
180-33804-2	055364-T2-051914-FT-CRAWFISH-23	Total/NA	Tissue	3541	108522
180-33804-3	055364-T2-060414-FT-CRAWFISH-24	Total/NA	Tissue	3541	108522
LCS 180-109663/2-A	Lab Control Sample	Total/NA	Tissue	3541	
LCSD 180-109663/3-A	Lab Control Sample Dup	Total/NA	Tissue	3541	
MB 180-109663/1-A	Method Blank	Total/NA	Tissue	3541	

Analysis Batch: 109704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33804-1	055364-T2-060914-FT-CRAWFISH-22	Total/NA	Tissue	Lipids	109663
180-33804-2	055364-T2-051914-FT-CRAWFISH-23	Total/NA	Tissue	Lipids	109663
180-33804-3	055364-T2-060414-FT-CRAWFISH-24	Total/NA	Tissue	Lipids	109663
LCS 180-109663/2-A	Lab Control Sample	Total/NA	Tissue	Lipids	109663
LCSD 180-109663/3-A	Lab Control Sample Dup	Total/NA	Tissue	Lipids	109663
MB 180-109663/1-A	Method Blank	Total/NA	Tissue	Lipids	109663

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 0055364, Devils Swamp

TestAmerica Job ID: 180-33804-1

Geotechnical

Analysis Batch: 73845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-33804-4	055364-T2-061114-SE-COMP-3	Total/NA	Sediment	D422	
180-33804-5	055364-T2-061114-SE-COMP-4	Total/NA	Sediment	D422	
180-33804-6	055364-T2-061114-SE-COMP-5	Total/NA	Sediment	D422	

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Sample Receipt Documentation 43

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 180-33804-1

Devil's Swamp

Lot #: H4F160406

Jill Colussy

TestAmerica Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.

Bruce Wagner
Project Manager

June 26, 2014

ANALYTICAL METHODS SUMMARY

H4F160406

PARAMETER	ANALYTICAL METHOD
Percent Moisture	MCAWW 160.3 MOD
PCBs, HRGC/HRMS	EPA-22 1668A

References:

EPA-22 "METHOD 1668, REVISION A: CHLORINATED BIPHENYL CONGENERS IN WATER, SOIL, SEDIMENT, AND TISSUE BY HRGC/HRMS" EPA-821-R-00-002 12/99

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SAMPLE SUMMARY

H4F160406

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M33QJ	001	055364-T2-060914-FT-CRAWFISH-22	06/09/14	10:33
M33QK	002	055364-T2-051914-FT-CRAWFISH-23	05/19/14	08:45
M33QL	003	055364-T2-060414-FT-CRAWFISH-24	06/04/14	09:12
M33QM	004	055364-T2-061114-SE-COMP-3	06/11/14	11:15
M33QN	005	055364-T2-061114-SE-COMP-4	06/11/14	11:00
M33QP	006	055364-T2-061114-SE-COMP-5	06/11/14	11:30

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

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The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

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The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

For solid and sediments samples, when percent moisture is included in the report header field, the sample results are reported on a dry weight basis. When percent moisture is not contained in the header field, sample results are reported on an as received or wet weight basis.

Samples 055364-T2-060914-FT-CRAWFISH-22, 055364-T2-061114-SE-COMP-3 and 055364-T2-061114-SE-COMP-4 were diluted 5-fold due to either high native analyte levels or retention time shifting.

Nomenclature – The standardization strategy described in this report uses the naming convention of SW-846 Method 8290. This convention differs from Method 1668 in the following manner:

Standard Addition Occurs Prior to:	Method 1668	SW-846 Conventions Used in this Report
Sampling	None	Sampling Surrogate
Extraction	Labeled Toxics/LOC/Window Defining	Internal Standard
Cleanups	Labeled Cleanup Standard	Cleanup Standard*
Injection	Labeled Injection Internal Standard	Recovery Standard

* Cleanup Standard is also referred to as Surrogate Standard on report.

The shorthand notation used for congeners in this report is summarized in Table 2.

Qualifiers – The following flags are used to qualify results for HRMS PCB results:

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J – The reported result is an estimate. The amount reported is below the Estimated Minimum Level (EML). EML is defined by the method as the lowest concentration at which an analyte can be measured reliably with common laboratory interferences present. This value has been determined for each congener by MDL and laboratory method blank studies. The value is adjusted to reflect sample specific initial and final volumes.

E – The reported result is an estimate. The amount reported is above the UCL described below.

The E qualifier is applied on the basis of the **Upper Calibration Level (UCL)**. The quantitative definition of the UCL is listed below:

Upper Calibration Level: The concentration or mass of analyte in the sample that corresponds to the highest calibration level in the initial calibration. It is equivalent to the concentration of the highest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

B – The analyte is present in the associated method blank at a reportable level. For this analysis, there is no method specified reporting level, other than the qualitative criterion that peaks must exhibit a signal-to-noise ratio of 2.5-to-1. Therefore, the presence of any amount of the analyte present in the blank will result a B qualifier on all associated samples.

Note: Some laboratories do not report contamination in the blank unless it is above their lower calibration limit, or an established percentage of the level in the samples, or an established percentage of the regulatory limit. Likewise, some laboratories set a reporting limit at one half the lower calibration limit.

Q – Estimated maximum possible concentration. This qualifier is used when the result is generated from chromatographic data that does not meet all the qualitative criteria for a positive identification given in the method. The criteria include the following areas:

- Ion abundance ratios must be within specified limits (+/-15% of theoretical ion abundance ratio.)
- Retention time criteria (relative to the method-specified isotope labeled retention time standard).
- Co-maximization criterion. The two quantitation ion peaks must reach their maxima within 2 seconds of each other.

S – Ion suppression evident. The trace indicating the signal from the lock mass of the calibration compound shows a deflection at the retention time of the analyte. This may indicate a temporary suppression of the instrument sensitivity, due to a matrix-borne interference.

C – Coeluting Isomer. The isomer is known to coelute with another member of its homologue group, or the peak shape is shouldered, indicating the likelihood of a coeluting isomer. When the C flag is followed by a number, the number indicates the lowest numbered congener among the coelution set. For example, if 100 pg/L is detected at the retention time of PCB 156, and PCB 157 is known to coelute with PCB 156, the results will be flagged as follows:

PCB 156 100 pg/L C

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PCB 157 100 pg/L C156

In certain electronic deliverables the result field for PCB 157 will be null, with "C156" appearing in the qualifier field in accordance with the CARP EDD specification.

X – Other. See explanation in narrative.

Results – The results for the analyses are summarized in the following pages. Please see comments regarding qualifiers, above. Additional information regarding qualifiers is explained in the legends at the end of each result summary. A summary of the shorthand conventions used in this report is provided in Table 2.

Detection Limits – For all analyte results a sample specific detection limit is calculated for that analyte. This is done by first determining the GC/MS peak height of the noise or interferent in the expected region of the analyte signal. This value is multiplied by the number 2.5, which serves as a safety factor. The 2.5 safety factor is disregarded if the noise present in the analyte region is a result of chemical interferences. The resulting signal response value is then used to estimate the minimum detectable analyte amount. The result is the estimated sample detection limit.

When an analyte is not detected, an ND appears in place of the result. The value in the detection limit column is the estimated detection limit for the analyte in that particular sample.

EXAMPLE CALCULATIONS

The following formulas were used for sample calculations. Examples are given for calculating the percent recovery for internal standard $^{13}C_{12}$-PCB 1, the concentration of native PCB 1 and the EDL for PCB 1. All values used in the calculations below are typical (i.e. not extracted from a particular sample). Actual values are found on the IsoCalc Preliminary Sample Report (IPSR) at the position indicated (in parentheses, below):

INTERNAL STANDARD RECOVERY ($^{13}C_{12}$-PCB 1)

$$\text{Percent Recovery} = \frac{\Sigma A_{IS} \bullet W_{RS} \bullet 100\%}{\Sigma A_{RS} \bullet W_{IS} \bullet RRF}$$

ΣA_{IS} = Sum of areas for the Internal Standard quantitation ions. (IPSR – Column "Area", Row "13C12-PCB 1")

W_{RS} = Mass in ng of the Recovery Standard. (IPSR – Column "Std Amt", Row "13C12-PCB 9")

ΣA_{RS} = Sum of areas for the Recovery Standard quantitation ions. (IPSR – Column "Area", Row "13C12-PCB 9")

W_{IS} = Mass in ng of the Internal Standard. (IPSR – Column "Std Amt", Row "13C12-PCB 1")

RRF = Internal Standard mean relative response factor from the initial multipoint calibration. (IPSR - Column "RF", Row "13C12-PCB 1".)

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Substituting typical values ,

$$\frac{1106275 \bullet 2.000\ (ng) \bullet 100\%}{1205581 \bullet 2.000\ (ng) \bullet 1.412} = 65\%\ \text{Recovery}$$

NATIVE ANALYTE QUANTITATION (PCB 1)

$$\text{Conc} = \frac{\Sigma A_X \bullet W_{IS}}{\Sigma A_{IS} \bullet V \bullet 0.001\ (mL/L) \bullet RRF}$$

ΣA_X = Sum of areas for analyte quantitation ions. (IPSR – Area Column "Area", Row "PCB 1")

W_{IS} = Mass in ng of Internal Standard. (IPSR – Column "Std Amt", Row "13C12-PCB 1")

ΣA_{IS} = Sum areas for the Internal Standard. (IPSR – Column "Area", Row 13C12-PCB 1)

V = Volume of sample extracted in mL. (IPSR – Header Column 2, Row "Initial Wt/Vol")

RRF = Native analyte mean relative response factor from the initial calibration, or daily response factor as appropriate. (IPSR – Column "RF", Row "PCB 1")

Substituting typical values,

$$\frac{8951 \bullet 2.000\ (ng)}{1106275 \bullet 2200\ (mL) \bullet 0.001\ (mL/L) \bullet 1.136} = 0.00647\ ng/L = 6.47\ pg/L$$

CALCULATION OF SAMPLE SPECIFIC ESTIMATED DETECTION LIMIT

This calculation uses the noise values found on the IsoCalc Preliminary Peak Report (IPPR), which follows the IPSR. All the other values used in the equation are found on the IPSR.)

$$\frac{\Sigma I_X \bullet W_{IS} \bullet T_{SN}}{\Sigma I_{IS} \bullet V \bullet 0.001\ (mL/L) \bullet RRF}$$

ΣI_X = Sum of the intensities of the noise levels of the characteristic ions in the region of analyte elution. (IPPR – Columns "Height1" and "Height2", Row {mass} 188, Sub-Row "Noise").

W_{IS} = Mass in ng of the Internal Standard. (IPSR – Column "Std Amt", Row "13C12-PCB 1").

T_{SN} = Minimum Signal-to-Noise threshold. = 2.5. A constant, specified by the method.

ΣI_{IS} = Intensity of the corresponding ^{13}C ions. (IPSR – Column "Height", Row "13C12-PCB 9")

V = Volume of sample extracted in mL. (IPSR – Header Column 2, Row "Initial Wt/Vol")

RRF = Native analyte mean relative response factor from the initial calibration or daily standard as appropriate. (IPSR – Column "RF", Row "PCB 1")

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Substituting typical values $\frac{79 \bullet 2000\ (pg) \bullet 2.5}{334600 \bullet 2200\ (mL) \bullet 0.001\ (mL/L) \bullet 1.136} = 0.466\ pg/L$

In sample data, peaks must have an intensity of 2.5 times the height of the background noise in order to be considered. Careful examination of the two equations above, and a bit of algebra reveals that for the concentration of the smallest peak detectable (per the EDL equation) to exactly equal the smallest peaks that are calculated, requires that the average height to area ratio obtained during the calibration must equal the area to height ratio for every peak obtained near 2.5 times the noise. When the area to height ratio on a peak in a sample is less than the average obtained during calibration, the calculated result will correspond to a peak that would have been less than 2.5 X the noise on the calibration. This is the result of normal variability. Because the source method for the EDL (EPA 1668) does not provide for censoring of results by any other magnitude standard than being 2.5 times the noise, the laboratory does not censor at the calculated EDL. Hence, detections may be reported below the estimated detection limits.

Table 1
Concentration of PCBs in Calibration Solutions

Analyte Type	BZ/IUPAC[1]	CS 0.5 ng/mL	CS 1 ng/mL	CS 2 ng/mL	CS 3[2] ng/mL	CS 4 ng/mL	CS 5 ng/mL
Congeners							
2-MoCB	1	0.5	1.0	5.0	50	400	2000
4-MoCB	3	0.5	1.0	5.0	50	400	2000
2,2'-DiCB	4	0.5	1.0	5.0	50	400	2000
4,4'-DiCB	15	0.5	1.0	5.0	50	400	2000
2,2',6'-TrCB	19	0.5	1.0	5.0	50	400	2000
3,4,4'-TrCB	37	0.5	1.0	5.0	50	400	2000
2,2',6,6'-TeCB	54	0.5	1.0	5.0	50	400	2000
3,3',4,4'-TeCB	77	0.5	1.0	5.0	50	400	2000
3,4,4',5-TeCB	81	0.5	1.0	5.0	50	400	2000
2,2',4,6,6'-PeCB	104	0.5	1.0	5.0	50	400	2000
2,3,3',4,4'-PeCB	105	0.5	1.0	5.0	50	400	2000
2,3,4,4',5-PeCB	114	0.5	1.0	5.0	50	400	2000
2,3',4,4',5-PeCB	118	0.5	1.0	5.0	50	400	2000
2',3,4,4',5-PeCB	123	0.5	1.0	5.0	50	400	2000
3,3',4,4',5-PeCB	126	0.5	1.0	5.0	50	400	2000
2,2',4,4',6,6'-HxCB	155	0.5	1.0	5.0	50	400	2000
2,3,3',4,4',5-HxCB	156	0.5	1.0	5.0	50	400	2000
2,3,3',4,4',5'-HxCB	157	0.5	1.0	5.0	50	400	2000
2,3',4,4',5,5'-HxCB	167	0.5	1.0	5.0	50	400	2000
3,3',4,4',5,5'-HxCB	169	0.5	1.0	5.0	50	400	2000
2,2',3,4',5,6,6'-HpCB	188	0.5	1.0	5.0	50	400	2000
2,3,3',4,4',5,5'-HpCB	189	0.5	1.0	5.0	50	400	2000
2,2',3,3',5,5',6,6'-OcCB	202	0.5	1.0	5.0	50	400	2000
2,3,3',4,4',5,5',6-OcCB	205	0.5	1.0	5.0	50	400	2000
2,2',3,3',4,4',5,5',6-NoCB	206	0.5	1.0	5.0	50	400	2000
2,2',3,3',4',5,5',6,6'-NoCB	208	0.5	1.0	5.0	50	400	2000
DeCB	209	0.5	1.0	5.0	50	400	2000
All other CB congeners		0.5	1.0	5.0	50	400	2000
Labeled Congeners							
$^{13}C_{12}$-2-MoCB	1L	100	100	100	100	100	100
$^{13}C_{12}$-4-MoCB	3L	100	100	100	100	100	100
$^{13}C_{12}$-2,2'-DiCB	4L	100	100	100	100	100	100

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Table 1							
Concentration of PCBs in Calibration Solutions							
		CS 0.5	CS 1	CS 2	CS 3[2]	CS 4	CS 5
Analyte Type	BZ/IUPAC[1]	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL	ng/mL
$^{13}C_{12}$-4,4'-DiCB	15L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',6-TrCB	19L	100	100	100	100	100	100
$^{13}C_{12}$-3,4,4'-TrCB	37L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',6,6'-TeCB	54L	100	100	100	100	100	100
$^{13}C_{12}$-3,3',4,4'-TeCB	77L	100	100	100	100	100	100
$^{13}C_{12}$-3,4,4',5-TeCB	81L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',4,6,6'-PeCB	104L	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4'-PeCB	105L	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,4',5-PeCB	114L	100	100	100	100	100	100
$^{13}C_{12}$-2,3',4,4',5-PeCB	118L	100	100	100	100	100	100
$^{13}C_{12}$-2',3,4,4',5-PeCB	123L	100	100	100	100	100	100
$^{13}C_{12}$-3,3',4,4',5-PeCB	126L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',4,4',6,6'-HxCB	155L	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4',5-HxCB	156L	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4',5'-HxCB	157L	100	100	100	100	100	100
$^{13}C_{12}$-2,3',4,4',5,5'-HxCB	167L	100	100	100	100	100	100
$^{13}C_{12}$-3,3',4,4',5,5'-HxCB	169L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',4,4',5-HpCB	170L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,4',5,6,6'-HpCB	188L	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4',5,5'-HpCB	189L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',5,5',6,6'-OcCB	202L	100	100	100	100	100	100
$^{13}C_{12}$-2,3,3',4,4',5,5',6-OcCB	205L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',4,4',5,5',6-NoCB	206L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',4',5,5',6,6'-NoCB	208L	100	100	100	100	100	100
$^{13}C_{12}$-DeCB	209L	100	100	100	100	100	100
Cleanup Standards							
$^{13}C_{12}$-2,4,4'-TriCB	28L	0.5	1.0	5.0	50	400	--
$^{13}C_{12}$-2,3,3',5,5'-PeCB	111L	0.5	1.0	5.0	50	400	--
$^{13}C_{12}$-2,2',3,3',5,5',6-HpCB	178L	0.5	1.0	5.0	50	400	--
Recovery Standards							
$^{13}C_{12}$-2,5-DiCB	9L	100	100	100	100	100	100
$^{13}C_{12}$-2,4',5-TriCB	31L	100	100	100	100	100	100
$^{13}C_{12}$-2,4',6-TriCB	32L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',5,5'-TeCB	52L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',4',5,5'-PeCB	101L	100	100	100	100	100	100
$^{13}C_{12}$-3,3',4,5,5'-PeCB	127L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3',4,4',5'-HxCB	138L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,4,4',5,5'-HpCB	180L	100	100	100	100	100	100
$^{13}C_{12}$-2,2',3,3',4,4',5,5'-OcCB	194L	100	100	100	100	100	100
Labeled Sampling Surrogates							
$^{13}C_{12}$-2,4'-DiCB	8L	0.5	1.0	5.0	50	400	--
$^{13}C_{12}$-3,3',4,5'-TeCB	79L	0.5	1.0	5.0	50	400	--
$^{13}C_{12}$-2,2',3,5',6-PeCB	95L	0.5	1.0	5.0	50	400	--
$^{13}C_{12}$-2,2',4,4',5,5'-HxCB	153L	0.5	1.0	5.0	50	400	--

1. Suffix "L" indicates labeled compound.
2. Calibration verification solution.

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Table 2					
PCB Shorthand Nomenclature[4] Used in this Report					
BZ/IUPAC Number[1].	PCB Chemical Structure Name[2]	CAS Registry[3] Number	BZ/IUPAC Number[1].	PCB Chemical Structure Name[2]	CAS Registry[3] Number
1	2-monochlorobiphenyl	2051-60-7	106	2,3,3',4,5-pentachlorobiphenyl	70424-69-0
2	3-monochlorobiphenyl	2051-61-8	107/109	2,3,3',4',5-pentachlorobiphenyl	70424-68-9
3	4-monochlorobiphenyl	2051-62-9	108/107	2,3,3',4,5'-pentachlorobiphenyl	70362-41-3
4	2,2'-dichlorobiphenyl	13029-08-8	109/108	2,3,3',4,6-pentachlorobiphenyl	74472-35-8
5	2,3-dichlorobiphenyl	16605-91-7	110	2,3,3',4',6-pentachlorobiphenyl	38380-03-9
6	2,3'-dichlorobiphenyl	25569-80-6	111	2,3,3',5,5'-pentachlorobiphenyl	39635-32-0
7	2,4-dichlorobiphenyl	33284-50-3	112	2,3,3',5,6-pentachlorobiphenyl	74472-36-9
8	2,4'-dichlorobiphenyl	34883-43-7	113	2,3,3',5',6-pentachlorobiphenyl	68194-10-5
9	2,5-dichlorobiphenyl	34883-39-1	114	2,3,4,4',5-pentachlorobiphenyl	74472-37-0
10	2,6-dichlorobiphenyl	33146-45-1	115	2,3,4,4',6-pentachlorobiphenyl	74472-38-1
11	3,3'-dichlorobiphenyl	2050-67-1	116	2,3,4,5,6-pentachlorobiphenyl	18259-05-7
12	3,4-dichlorobiphenyl	2974-92-7	117	2,3,4',5,6-pentachlorobiphenyl	68194-11-6
13	3,4'-dichlorobiphenyl	2974-90-5	118	2,3',4,4',5-pentachlorobiphenyl	31508-00-6
14	3,5-dichlorobiphenyl	34883-41-5	119	2,3',4,4',6-pentachlorobiphenyl	56558-17-9
15	4,4'-dichlorobiphenyl	2050-68-2	120	2,3',4,5,5'-pentachlorobiphenyl	68194-12-7
16	2,2',3-trichlorobiphenyl	38444-78-9	121	2,3',4,5',6-pentachlorobiphenyl	56558-18-0
17	2,2',4-trichlorobiphenyl	37680-66-3	122	2',3,3',4,5-pentachlorobiphenyl (2,3,3',4',5'-pentachlorobiphenyl)	76842-07-4
18	2,2',5-trichlorobiphenyl	37680-65-2	123	2',3,4,4',5-pentachlorobiphenyl (2,3',4,4',5'-pentachlorobiphenyl)	65510-44-3
19	2,2',6-trichlorobiphenyl	38444-73-4	124	2',3,4,5,5'-pentachlorobiphenyl (2,3',4',5',5-pentachlorobiphenyl)	70424-70-3
20	*2,3,3'-trichlorobiphenyl	38444-84-7	125	2',3,4,5,6'-pentachlorobiphenyl (2,3',4',5',6-pentachlorobiphenyl)	74472-39-2
21	2,3,4-trichlorobiphenyl	55702-46-0	126	3,3',4,4',5-pentachlorobiphenyl	57465-28-8
22	2,3,4'-trichlorobiphenyl	38444-85-8	127	3,3',4,5,5'-pentachlorobiphenyl	39635-33-1
23	2,3,5-trichlorobiphenyl	55720-44-0	128	2,2',3,3',4,4'-hexachlorobiphenyl	38380-07-3
24	2,3,6-trichlorobiphenyl	55702-45-9	129	2,2',3,3',4,5-hexachlorobiphenyl	55215-18-4
25	2,3',4-trichlorobiphenyl	55712-37-3	130	2,2',3,3',4,5'-hexachlorobiphenyl	52663-66-8
26	2,3',5-trichlorobiphenyl	38444-81-4	131	2,2',3,3',4,6-hexachlorobiphenyl	61798-70-7
27	2,3',6-trichlorobiphenyl	38444-76-7	132	2,2',3,3',4,6'-hexachlorobiphenyl	38380-05-1
28	2,4,4'-trichlorobiphenyl	7012-37-5	133	2,2',3,3',5,5'-hexachlorobiphenyl	35694-04-3
29	2,4,5-trichlorobiphenyl	15862-07-4	134	2,2',3,3',5,6-hexachlorobiphenyl	52704-70-8
30	2,4,6-trichlorobiphenyl	35693-92-6	135	2,2',3,3',5,6'-hexachlorobiphenyl	52744-13-5
31	2,4',5-trichlorobiphenyl	16606-02-3	136	2,2',3,3',6,6'-hexachlorobiphenyl	38411-22-2
32	2,4',6-trichlorobiphenyl	38444-77-8	137	2,2',3,4,4',5-hexachlorobiphenyl	35694-06-5
33	2',3,4-trichlorobiphenyl (2,3',4'-trichlorobiphenyl)	38444-86-9	138	2,2',3,4,4',5'-hexachlorobiphenyl	35065-28-2
34	2',3,5-trichlorobiphenyl (2,3',5'-trichlorobiphenyl)	37680-68-5	139	2,2',3,4,4',6-hexachlorobiphenyl	56030-56-9
35	3,3',4-trichlorobiphenyl	37680-69-6	140	2,2',3,4,4',6'-hexachlorobiphenyl	59291-64-4
36	3,3',5-trichlorobiphenyl	38444-87-0	141	2,2',3,4,5,5'-hexachlorobiphenyl	52712-04-6
37	3,4,4'-trichlorobiphenyl	38444-90-5	142	2,2',3,4,5,6-hexachlorobiphenyl	41411-61-4
38	3,4,5-trichlorobiphenyl	53555-66-1	143	2,2',3,4,5,6'-hexachlorobiphenyl	68194-15-0
39	3,4',5-trichlorobiphenyl	38444-88-1	144	2,2',3,4,5',6-hexachlorobiphenyl	68194-14-9
40	2,2',3,3'-tetrachlorobiphenyl	38444-93-8	145	2,2',3,4,6,6'-hexachlorobiphenyl	74472-40-5
41	2,2',3,4-tetrachlorobiphenyl	52663-59-9	146	2,2',3,4',5,5'-hexachlorobiphenyl	51908-16-8
42	2,2',3,4'-tetrachlorobiphenyl	36559-22-5	147	2,2',3,4',5,6-hexachlorobiphenyl	68194-13-8
43	2,2',3,5-tetrachlorobiphenyl	70362-46-8	148	2,2',3,4',5,6'-hexachlorobiphenyl	74472-41-6
44	2,2',3,5'-tetrachlorobiphenyl	41464-39-5	149	2,2',3,4',5',6-hexachlorobiphenyl	38380-04-0
45	2,2',3,6-tetrachlorobiphenyl	70362-45-7	150	2,2',3,4',6,6'-hexachlorobiphenyl	68194-08-1

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Table 2					
PCB Shorthand Nomenclature[4] Used in this Report					
BZ/IUPAC Number[1].	PCB Chemical Structure Name[2]	CAS Registry[3] Number	BZ/IUPAC Number[1].	PCB Chemical Structure Name[2]	CAS Registry[3] Number
46	2,2',3,6'-tetrachlorobiphenyl	41464-47-5	151	2,2',3,5,5',6-hexachlorobiphenyl	52663-63-5
47	2,2',4,4'-tetrachlorobiphenyl	2437-79-8	152	2,2',3,5,6,6'-hexachlorobiphenyl	68194-09-2
48	2,2',4,5-tetrachlorobiphenyl	70362-47-9	153	2,2',4,4',5,5'-hexachlorobiphenyl	35065-27-1
49	2,2',4,5'-tetrachlorobiphenyl	41464-40-8	154	2,2',4,4',5,6'-hexachlorobiphenyl	60145-22-4
50	2,2',4,6-tetrachlorobiphenyl	62796-65-0	155	2,2',4,4',6,6'-hexachlorobiphenyl	33979-03-2
51	2,2',4,6'-tetrachlorobiphenyl	68194-04-7	156	2,3,3',4,4',5-hexachlorobiphenyl	38380-08-4
52	2,2',5,5'-tetrachlorobiphenyl	35693-99-3	157	2,3,3',4,4',5'-hexachlorobiphenyl	69782-90-7
53	2,2',5,6'-tetrachlorobiphenyl	41464-41-9	158	2,3,3',4,4',6-hexachlorobiphenyl	74472-42-7
54	2,2',6,6'-tetrachlorobiphenyl	15968-05-5	159	2,3,3',4,5,5'-hexachlorobiphenyl	39635-35-3
55	2,3,3',4-tetrachlorobiphenyl	74338-24-2	160	2,3,3',4,5,6-hexachlorobiphenyl	41411-62-5
56	2,3,3',4'-tetrachlorobiphenyl	41464-43-1	161	2,3,3',4,5',6-hexachlorobiphenyl	74472-43-8
57	2,3,3',5-tetrachlorobiphenyl	70424-67-8	162	2,3,3',4',5,5'-hexachlorobiphenyl	39635-34-2
58	2,3,3',5'-tetrachlorobiphenyl	41464-49-7	163	2,3,3',4',5,6-hexachlorobiphenyl	74472-44-9
59	2,3,3',6-tetrachlorobiphenyl	74472-33-6	164	2,3,3',4',5',6-hexachlorobiphenyl	74472-45-0
60	2,3,4,4'-tetrachlorobiphenyl	33025-41-1	165	2,3,3',5,5',6-hexachlorobiphenyl	74472-46-1
61	2,3,4,5-tetrachlorobiphenyl	33284-53-6	166	2,3,4,4',5,6-hexachlorobiphenyl	41411-63-6
62	2,3,4,6-tetrachlorobiphenyl	54230-22-7	167	2,3',4,4',5,5'-hexachlorobiphenyl	52663-72-6
63	2,3,4',5-tetrachlorobiphenyl	74472-34-7	168	2,3',4,4',5',6-hexachlorobiphenyl	59291-65-5
64	2,3,4',6-tetrachlorobiphenyl	52663-58-8	169	3,3',4,4',5,5'-hexachlorobiphenyl	32774-16-6
65	2,3,5,6-tetrachlorobiphenyl	33284-54-7	170	2,2',3,3',4,4',5-heptachlorobiphenyl	35065-30-6
66	2,3',4,4'-tetrachlorobiphenyl	32598-10-0	171	2,2',3,3',4,4',6-heptachlorobiphenyl	52663-71-5
67	2,3',4,5-tetrachlorobiphenyl	73575-53-8	172	2,2',3,3',4,5,5'-heptachlorobiphenyl	52663-74-8
68	2,3',4,5'-tetrachlorobiphenyl	73575-52-7	173	2,2',3,3',4,5,6-heptachlorobiphenyl	68194-16-1
69	2,3',4,6-tetrachlorobiphenyl	60233-24-1	174	2,2',3,3',4,5,6'-heptachlorobiphenyl	38411-25-5
70	2,3',4',5-tetrachlorobiphenyl	32598-11-1	175	2,2',3,3',4,5',6-heptachlorobiphenyl	40186-70-7
71	2,3',4',6-tetrachlorobiphenyl	41464-46-4	176	2,2',3,3',4,6,6'-heptachlorobiphenyl	52663-65-7
72	2,3',5,5'-tetrachlorobiphenyl	41464-42-0	177	2,2',3,3',4',5,6-heptachlorobiphenyl (2,2',3,3',4,5',6'-heptachlorobiphenyl)	52663-70-4
73	2,3',5',6-tetrachlorobiphenyl	74338-23-1	178	2,2',3,3',5,5',6-heptachlorobiphenyl	52663-67-9
74	2,4,4',5-tetrachlorobiphenyl	32690-93-0	179	2,2',3,3',5,6,6'-heptachlorobiphenyl	52663-64-6
75	2,4,4',6-tetrachlorobiphenyl	32598-12-2	180	2,2',3,4,4',5,5'-heptachlorobiphenyl	35065-29-3
76	2',3,4,5-tetrachlorobiphenyl (2,3',4',5'-tetrachlorobiphenyl)	70362-48-0	181	2,2',3,4,4',5,6-heptachlorobiphenyl	74472-47-2
77	3,3',4,4'-tetrachlorobiphenyl	32598-13-3	182	2,2',3,4,4',5,6'-heptachlorobiphenyl	60145-23-5
78	3,3',4,5-tetrachlorobiphenyl	70362-49-1	183	2,2',3,4,4',5',6-heptachlorobiphenyl	52663-69-1
79	3,3',4,5'-tetrachlorobiphenyl	41464-48-6	184	2,2',3,4,4',6,6'-heptachlorobiphenyl	74472-48-3
80	3,3',5,5'-tetrachlorobiphenyl	33284-52-5	185	2,2',3,4,5,5',6-heptachlorobiphenyl	52712-05-7
81	3,4,4',5-tetrachlorobiphenyl	70362-50-4	186	2,2',3,4,5,6,6'-heptachlorobiphenyl	74472-49-4
82	2,2',3,3',4-pentachlorobiphenyl	52663-62-4	187	2,2',3,4',5,5',6-heptachlorobiphenyl	52663-68-0
83	2,2',3,3',5-pentachlorobiphenyl	60145-20-2	188	2,2',3,4',5,6,6'-heptachlorobiphenyl	74487-85-7
84	2,2',3,3',6-pentachlorobiphenyl	52663-60-2	189	2,3,3',4,4',5,5'-heptachlorobiphenyl	39635-31-9
85	2,2',3,4,4'-pentachlorobiphenyl	65510-45-4	190	2,3,3',4,4',5,6-heptachlorobiphenyl	41411-64-7
86	2,2',3,4,5-pentachlorobiphenyl	55312-69-1	191	2,3,3',4,4',5',6-heptachlorobiphenyl	74472-50-7
87	2,2',3,4,5'-pentachlorobiphenyl	38380-02-8	192	2,3,3',4,5,5',6-heptachlorobiphenyl	74472-51-8
88	2,2',3,4,6-pentachlorobiphenyl	55215-17-3	193	2,3,3',4',5,5',6-heptachlorobiphenyl	69782-91-8
89	2,2',3,4,6'-pentachlorobiphenyl	73575-57-2	194	2,2',3,3',4,4',5,5'-octachlorobiphenyl	35694-08-7
90	2,2',3,4',5-pentachlorobiphenyl	68194-07-0	195	2,2',3,3',4,4',5,6-octachlorobiphenyl	52663-78-2
91	2,2',3,4',6-pentachlorobiphenyl	68194-05-8	196	2,2',3,3',4,4',5,6'-octachlorobiphenyl	42740-50-1
92	2,2',3,5,5'-pentachlorobiphenyl	52663-61-3	197	2,2',3,3',4,4',6,6'-octachlorobiphenyl	33091-17-7

PROJECT NARRATIVE
H4F160406

Table 2					
PCB Shorthand Nomenclature[4] Used in this Report					
BZ/IUPAC Number[1].	PCB Chemical Structure Name[2]	CAS Registry[3] Number	BZ/IUPAC Number[1].	PCB Chemical Structure Name[2]	CAS Registry[3] Number
93	2,2',3,5,6-pentachlorobiphenyl	73575-56-1	198	2,2',3,3',4,5,5',6-octachlorobiphenyl	68194-17-2
94	2,2',3,5,6'-pentachlorobiphenyl	73575-55-0	199/200	2,2',3,3',4,5,6,6'-octachlorobiphenyl	52663-73-7
95	2,2',3,5',6-pentachlorobiphenyl	38379-99-6	200/201	2,2',3,3',4,5',6,6'-octachlorobiphenyl	40186-71-8
96	2,2',3,6,6'-pentachlorobiphenyl	73575-54-9	201/199	2,2',3,3',4,5,5',6'-octachlorobiphenyl	52663-75-9
97	2,2',3',4,5-pentachlorobiphenyl (2,2',3,4',5'-pentachlorobiphenyl)	41464-51-1	202	2,2',3,3',5,5',6,6'-octachlorobiphenyl	2136-99-4
98	2,2',3',4,6-pentachlorobiphenyl (2,2',3,4',6'-pentachlorobiphenyl)	60233-25-2	203	2,2',3,4,4',5,5',6-octachlorobiphenyl	52663-76-0
99	2,2',4,4',5-pentachlorobiphenyl	38380-01-7	204	2,2',3,4,4',5,6,6'-octachlorobiphenyl	74472-52-9
100	2,2',4,4',6-pentachlorobiphenyl	39485-83-1	205	2,3,3',4,4',5,5',6-octachlorobiphenyl	74472-53-0
101	2,2',4,5,5'-pentachlorobiphenyl	37680-73-2	206	2,2',3,3',4,4',5,5',6-nonachlorobiphenyl	40186-72-9
102	2,2',4,5,6-pentachlorobiphenyl	68194-06-9	207	2,2',3,3',4,4',5,6,6'-nonachlorobiphenyl	52663-79-3
103	2,2',4,5',6-pentachlorobiphenyl	60145-21-3	208	2,2',3,3',4,5,5',6,6'-nonachlorobiphenyl	52663-77-1
104	2,2',4,6,6'-pentachlorobiphenyl	56558-16-8	209	2,2',3,3',4,4',5,5',6,6'-decachlorobiphenyl	2051-24-3
105	2,3,3',4,4'-pentachlorobiphenyl	32598-14-4			

1. The BZ number is from Ballschmiter and Zell (1980). The IUPAC number, when different from the BZ, follows the recommended changes to the BZ number per Schulte and Malisch (1983) and Guitart et al. (1993).
2. The chemical structure names are from Ballschmiter and Zell (1980). IUPAC nomenclature structure names are listed in parenthesis when different from the BZ name (source CAS Registry).
3. Chemical Abstract Service Registry number (source CAS Registry and 1668 Table 1).
4. A complete discussion of PCB Nomenclature may be found in Mills III, S.A. et al., A summary of the 209 PCB congener nomenclature, Chemosphere (2007), doi:10.1016/j.chemosphere.2007.03.052.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Indiana	State Program	5	C-TN-02
TestAmerica Knoxville	Iowa	State Program	7	375
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA110001
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Minnesota	NELAC	5	047-999-429
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	2014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-TX
TestAmerica Knoxville	Federal	USDA		P330-11-00035
TestAmerica Knoxville	Utah	NELAC	8	QUAN3
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Sample Data Summary

TestAmerica Pittsburgh

Sample ID: 055364-T2-060914-FT-CRAWFISH-22

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 001	**Work Order #....:**	M33QJ1AA	**Matrix....:**	TA
Date Sampled....:	06/09/14	**Date Received....:**	06/14/14	**Dilution Factor:**	5
Prep Date....:	06/18/14	**Analysis Date....:**	06/25/14		
Prep Batch # ....:	4169044				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Linda K. McWhirter				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	0.64		0.050	0.010	ng/g
PCB 81 (BZ)	0.031	Q J	0.050	0.0095	ng/g
PCB 126 (BZ)	0.25	Q	0.050	0.013	ng/g
PCB 105 (BZ)	8.1		0.050	0.011	ng/g
PCB 118 (BZ)	33		0.050	0.010	ng/g
PCB 123 (BZ)	0.80		0.050	0.011	ng/g
PCB 114 (BZ)	0.43		0.050	0.0098	ng/g
PCB 169 (BZ)	0.026	Q J	0.050	0.011	ng/g
PCB 156 (BZ)	3.7	C	0.050	0.018	ng/g
PCB 157 (BZ)	3.7	C156	0.050	0.018	ng/g
PCB 167 (BZ)	1.5		0.050	0.010	ng/g
PCB 189 (BZ)	0.19		0.050	0.0079	ng/g

TestAmerica Pittsburgh

Sample ID: 055364-T2-060914-FT-CRAWFISH-22

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 001	**Work Order #....:**	M33QJ1AA	**Matrix....:**	TA
Date Sampled....:	06/09/14	**Date Received....:**	06/14/14	**Dilution Factor:**	5
Prep Date....:	06/18/14	**Analysis Date....:**	06/25/14		
Prep Batch # ....:	4169044				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Linda K. McWhirter				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	52		30 - 140
13C12-PCB 3	43		30 - 140
13C12-PCB 4	74		30 - 140
13C12-PCB 15	66		30 - 140
13C12-PCB 19	88		30 - 140
13C12-PCB 37	78		30 - 140
13C12-PCB 54	66		30 - 140
13C12-PCB 77	79		30 - 140
13C12-PCB 81	74		30 - 140
13C12-PCB 104	84		30 - 140
13C12-PCB 105	82		30 - 140
13C12-PCB 114	83		30 - 140
13C12-PCB 118	85		30 - 140
13C12-PCB 123	80		30 - 140
13C12-PCB 126	76		30 - 140
13C12-PCB 155	86		30 - 140
13C12-PCB 156	84	C	30 - 140
13C12-PCB 157	84	C	30 - 140
13C12-PCB 167	85		30 - 140
13C12-PCB 169	88		30 - 140
13C12-PCB 170	86		30 - 140
13C12-PCB 188	90		30 - 140
13C12-PCB 189	87		30 - 140
13C12-PCB 202	91		30 - 140
13C12-PCB 205	75		30 - 140
13C12-PCB 206	91		30 - 140
13C12-PCB 208	91		30 - 140
13C12-PCB 209	83		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	85	40 - 125
13C12-PCB 111	87	40 - 125
13C12-PCB 178	85	40 - 125

TestAmerica Pittsburgh

Sample ID: 055364-T2-060914-FT-CRAWFISH-22

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 001	**Work Order #....:**	M33QJ1AA	**Matrix....:**	TA
Date Sampled....:	06/09/14	**Date Received....:**	06/14/14	**Dilution Factor:**	5
Prep Date....:	06/18/14	**Analysis Date....:**	06/25/14		
Prep Batch # ....:	4169044				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Linda K. McWhirter				

QUALIFIERS

C Co-eluting isomer.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Sample ID: 055364-T2-051914-FT-CRAWFISH-23

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 002	**Work Order #....:**	M33QK1AA	**Matrix....:**	TA
Date Sampled....:	05/19/14	**Date Received....:**	06/14/14	**Dilution Factor:**	1
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14		
Prep Batch # ....:	4169044				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	0.14		0.0099	0.0014	ng/g
PCB 81 (BZ)	0.0027	Q J	0.0099	0.0014	ng/g
PCB 126 (BZ)	0.014	Q	0.0099	0.0019	ng/g
PCB 105 (BZ)	1.9		0.0099	0.0016	ng/g
PCB 118 (BZ)	7.4		0.0099	0.0016	ng/g
PCB 123 (BZ)	0.19		0.0099	0.0017	ng/g
PCB 114 (BZ)	0.091		0.0099	0.0016	ng/g
PCB 169 (BZ)	0.0047	J	0.0099	0.0019	ng/g
PCB 156 (BZ)	0.88	C	0.0099	0.0032	ng/g
PCB 157 (BZ)	0.88	C156	0.0099	0.0032	ng/g
PCB 167 (BZ)	0.38		0.0099	0.0017	ng/g
PCB 189 (BZ)	0.036		0.0099	0.0018	ng/g

TestAmerica Pittsburgh

Sample ID: 055364-T2-051914-FT-CRAWFISH-23

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 002	**Work Order #....:**	M33QK1AA	**Matrix....:**	TA
Date Sampled....:	05/19/14	**Date Received....:**	06/14/14	**Dilution Factor:**	1
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14		
Prep Batch # ....:	4169044				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	54		30 - 140
13C12-PCB 3	46		30 - 140
13C12-PCB 4	74		30 - 140
13C12-PCB 15	75		30 - 140
13C12-PCB 19	86		30 - 140
13C12-PCB 37	83		30 - 140
13C12-PCB 54	76		30 - 140
13C12-PCB 77	75		30 - 140
13C12-PCB 81	73		30 - 140
13C12-PCB 104	79		30 - 140
13C12-PCB 105	79		30 - 140
13C12-PCB 114	80		30 - 140
13C12-PCB 118	78		30 - 140
13C12-PCB 123	77		30 - 140
13C12-PCB 126	75		30 - 140
13C12-PCB 155	81		30 - 140
13C12-PCB 156	83	C	30 - 140
13C12-PCB 157	83	C	30 - 140
13C12-PCB 167	85		30 - 140
13C12-PCB 169	79		30 - 140
13C12-PCB 170	73		30 - 140
13C12-PCB 188	90		30 - 140
13C12-PCB 189	137		30 - 140
13C12-PCB 202	88		30 - 140
13C12-PCB 205	74		30 - 140
13C12-PCB 206	95		30 - 140
13C12-PCB 208	118		30 - 140
13C12-PCB 209	99		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	85	40 - 125
13C12-PCB 111	84	40 - 125
13C12-PCB 178	85	40 - 125

TestAmerica Pittsburgh

Sample ID: 055364-T2-051914-FT-CRAWFISH-23

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 002	**Work Order #....:**	M33QK1AA	**Matrix....:**	TA
Date Sampled....:	05/19/14	**Date Received....:**	06/14/14	**Dilution Factor:**	1
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14		
Prep Batch # ....:	4169044				
Initial Wgt/Vol :	10.1 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

QUALIFIERS

C Co-eluting isomer.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-FT-CRAWFISH-24

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 003	**Work Order #....:**	M33QL1AA	**Matrix....:**	TA
Date Sampled....:	06/04/14	**Date Received....:**	06/14/14	**Dilution Factor:**	1
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14		
Prep Batch # ....:	4169044				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	**0.018**		**0.010**	**0.0010**	**ng/g**
PCB 81 (BZ)	ND		0.010	0.00099	ng/g
PCB 126 (BZ)	**0.0027**	**Q J**	**0.010**	**0.0014**	**ng/g**
PCB 105 (BZ)	**0.25**		**0.010**	**0.0012**	**ng/g**
PCB 118 (BZ)	**1.0**		**0.010**	**0.0012**	**ng/g**
PCB 123 (BZ)	**0.020**		**0.010**	**0.0013**	**ng/g**
PCB 114 (BZ)	**0.017**		**0.010**	**0.0011**	**ng/g**
PCB 169 (BZ)	ND		0.010	0.0013	ng/g
PCB 156 (BZ)	**0.11**	**C**	**0.010**	**0.0023**	**ng/g**
PCB 157 (BZ)	**0.11**	**C156**	**0.010**	**0.0023**	**ng/g**
PCB 167 (BZ)	**0.049**		**0.010**	**0.0012**	**ng/g**
PCB 189 (BZ)	**0.0042**	**J**	**0.010**	**0.0011**	**ng/g**

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-FT-CRAWFISH-24

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 003	**Work Order #....:**	M33QL1AA	**Matrix....:**	TA
Date Sampled....:	06/04/14	**Date Received....:**	06/14/14	**Dilution Factor:**	1
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14		
Prep Batch # ....:	4169044				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	57		30 - 140
13C12-PCB 3	49		30 - 140
13C12-PCB 4	73		30 - 140
13C12-PCB 15	75		30 - 140
13C12-PCB 19	89		30 - 140
13C12-PCB 37	83		30 - 140
13C12-PCB 54	76		30 - 140
13C12-PCB 77	79		30 - 140
13C12-PCB 81	77		30 - 140
13C12-PCB 104	80		30 - 140
13C12-PCB 105	84		30 - 140
13C12-PCB 114	84		30 - 140
13C12-PCB 118	82		30 - 140
13C12-PCB 123	80		30 - 140
13C12-PCB 126	77		30 - 140
13C12-PCB 155	81		30 - 140
13C12-PCB 156	84	C	30 - 140
13C12-PCB 157	84	C	30 - 140
13C12-PCB 167	87		30 - 140
13C12-PCB 169	85		30 - 140
13C12-PCB 170	78		30 - 140
13C12-PCB 188	90		30 - 140
13C12-PCB 189	97		30 - 140
13C12-PCB 202	90		30 - 140
13C12-PCB 205	75		30 - 140
13C12-PCB 206	86		30 - 140
13C12-PCB 208	89		30 - 140
13C12-PCB 209	75		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	85	40 - 125
13C12-PCB 111	84	40 - 125
13C12-PCB 178	80	40 - 125

TestAmerica Pittsburgh

Sample ID: 055364-T2-060414-FT-CRAWFISH-24

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 003	**Work Order #....:**	M33QL1AA	**Matrix....:**	TA
Date Sampled....:	06/04/14	**Date Received....:**	06/14/14	**Dilution Factor:**	1
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14		
Prep Batch # ....:	4169044				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

QUALIFIERS

C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Sample ID: 055364-T2-061114-SE-COMP-3

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 004	**Work Order #....:**	M33QM1AD	**Matrix....:**	SE
Date Sampled....:	06/11/14	**Date Received....:**	06/14/14	**Dilution Factor:**	5
Prep Date....:	06/18/14	**Analysis Date....:**	06/25/14	**Percent Moisture**	31
Prep Batch # ....:	4169035				
Initial Wgt/Vol :	14.5 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Linda K. McWhirter				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	1.1		0.050	0.0051	ng/g
PCB 81 (BZ)	0.035	J	0.050	0.0051	ng/g
PCB 126 (BZ)	0.035	J	0.050	0.0068	ng/g
PCB 105 (BZ)	6.3		0.050	0.0058	ng/g
PCB 118 (BZ)	21		0.050	0.0057	ng/g
PCB 123 (BZ)	0.28	Q	0.050	0.0061	ng/g
PCB 114 (BZ)	0.43		0.050	0.0056	ng/g
PCB 169 (BZ)	0.0089	J	0.050	0.0043	ng/g
PCB 156 (BZ)	2.2	C	0.050	0.0085	ng/g
PCB 157 (BZ)	2.2	C156	0.050	0.0085	ng/g
PCB 167 (BZ)	0.68		0.050	0.0048	ng/g
PCB 189 (BZ)	0.096		0.050	0.0036	ng/g

TestAmerica Pittsburgh

Sample ID: 055364-T2-061114-SE-COMP-3

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 004	**Work Order #....:**	M33QM1AD	**Matrix....:**	SE
Date Sampled....:	06/11/14	**Date Received....:**	06/14/14	**Dilution Factor:**	5
Prep Date....:	06/18/14	**Analysis Date....:**	06/25/14	**Percent Moisture**	31
Prep Batch # ....:	4169035				
Initial Wgt/Vol :	14.5 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Linda K. McWhirter				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	54		30 - 140
13C12-PCB 3	51		30 - 140
13C12-PCB 4	70		30 - 140
13C12-PCB 15	67		30 - 140
13C12-PCB 19	89		30 - 140
13C12-PCB 37	83		30 - 140
13C12-PCB 54	60		30 - 140
13C12-PCB 77	82		30 - 140
13C12-PCB 81	78		30 - 140
13C12-PCB 104	82		30 - 140
13C12-PCB 105	84		30 - 140
13C12-PCB 114	84		30 - 140
13C12-PCB 118	83		30 - 140
13C12-PCB 123	82		30 - 140
13C12-PCB 126	80		30 - 140
13C12-PCB 155	83		30 - 140
13C12-PCB 156	88	C	30 - 140
13C12-PCB 157	88	C	30 - 140
13C12-PCB 167	89		30 - 140
13C12-PCB 169	94		30 - 140
13C12-PCB 170	87		30 - 140
13C12-PCB 188	86		30 - 140
13C12-PCB 189	89		30 - 140
13C12-PCB 202	92		30 - 140
13C12-PCB 205	81		30 - 140
13C12-PCB 206	96		30 - 140
13C12-PCB 208	91		30 - 140
13C12-PCB 209	84		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	80	40 - 125
13C12-PCB 111	85	40 - 125
13C12-PCB 178	80	40 - 125

TestAmerica Pittsburgh

Sample ID: 055364-T2-061114-SE-COMP-3

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 004	**Work Order #....:**	M33QM1AD	**Matrix....:**	SE
Date Sampled....:	06/11/14	**Date Received....:**	06/14/14	**Dilution Factor:**	5
Prep Date....:	06/18/14	**Analysis Date....:**	06/25/14	**Percent Moisture**	31
Prep Batch # ....:	4169035				
Initial Wgt/Vol :	14.5 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Linda K. McWhirter				

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

QUALIFIERS

C Co-eluting isomer.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Sample ID: 055364-T2-061114-SE-COMP-4

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 005	**Work Order #....:**	M33QN1AD	**Matrix....:**	SE
Date Sampled....:	06/11/14	**Date Received....:**	06/14/14	**Dilution Factor:**	5
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14	**Percent Moisture**	32
Prep Batch # ....:	4169035				
Initial Wgt/Vol :	3 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	3.3		0.25	0.054	ng/g
PCB 81 (BZ)	0.049	Q J	0.25	0.054	ng/g
PCB 126 (BZ)	0.26		0.25	0.073	ng/g
PCB 105 (BZ)	16		0.25	0.066	ng/g
PCB 118 (BZ)	100		0.25	0.059	ng/g
PCB 123 (BZ)	1.0	Q	0.25	0.068	ng/g
PCB 114 (BZ)	1.3		0.25	0.058	ng/g
PCB 169 (BZ)	ND		0.25	0.052	ng/g
PCB 156 (BZ)	9.9	C	0.25	0.091	ng/g
PCB 157 (BZ)	9.9	C156	0.25	0.091	ng/g
PCB 167 (BZ)	3.2		0.25	0.052	ng/g
PCB 189 (BZ)	0.47		0.25	0.041	ng/g

TestAmerica Pittsburgh

Sample ID: 055364-T2-061114-SE-COMP-4

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 005	**Work Order #....:**	M33QN1AD	**Matrix....:**	SE
Date Sampled....:	06/11/14	**Date Received....:**	06/14/14	**Dilution Factor:**	5
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14	**Percent Moisture**	32
Prep Batch # ....:	4169035				
Initial Wgt/Vol :	3 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	60		30 - 140
13C12-PCB 3	56		30 - 140
13C12-PCB 4	66		30 - 140
13C12-PCB 15	63		30 - 140
13C12-PCB 19	96		30 - 140
13C12-PCB 37	84		30 - 140
13C12-PCB 54	77		30 - 140
13C12-PCB 77	82		30 - 140
13C12-PCB 81	79		30 - 140
13C12-PCB 104	81		30 - 140
13C12-PCB 105	84		30 - 140
13C12-PCB 114	88		30 - 140
13C12-PCB 118	85		30 - 140
13C12-PCB 123	82		30 - 140
13C12-PCB 126	81		30 - 140
13C12-PCB 155	82		30 - 140
13C12-PCB 156	87	C	30 - 140
13C12-PCB 157	87	C	30 - 140
13C12-PCB 167	90		30 - 140
13C12-PCB 169	90		30 - 140
13C12-PCB 170	86		30 - 140
13C12-PCB 188	88		30 - 140
13C12-PCB 189	100		30 - 140
13C12-PCB 202	88		30 - 140
13C12-PCB 205	83		30 - 140
13C12-PCB 206	94		30 - 140
13C12-PCB 208	98		30 - 140
13C12-PCB 209	82		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	83	40 - 125
13C12-PCB 111	91	40 - 125
13C12-PCB 178	80	40 - 125

TestAmerica Pittsburgh

Sample ID: 055364-T2-061114-SE-COMP-4

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 005	**Work Order #....:**	M33QN1AD	**Matrix....:**	SE
Date Sampled....:	06/11/14	**Date Received....:**	06/14/14	**Dilution Factor:**	5
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14	**Percent Moisture**	32
Prep Batch # ....:	4169035				
Initial Wgt/Vol :	3 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

QUALIFIERS

C Co-eluting isomer.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

TestAmerica Pittsburgh

Sample ID: 055364-T2-061114-SE-COMP-5

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 006	**Work Order #....:**	M33QP1AD	**Matrix....:**	SE
Date Sampled....:	06/11/14	**Date Received....:**	06/14/14	**Dilution Factor:**	1
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14	**Percent Moisture**	28
Prep Batch # ....:	4169035				
Initial Wgt/Vol :	14 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	0.077		0.0099	0.0010	ng/g
PCB 81 (BZ)	0.0035	J	0.0099	0.00098	ng/g
PCB 126 (BZ)	0.038		0.0099	0.0015	ng/g
PCB 105 (BZ)	0.79		0.0099	0.0014	ng/g
PCB 118 (BZ)	3.6		0.0099	0.0013	ng/g
PCB 123 (BZ)	0.18	Q	0.0099	0.0014	ng/g
PCB 114 (BZ)	0.038		0.0099	0.0013	ng/g
PCB 169 (BZ)	0.012		0.0099	0.0012	ng/g
PCB 156 (BZ)	1.1	C	0.0099	0.0025	ng/g
PCB 157 (BZ)	1.1	C156	0.0099	0.0025	ng/g
PCB 167 (BZ)	0.44		0.0099	0.0013	ng/g
PCB 189 (BZ)	0.066		0.0099	0.0012	ng/g

TestAmerica Pittsburgh

Sample ID: 055364-T2-061114-SE-COMP-5

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 006	**Work Order #....:**	M33QP1AD	**Matrix....:**	SE
Date Sampled....:	06/11/14	**Date Received....:**	06/14/14	**Dilution Factor:**	1
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14	**Percent Moisture**	28
Prep Batch # ....:	4169035				
Initial Wgt/Vol :	14 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	55		30 - 140
13C12-PCB 3	55		30 - 140
13C12-PCB 4	64		30 - 140
13C12-PCB 15	65		30 - 140
13C12-PCB 19	82		30 - 140
13C12-PCB 37	83		30 - 140
13C12-PCB 54	74		30 - 140
13C12-PCB 77	80		30 - 140
13C12-PCB 81	79		30 - 140
13C12-PCB 104	81		30 - 140
13C12-PCB 105	84		30 - 140
13C12-PCB 114	85		30 - 140
13C12-PCB 118	82		30 - 140
13C12-PCB 123	80		30 - 140
13C12-PCB 126	79		30 - 140
13C12-PCB 155	79		30 - 140
13C12-PCB 156	84	C	30 - 140
13C12-PCB 157	84	C	30 - 140
13C12-PCB 167	89		30 - 140
13C12-PCB 169	92		30 - 140
13C12-PCB 170	88		30 - 140
13C12-PCB 188	88		30 - 140
13C12-PCB 189	93		30 - 140
13C12-PCB 202	85		30 - 140
13C12-PCB 205	80		30 - 140
13C12-PCB 206	91		30 - 140
13C12-PCB 208	89		30 - 140
13C12-PCB 209	75		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	82	40 - 125
13C12-PCB 111	86	40 - 125
13C12-PCB 178	84	40 - 125

TestAmerica Pittsburgh

Sample ID: 055364-T2-061114-SE-COMP-5

Trace Level Organic Compounds

Lot - Sample #....:	H4F160406 - 006	**Work Order #....:**	M33QP1AD	**Matrix....:**	SE
Date Sampled....:	06/11/14	**Date Received....:**	06/14/14	**Dilution Factor:**	1
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14	**Percent Moisture**	28
Prep Batch # ....:	4169035				
Initial Wgt/Vol :	14 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

Sample results, minimum levels, and estimated detection limits are reported on a dry weight basis and have been adjusted for percent moisture.

QUALIFIERS

C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H4F180000 - 035B **Work Order #....:** M34H51AA **Matrix....:** SOLID
Dilution Factor: 1
Prep Date....: 06/18/14 **Analysis Date....:** 06/24/14 **Percent Moisture:** 0.0
Prep Batch # ....: 4169035
Initial Wgt/Vol : 10 g **Instrument ID....:** M1D **Method:** EPA-22 1668A
Analyst ID....: Linda K. McWhirter

PARAMETER	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	ND	0.010	0.00043	ng/g
PCB 81 (BZ)	ND	0.010	0.00041	ng/g
PCB 126 (BZ)	ND	0.010	0.00044	ng/g
PCB 105 (BZ)	ND	0.010	0.00037	ng/g
PCB 118 (BZ)	ND	0.010	0.00036	ng/g
PCB 123 (BZ)	ND	0.010	0.00040	ng/g
PCB 114 (BZ)	ND	0.010	0.00036	ng/g
PCB 169 (BZ)	ND	0.010	0.00039	ng/g
PCB 156 (BZ)	ND	0.010	0.00069	ng/g
PCB 157 (BZ)	ND	0.010	0.00069	ng/g
PCB 167 (BZ)	ND	0.010	0.00036	ng/g
PCB 189 (BZ)	ND	0.010	0.00032	ng/g

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4F180000 - 035B	**Work Order #....:**	M34H51AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14	**Percent Moisture:**	0.0
Prep Batch # ....:	4169035				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Linda K. McWhirter				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	59		30 - 140
13C12-PCB 3	52		30 - 140
13C12-PCB 4	68		30 - 140
13C12-PCB 15	58		30 - 140
13C12-PCB 19	82		30 - 140
13C12-PCB 37	77		30 - 140
13C12-PCB 54	73		30 - 140
13C12-PCB 77	76		30 - 140
13C12-PCB 81	75		30 - 140
13C12-PCB 104	81		30 - 140
13C12-PCB 105	88		30 - 140
13C12-PCB 114	87		30 - 140
13C12-PCB 118	85		30 - 140
13C12-PCB 123	84		30 - 140
13C12-PCB 126	82		30 - 140
13C12-PCB 155	82		30 - 140
13C12-PCB 156	93	C	30 - 140
13C12-PCB 157	93	C	30 - 140
13C12-PCB 167	95		30 - 140
13C12-PCB 169	96		30 - 140
13C12-PCB 170	87		30 - 140
13C12-PCB 188	88		30 - 140
13C12-PCB 189	90		30 - 140
13C12-PCB 202	96		30 - 140
13C12-PCB 205	81		30 - 140
13C12-PCB 206	95		30 - 140
13C12-PCB 208	92		30 - 140
13C12-PCB 209	83		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	82	40 - 125
13C12-PCB 111	86	40 - 125
13C12-PCB 178	83	40 - 125

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Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4F180000 - 035B	**Work Order #....:**	M34H51AA	**Matrix....:**	SOLID
Dilution Factor:	1				
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14	**Percent Moisture:**	0.0
Prep Batch # ....:	4169035				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Linda K. McWhirter				

QUALIFIERS

C Co-eluting isomer.

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H4F160406 **Work Order # ...:** M34H51AC-LCS **Matrix .....:** SOLID
LCS Lot-Sample# : H4F180000 - 035
Prep Date .....: 06/18/14 **Analysis Date ..:** 06/24/14
Prep Batch # ...: 4169035
Dilution Factor : 1
Analyst ID.....: Linda K. McWhirter **Instrument ID..:** M1D **Method.....:** EPA-22 1668A
Initial Wgt/Vol: 10 g

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
PCB 77 (BZ)	**0.500**	**0.500**	**ng/g**	**100**		**(50 - 150)**
PCB 81 (BZ)	**0.500**	**0.494**	**ng/g**	**99**		**(50 - 150)**
PCB 126 (BZ)	**0.500**	**0.578**	**ng/g**	**116**		**(50 - 150)**
PCB 105 (BZ)	**0.500**	**0.551**	**ng/g**	**110**		**(50 - 150)**
PCB 118 (BZ)	**0.500**	**0.530**	**ng/g**	**106**		**(50 - 150)**
PCB 123 (BZ)	**0.500**	**0.606**	**ng/g**	**121**		**(50 - 150)**
PCB 114 (BZ)	**0.500**	**0.565**	**ng/g**	**113**		**(50 - 150)**
PCB 169 (BZ)	**0.500**	**0.485**	**ng/g**	**97**		**(50 - 150)**
PCB 156 (BZ)	**1.00**	**1.06**	**ng/g**	**106**	**C**	**(50 - 150)**
PCB 157 (BZ)	**1.00**	**1.06**	**ng/g**	**106**	**C C156**	**(50 - 150)**
PCB 167 (BZ)	**0.500**	**0.543**	**ng/g**	**109**		**(50 - 150)**
PCB 189 (BZ)	**0.500**	**0.558**	**ng/g**	**112**		**(50 - 150)**

INTERNAL STANDARD	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	55		(30 - 140)
13C12-PCB 3	48		(30 - 140)
13C12-PCB 4	65		(30 - 140)
13C12-PCB 15	58		(30 - 140)
13C12-PCB 19	74		(30 - 140)
13C12-PCB 37	74		(30 - 140)
13C12-PCB 54	68		(30 - 140)
13C12-PCB 77	74		(30 - 140)
13C12-PCB 81	72		(30 - 140)
13C12-PCB 104	76		(30 - 140)
13C12-PCB 105	82		(30 - 140)
13C12-PCB 114	81		(30 - 140)
13C12-PCB 118	80		(30 - 140)
13C12-PCB 123	80		(30 - 140)
13C12-PCB 126	78		(30 - 140)
13C12-PCB 155	79		(30 - 140)
13C12-PCB 156	91	**C**	(30 - 140)
13C12-PCB 157	91	**C**	(30 - 140)
13C12-PCB 167	87		(30 - 140)
13C12-PCB 169	94		(30 - 140)
13C12-PCB 170	85		(30 - 140)
13C12-PCB 188	83		(30 - 140)
13C12-PCB 189	88		(30 - 140)
13C12-PCB 202	90		(30 - 140)
13C12-PCB 205	80		(30 - 140)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H4F160406 **Work Order # ...:** M34H51AC-LCS **Matrix .....:** SOLID
LCS Lot-Sample# : H4F180000 - 035

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 206	96	(30 - 140)
13C12-PCB 208	89	(30 - 140)
13C12-PCB 209	80	(30 - 140)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	76	(40 - 125)
13C12-PCB 111	80	(40 - 125)
13C12-PCB 178	77	(40 - 125)

Notes:

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

Bold print denotes control parameters

C Co-eluting isomer.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....: H4F180000 - 044B **Work Order #....:** M34K31AA **Matrix....:** BIOLOGICAL
Dilution Factor: 1
Prep Date....: 06/18/14 **Analysis Date....:** 06/24/14
Prep Batch # ....: 4169044
Initial Wgt/Vol : 10 g **Instrument ID....:** M1D **Method:** EPA-22 1668A
Analyst ID....: Jon M. Nordquist

PARAMETER	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	ND	0.010	0.00070	ng/g
PCB 81 (BZ)	ND	0.010	0.00065	ng/g
PCB 126 (BZ)	ND	0.010	0.00078	ng/g
PCB 105 (BZ)	ND	0.010	0.00073	ng/g
PCB 118 (BZ)	ND	0.010	0.00068	ng/g
PCB 123 (BZ)	ND	0.010	0.00075	ng/g
PCB 114 (BZ)	ND	0.010	0.00066	ng/g
PCB 169 (BZ)	ND	0.010	0.00078	ng/g
PCB 156 (BZ)	ND	0.010	0.0014	ng/g
PCB 157 (BZ)	ND	0.010	0.0014	ng/g
PCB 167 (BZ)	ND	0.010	0.00080	ng/g
PCB 189 (BZ)	ND	0.010	0.00077	ng/g

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4F180000 - 044B	**Work Order #....:**	M34K31AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14		
Prep Batch # ....:	4169044				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	60		30 - 140
13C12-PCB 3	57		30 - 140
13C12-PCB 4	66		30 - 140
13C12-PCB 15	63		30 - 140
13C12-PCB 19	84		30 - 140
13C12-PCB 37	76		30 - 140
13C12-PCB 54	74		30 - 140
13C12-PCB 77	75		30 - 140
13C12-PCB 81	75		30 - 140
13C12-PCB 104	79		30 - 140
13C12-PCB 105	81		30 - 140
13C12-PCB 114	84		30 - 140
13C12-PCB 118	81		30 - 140
13C12-PCB 123	79		30 - 140
13C12-PCB 126	77		30 - 140
13C12-PCB 155	79		30 - 140
13C12-PCB 156	83	C	30 - 140
13C12-PCB 157	83	C	30 - 140
13C12-PCB 167	83		30 - 140
13C12-PCB 169	85		30 - 140
13C12-PCB 170	83		30 - 140
13C12-PCB 188	89		30 - 140
13C12-PCB 189	89		30 - 140
13C12-PCB 202	89		30 - 140
13C12-PCB 205	75		30 - 140
13C12-PCB 206	84		30 - 140
13C12-PCB 208	83		30 - 140
13C12-PCB 209	70		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	80	40 - 125
13C12-PCB 111	84	40 - 125
13C12-PCB 178	83	40 - 125

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H4F180000 - 044B	**Work Order #....:**	M34K31AA	**Matrix....:**	BIOLOGICAL
Dilution Factor:	1				
Prep Date....:	06/18/14	**Analysis Date....:**	06/24/14		
Prep Batch # ....:	4169044				
Initial Wgt/Vol :	10 g	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Jon M. Nordquist				

QUALIFIERS

C Co-eluting isomer.

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H4F160406	**Work Order # ...:**	M34K31AC-LCS	**Matrix .....:**	BIOLOGICA
LCS Lot-Sample# :	H4F180000 - 044				
Prep Date .....:	06/18/14	**Analysis Date ..:**	06/24/14		
Prep Batch # ...:	4169044				
Dilution Factor :	1				
Analyst ID.....:	Jon M. Nordquist	**Instrument ID..:**	M1D	**Method.....:**	EPA-22 1668A
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS
PCB 77 (BZ)	**0.500**	**0.495**	**ng/g**	**99**		**(50 - 150)**
PCB 81 (BZ)	**0.500**	**0.481**	**ng/g**	**96**		**(50 - 150)**
PCB 126 (BZ)	**0.500**	**0.587**	**ng/g**	**117**		**(50 - 150)**
PCB 105 (BZ)	**0.500**	**0.542**	**ng/g**	**108**		**(50 - 150)**
PCB 118 (BZ)	**0.500**	**0.522**	**ng/g**	**104**		**(50 - 150)**
PCB 123 (BZ)	**0.500**	**0.609**	**ng/g**	**122**		**(50 - 150)**
PCB 114 (BZ)	**0.500**	**0.562**	**ng/g**	**112**		**(50 - 150)**
PCB 169 (BZ)	**0.500**	**0.502**	**ng/g**	**100**		**(50 - 150)**
PCB 156 (BZ)	**1.00**	**1.09**	**ng/g**	**109**	**C**	**(50 - 150)**
PCB 157 (BZ)	**1.00**	**1.09**	**ng/g**	**109**	**C C156**	**(50 - 150)**
PCB 167 (BZ)	**0.500**	**0.557**	**ng/g**	**111**		**(50 - 150)**
PCB 189 (BZ)	**0.500**	**0.547**	**ng/g**	**109**		**(50 - 150)**

INTERNAL STANDARD	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	62		(30 - 140)
13C12-PCB 3	59		(30 - 140)
13C12-PCB 4	71		(30 - 140)
13C12-PCB 15	69		(30 - 140)
13C12-PCB 19	80		(30 - 140)
13C12-PCB 37	79		(30 - 140)
13C12-PCB 54	74		(30 - 140)
13C12-PCB 77	80		(30 - 140)
13C12-PCB 81	78		(30 - 140)
13C12-PCB 104	78		(30 - 140)
13C12-PCB 105	82		(30 - 140)
13C12-PCB 114	82		(30 - 140)
13C12-PCB 118	80		(30 - 140)
13C12-PCB 123	78		(30 - 140)
13C12-PCB 126	78		(30 - 140)
13C12-PCB 155	79		(30 - 140)
13C12-PCB 156	84	**C**	(30 - 140)
13C12-PCB 157	84	**C**	(30 - 140)
13C12-PCB 167	85		(30 - 140)
13C12-PCB 169	88		(30 - 140)
13C12-PCB 170	82		(30 - 140)
13C12-PCB 188	88		(30 - 140)
13C12-PCB 189	95		(30 - 140)
13C12-PCB 202	86		(30 - 140)
13C12-PCB 205	77		(30 - 140)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H4F160406 **Work Order # ...:** M34K31AC-LCS **Matrix .....:** BIOLOGICA
LCS Lot-Sample# : H4F180000 - 044

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 206	84	(30 - 140)
13C12-PCB 208	83	(30 - 140)
13C12-PCB 209	64	(30 - 140)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	80	(40 - 125)
13C12-PCB 111	82	(40 - 125)
13C12-PCB 178	82	(40 - 125)

Notes:

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

Bold print denotes control parameters

C Co-eluting isomer.

Sample Receipt Documentation

TestAmerica Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

H4F160406

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Colussy, Jill L	Carrier Tracking No(s):	COC No: 180-156728.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jill.colussy@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 180-33804-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 6/24/2014			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: 0055364, Devils Swamp	Project #: 18009365			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (TISSUE-PCB CONGENER BY 1668A-WHO)/ TISSUE-PCB CONGENER BY 1668A-WHO	SUB (1668A, PCB Congeners WHO List)/ 1668A, PCB Congeners WHO list	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
055364-T2-060914-FT-CRAWFISH-22 (180-33804-1)	6/9/14	10:33 Eastern		Tissue			X		1	includes 25% tissue surcharge, $35 GPC, 5% data package surcharge
055364-T2-051914-FT-CRAWFISH-23 (180-33804-2)	5/19/14	08:45 Eastern		Tissue			X		1	includes 25% tissue surcharge, $35 GPC, 5% data package surcharge
055364-T2-060414-FT-CRAWFISH-24 (180-33804-3)	6/4/14	09:12 Eastern		Tissue			X		1	includes 25% tissue surcharge, $35 GPC, 5% data package surcharge
055364-T2-061114-SE-COMP-3 (180-33804-4)	6/11/14	11:15 Eastern		Sediment				X	1	
055364-T2-061114-SE-COMP-4 (180-33804-5)	6/11/14	11:00 Eastern		Sediment				X	1	Received @ ~~[illegible]~~ 1.5°C BRD 6-16-14 ~~19.8°C~~
055364-T2-061114-SE-COMP-5 (180-33804-6)	6/11/14	11:30 Eastern		Sediment				X	1	custody seal intact
										1 Cooler
										KW 6/14/14
										Fedex Po
										tr# 5682 3722 2003
										SC-57

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/13/14 [signature]		Ken Wilson	6/14/14 0930	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Lot Number: H4F160406

Review Items	Yes	No	NA	If No, what was the problem?
1. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **1a** Do not match COC ☐ **1b** Incomplete information ☐ **1c** Marking smeared ☐ **1d** Label torn ☐ **1e** No label ☐ **1f** COC not received ☐ **1g** Other:
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : S657 Correction factor: 0.0	✓			☐ **2a** Temp Blank = _____ ☐ **2b** Cooler Temp = _____ ☐ **2c** Cooling initiated for recently collected samples, ice present.
3. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **3a** See box 3A for pH Preservation ☐ **3b** Other:
4. Were custody seals present/intact on cooler and/or containers?	✓			☐ **4a** Not present ☐ **4b** Not intact ☐ **4c** Other:
5. Were all of the samples listed on the COC received?	✓			☐ **5a** Samples received-not on COC ☐ **5b** Samples not received-on COC
6. Were all of the sample containers received intact?	✓			☐ **6a** Leaking ☐ **6b** Broken
7. Were VOA samples received without headspace?	✓		✓	☐ **7a** Headspace (VOA only)
8. Were samples received in appropriate containers?	✓			☐ **8a** Improper container
9. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ **9a** Could not be determined due to matrix interference
10. Were samples received within holding time?	✓			☐ **10a** Holding time expired
11. For rad samples, was sample activity info. provided?			✓	☐ Incomplete information
12. For 1613B water samples is pH<9?			✓	If no, was pH adjusted to pH 7 - 9 with sulfuric acid? _____
13. Are the shipping containers intact?	✓			☐ **13a** Leaking ☐ **13b** Other:
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **14a** Not relinquished
15. Are tests/parameters listed for each sample?	✓			☐ **15a** Incomplete information
16. Is the matrix of the samples noted?	✓			☐ **15a** Incomplete information
17. Is the date/time of sample collection noted?	✓			☐ **15a** Incomplete information
18. Is the client and project name/# identified?	✓			☐ **15a** Incomplete information
19. Was the sampler identified on the COC?		✓		☐ **19a** Other

Comments/Actions Taken

pH test strip lot number: _____

	Box 3A: pH Preservation	Box 9A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Quote #: 90633 PM Instructions: MA

Sample Receiving Associate: [signature] Date: 6-16-14

QA026R28.doc, 042414

1 2 3 4 5 6 7 8 9 10 11 12 13 14

CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

Address: 5551 Corporate Blvd., Suite 200
Phone: 225-292-9007 Fax: 225-952-2978

COC NO.: 42817
PAGE 1 OF 1
(See Reverse Side for Instructions)

8/1/2014

Project No/ Phase/Task Code: 055364-**-**	Laboratory Name: Test America	Lab Location: Pittsburgh, PA	SSOW ID: —
Project Name: Devil's Swamp Lake	Lab Contact: Jill Colussy	Lab Quote No:	Cooler No: 1
Project Location: Baton Rouge, LA			Carrier: FedEx
Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Alice Johnson			Date Shipped: 6-11-14

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Sample Type: Matrix Code (see back of COC)	Sample Type: Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other: Ziploc Bags	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): PCB congeners (WHO list 16/68)	Lipids	TOC - Lloyd Kahn	Grain Size	Moisture	MS/MSD Request	Comments/ Special Instructions:
1	055364-T2-060914-FT-CRAWFISH-22	06/09/14	1033	FT	C								1	1	X	X			X		5 crawfish
2	055364-T2-051914-FT-CRAWFISH-23	05/19/14	0845	FT	C								1	1	X	X			X		3 crawfish
3	055364-T2-060414-FT-CRAWFISH-24	06/04/14	0912	FT	C								1	1	X	X			X		4 crawfish
4	055364-T2-061114-SE-COMP-3	06/11/14	1115	SE	C	3								3	X		X	X	X		
5	055364-T2-061114-SE-COMP-4	06/11/14	1100	SE	C	3								3	X		X	X	X		
6	055364-T2-061114-SE-COMP-5	06/11/14	1130	SE	C	3								3	X		X	X	X		
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

180-33804 Chain of Custody

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☒ Other: NORMAL

Total Number of Containers: 12

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Alice Johnson	CRA	06/11/14	1330	1. Debbie Watson	TAP	6-12-14	10:25
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 180-33804-1

Login Number: 33804

List Number: 1

Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

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

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 180-33804-1

Login Number: 33804
List Number: 2
Creator: Gagne, Eric M

List Source: TestAmerica Burlington
List Creation: 06/16/14 11:44 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	No NUMBERS
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.2ºC. IR GUN ID 181. CF = 0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	