TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Job ID: 480-149032-1
Client Project/Site: Tonawand Coke Plant - USEPA Region 2

For:
Environmental Restoration LLC
627 Court St
Binghamton, New York 13901

Attn: Mr. Joseph Overend

Melissa Deyo

Authorized for release by:
2/25/2019 2:28:05 PM

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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: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Qualifiers

GC/MS VOA

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.

GC/MS Semi VOA

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.
*	LCS or LCSD is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
b	Result Detected in the Unseeded Control blank (USB).
B	Compound was found in the blank and sample.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Job ID: 480-149032-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-149032-1

Receipt
The sample was received on 2/13/2019 4:00 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.9º C.

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

GC/MS Semi VOA
Method(s) 625.1: The following sample was diluted to bring the concentration of target analytes within the calibration range: TC-WEIR01-190213-01 (480-149032-1). Elevated reporting limits (RLs) are provided.

Method(s) 625.1: The laboratory control sample duplicate (LCSD) for preparation batch 480-459432 and analytical batch 480-459568 recovered outside control limits for the following analyte: Di-n-butyl phthalate. This analyte was biased high in the LCS and was not detected in the associated sample; therefore, the data have been reported.

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

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

General Chemistry
Method(s) 353.2: The continuing calibration verification (CCV) associated with batch 480-459216 recovered above the upper control limit for Nitrite as N. The sample associated with this CCV was non-detect for the affected analyte; therefore, the data have been reported.

Method(s) 1664A, 1664B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 480-459497 and analytical batch 480-459537 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 9040C, SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: TC-WEIR01-190213-01 (480-149032-1).

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

Organic Prep
Method(s) 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 480-459432.

Method(s) 625: Due to the matrix, the initial volume(s) used for the following sample deviated from the standard procedure: TC-WEIR01-190213-01 (480-149032-1). The reporting limits (RLs) have been adjusted proportionately.

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

Detection Summary

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Client Sample ID: TC-WEIR01-190213-01 — Lab Sample ID: 480-149032-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	37		5.0	0.60	ug/L	1		624.1	Total/NA
Toluene	14		5.0	0.45	ug/L	1		624.1	Total/NA
2,4-Dimethylphenol	550		50	14	ug/L	1		625.1	Total/NA
Acenaphthene	16	J	50	8.1	ug/L	1		625.1	Total/NA
Acenaphthylene	280		50	8.7	ug/L	1		625.1	Total/NA
Benzo[a]anthracene	20	J	50	11	ug/L	1		625.1	Total/NA
Benzo[b]fluoranthene	15	J	50	12	ug/L	1		625.1	Total/NA
Fluoranthene	75		50	16	ug/L	1		625.1	Total/NA
Fluorene	120		50	10	ug/L	1		625.1	Total/NA
Phenanthrene	230		50	12	ug/L	1		625.1	Total/NA
Phenol	320		50	3.5	ug/L	1		625.1	Total/NA
Pyrene	48	J	50	14	ug/L	1		625.1	Total/NA
Naphthalene - DL	2700		250	43	ug/L	5		625.1	Total/NA
Mercury	0.00028		0.00020	0.00012	mg/L	1		245.1	Total/NA
Oil & Grease	8.0	B	4.9	1.4	mg/L	1		1664B	Total/NA
SGT-HEM	6.4		4.9	1.9	mg/L	1		1664B	Total/NA
Cyanide, Total	0.28		0.010	0.0050	mg/L	1		335.4	Total/NA
Ammonia	92.0		1.0	0.45	mg/L	50		350.1	Total/NA
Total Kjeldahl Nitrogen	129	B	9.0	6.8	mg/L	45		351.2	Total/NA
Nitrite as N	0.27		0.050	0.020	mg/L	1		353.2	Total/NA
Chemical Oxygen Demand	197		20.0	10.0	mg/L	2		410.4	Total/NA
Nitrate as N	1.3		0.050	0.020	mg/L	1		Nitrate by calc	Total/NA
Phosphorus	0.025		0.010	0.0050	mg/L	1		SM 4500 P E	Total/NA
Biochemical Oxygen Demand	201	b	120	120	mg/L	1		SM 5210B	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	6.91	HF	0.100	0.100	SU	1		9040C	Total/NA
Temperature	19.3	HF	0.00100	0.00100	Degrees C	1		9040C	Total/NA
Total Suspended Solids	18.4		4.0	4.0	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Client Sample ID: TC-WEIR01-190213-01

Lab Sample ID: 480-149032-1

Date Collected: 02/13/19 09:15
Matrix: Water
Date Received: 02/13/19 16:00

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			02/14/19 17:05	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			02/14/19 17:05	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			02/14/19 17:05	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			02/14/19 17:05	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			02/14/19 17:05	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			02/14/19 17:05	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			02/14/19 17:05	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			02/14/19 17:05	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			02/14/19 17:05	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			02/14/19 17:05	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			02/14/19 17:05	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			02/14/19 17:05	1
Acrolein	ND		100	17	ug/L			02/14/19 17:05	1
Acrylonitrile	ND		50	1.9	ug/L			02/14/19 17:05	1
Benzene	**37**		5.0	0.60	ug/L			02/14/19 17:05	1
Bromoform	ND		5.0	0.47	ug/L			02/14/19 17:05	1
Bromomethane	ND		5.0	1.2	ug/L			02/14/19 17:05	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			02/14/19 17:05	1
Chlorobenzene	ND		5.0	0.48	ug/L			02/14/19 17:05	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			02/14/19 17:05	1
Chloroethane	ND		5.0	0.87	ug/L			02/14/19 17:05	1
Chloroform	ND		5.0	0.54	ug/L			02/14/19 17:05	1
Chloromethane	ND		5.0	0.64	ug/L			02/14/19 17:05	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			02/14/19 17:05	1
Dichlorobromomethane	ND		5.0	0.54	ug/L			02/14/19 17:05	1
Ethylbenzene	ND		5.0	0.46	ug/L			02/14/19 17:05	1
Methylene Chloride	ND		5.0	0.81	ug/L			02/14/19 17:05	1
Tetrachloroethene	ND		5.0	0.34	ug/L			02/14/19 17:05	1
Toluene	**14**		5.0	0.45	ug/L			02/14/19 17:05	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			02/14/19 17:05	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			02/14/19 17:05	1
Trichloroethene	ND		5.0	0.60	ug/L			02/14/19 17:05	1
Vinyl chloride	ND		5.0	0.75	ug/L			02/14/19 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*68 - 130*		*02/14/19 17:05*	*1*
4-Bromofluorobenzene (Surr)	*104*		*76 - 123*		*02/14/19 17:05*	*1*
Toluene-d8 (Surr)	*95*		*77 - 120*		*02/14/19 17:05*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*02/14/19 17:05*	*1*

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		100	8.2	ug/L		02/18/19 07:44	02/18/19 22:50	1
1,2-Dichlorobenzene	ND		100	50	ug/L		02/18/19 07:44	02/18/19 22:50	1
1,2-Diphenylhydrazine	ND		100	7.8	ug/L		02/18/19 07:44	02/18/19 22:50	1
1,3-Dichlorobenzene	ND		100	6.9	ug/L		02/18/19 07:44	02/18/19 22:50	1
1,4-Dichlorobenzene	ND		100	56	ug/L		02/18/19 07:44	02/18/19 22:50	1
2,4,6-Trichlorophenol	ND		50	10	ug/L		02/18/19 07:44	02/18/19 22:50	1
2,4-Dichlorophenol	ND		50	7.7	ug/L		02/18/19 07:44	02/18/19 22:50	1
2,4-Dimethylphenol	**550**		50	14	ug/L		02/18/19 07:44	02/18/19 22:50	1

Client Sample Results

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Client Sample ID: TC-WEIR01-190213-01

Date Collected: 02/13/19 09:15
Date Received: 02/13/19 16:00

Lab Sample ID: 480-149032-1

Matrix: Water

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrophenol	ND		100	50	ug/L		02/18/19 07:44	02/18/19 22:50	1
2,4-Dinitrotoluene	ND		100	50	ug/L		02/18/19 07:44	02/18/19 22:50	1
2,6-Dinitrotoluene	ND		50	10	ug/L		02/18/19 07:44	02/18/19 22:50	1
2-Chloronaphthalene	ND		50	9.1	ug/L		02/18/19 07:44	02/18/19 22:50	1
2-Chlorophenol	ND		50	6.6	ug/L		02/18/19 07:44	02/18/19 22:50	1
2-Nitrophenol	ND		50	7.0	ug/L		02/18/19 07:44	02/18/19 22:50	1
3,3'-Dichlorobenzidine	ND		50	8.2	ug/L		02/18/19 07:44	02/18/19 22:50	1
4,6-Dinitro-2-methylphenol	ND		100	6.6	ug/L		02/18/19 07:44	02/18/19 22:50	1
4-Bromophenyl phenyl ether	ND		50	14	ug/L		02/18/19 07:44	02/18/19 22:50	1
4-Chloro-3-methylphenol	ND		50	11	ug/L		02/18/19 07:44	02/18/19 22:50	1
4-Chlorophenyl phenyl ether	ND		50	13	ug/L		02/18/19 07:44	02/18/19 22:50	1
4-Nitrophenol	ND		150	100	ug/L		02/18/19 07:44	02/18/19 22:50	1
Acenaphthene	**16**	**J**	50	8.1	ug/L		02/18/19 07:44	02/18/19 22:50	1
Acenaphthylene	**280**		50	8.7	ug/L		02/18/19 07:44	02/18/19 22:50	1
Anthracene	ND		50	14	ug/L		02/18/19 07:44	02/18/19 22:50	1
Benzidine	ND		800	350	ug/L		02/18/19 07:44	02/18/19 22:50	1
Benzo[a]anthracene	**20**	**J**	50	11	ug/L		02/18/19 07:44	02/18/19 22:50	1
Benzo[a]pyrene	ND		50	13	ug/L		02/18/19 07:44	02/18/19 22:50	1
Benzo[b]fluoranthene	**15**	**J**	50	12	ug/L		02/18/19 07:44	02/18/19 22:50	1
Benzo[g,h,i]perylene	ND		50	15	ug/L		02/18/19 07:44	02/18/19 22:50	1
Benzo[k]fluoranthene	ND		50	13	ug/L		02/18/19 07:44	02/18/19 22:50	1
bis (2-chloroisopropyl) ether	ND		50	8.4	ug/L		02/18/19 07:44	02/18/19 22:50	1
Bis(2-chloroethoxy)methane	ND		50	7.5	ug/L		02/18/19 07:44	02/18/19 22:50	1
Bis(2-chloroethyl)ether	ND		50	9.3	ug/L		02/18/19 07:44	02/18/19 22:50	1
Bis(2-ethylhexyl) phthalate	ND		100	12	ug/L		02/18/19 07:44	02/18/19 22:50	1
Butyl benzyl phthalate	ND		50	11	ug/L		02/18/19 07:44	02/18/19 22:50	1
Chrysene	ND		50	10	ug/L		02/18/19 07:44	02/18/19 22:50	1
Dibenz(a,h)anthracene	ND		50	15	ug/L		02/18/19 07:44	02/18/19 22:50	1
Diethyl phthalate	ND		50	10	ug/L		02/18/19 07:44	02/18/19 22:50	1
Dimethyl phthalate	ND		50	9.1	ug/L		02/18/19 07:44	02/18/19 22:50	1
Di-n-butyl phthalate	ND	*	50	16	ug/L		02/18/19 07:44	02/18/19 22:50	1
Di-n-octyl phthalate	ND		50	12	ug/L		02/18/19 07:44	02/18/19 22:50	1
Fluoranthene	**75**		50	16	ug/L		02/18/19 07:44	02/18/19 22:50	1
Fluorene	**120**		50	10	ug/L		02/18/19 07:44	02/18/19 22:50	1
Hexachlorobenzene	ND		50	10	ug/L		02/18/19 07:44	02/18/19 22:50	1
Hexachlorobutadiene	ND		50	10	ug/L		02/18/19 07:44	02/18/19 22:50	1
Hexachlorocyclopentadiene	ND		100	50	ug/L		02/18/19 07:44	02/18/19 22:50	1
Hexachloroethane	ND		50	6.0	ug/L		02/18/19 07:44	02/18/19 22:50	1
Indeno[1,2,3-cd]pyrene	ND		50	15	ug/L		02/18/19 07:44	02/18/19 22:50	1
Isophorone	ND		50	7.4	ug/L		02/18/19 07:44	02/18/19 22:50	1
Nitrobenzene	ND		50	8.1	ug/L		02/18/19 07:44	02/18/19 22:50	1
N-Nitrosodimethylamine	ND		100	50	ug/L		02/18/19 07:44	02/18/19 22:50	1
N-Nitrosodi-n-propylamine	ND		50	8.9	ug/L		02/18/19 07:44	02/18/19 22:50	1
N-Nitrosodiphenylamine	ND		50	4.0	ug/L		02/18/19 07:44	02/18/19 22:50	1
Pentachlorophenol	ND		100	16	ug/L		02/18/19 07:44	02/18/19 22:50	1
Phenanthrene	**230**		50	12	ug/L		02/18/19 07:44	02/18/19 22:50	1
Phenol	**320**		50	3.5	ug/L		02/18/19 07:44	02/18/19 22:50	1
Pyrene	**48**	**J**	50	14	ug/L		02/18/19 07:44	02/18/19 22:50	1

Client Sample Results

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Client Sample ID: TC-WEIR01-190213-01

Date Collected: 02/13/19 09:15
Date Received: 02/13/19 16:00

Lab Sample ID: 480-149032-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*107*		*52 - 151*	*02/18/19 07:44*	*02/18/19 22:50*	*1*
2-Fluorobiphenyl	*96*		*44 - 120*	*02/18/19 07:44*	*02/18/19 22:50*	*1*
2-Fluorophenol	*55*		*17 - 120*	*02/18/19 07:44*	*02/18/19 22:50*	*1*
Nitrobenzene-d5	*111*		*15 - 314*	*02/18/19 07:44*	*02/18/19 22:50*	*1*
Phenol-d5	*39*		*8 - 424*	*02/18/19 07:44*	*02/18/19 22:50*	*1*
p-Terphenyl-d14	*108*		*22 - 125*	*02/18/19 07:44*	*02/18/19 22:50*	*1*

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**2700**		250	43	ug/L		02/18/19 07:44	02/20/19 19:09	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*95*		*52 - 151*	*02/18/19 07:44*	*02/20/19 19:09*	*5*
2-Fluorobiphenyl	*92*		*44 - 120*	*02/18/19 07:44*	*02/20/19 19:09*	*5*
2-Fluorophenol	*55*		*17 - 120*	*02/18/19 07:44*	*02/20/19 19:09*	*5*
Nitrobenzene-d5	*91*		*15 - 314*	*02/18/19 07:44*	*02/20/19 19:09*	*5*
Phenol-d5	*35*		*8 - 424*	*02/18/19 07:44*	*02/20/19 19:09*	*5*
p-Terphenyl-d14	*116*		*22 - 125*	*02/18/19 07:44*	*02/20/19 19:09*	*5*

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		02/18/19 07:25	02/18/19 17:14	1
Selenium	ND		0.025	0.0087	mg/L		02/18/19 07:25	02/18/19 17:14	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00028**		0.00020	0.00012	mg/L		02/18/19 11:20	02/18/19 14:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil & Grease	**8.0**	**B**	4.9	1.4	mg/L		02/18/19 10:16	02/18/19 13:49	1
SGT-HEM	**6.4**		4.9	1.9	mg/L		02/18/19 10:16	02/18/19 13:49	1
Cyanide, Total	**0.28**		0.010	0.0050	mg/L		02/20/19 12:10	02/20/19 15:13	1
Ammonia	**92.0**		1.0	0.45	mg/L			02/21/19 14:02	50
Total Kjeldahl Nitrogen	**129**	**B**	9.0	6.8	mg/L		02/19/19 07:00	02/21/19 15:19	45
Nitrite as N	**0.27**		0.050	0.020	mg/L			02/14/19 18:28	1
Chemical Oxygen Demand	**197**		20.0	10.0	mg/L			02/18/19 09:15	2
Nitrate as N	**1.3**		0.050	0.020	mg/L			02/14/19 18:28	1
Phosphorus	**0.025**		0.010	0.0050	mg/L			02/18/19 11:15	1
Biochemical Oxygen Demand	**201**	**b**	120	120	mg/L			02/15/19 01:56	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.91**	**HF**	0.100	0.100	SU			02/22/19 14:07	1
Temperature	**19.3**	**HF**	0.00100	0.00100	Degrees C			02/22/19 14:07	1
Total Suspended Solids	**18.4**		4.0	4.0	mg/L			02/15/19 17:32	1

Surrogate Summary

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(68-130)	(76-123)	(77-120)	(75-123)
480-149032-1	TC-WEIR01-190213-01	98	104	95	96
LCS 480-459037/5	Lab Control Sample	95	105	98	98
MB 480-459037/7	Method Blank	97	104	95	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHd14
Lab Sample ID	Client Sample ID	(52-151)	(44-120)	(17-120)	(15-314)	(8-424)	(22-125)
480-149032-1	TC-WEIR01-190213-01	107	96	55	111	39	108
480-149032-1 - DL	TC-WEIR01-190213-01	95	92	55	91	35	116
LCS 480-459432/2-A	Lab Control Sample	102	88	48	88	36	116
LCSD 480-459432/3-A	Lab Control Sample Dup	108	96	52	96	38	124
MB 480-459432/1-A	Method Blank	90	90	51	89	35	123

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHd14 = p-Terphenyl-d14

QC Sample Results

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-459037/7
Matrix: Water
Analysis Batch: 459037

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			02/14/19 10:55	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			02/14/19 10:55	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			02/14/19 10:55	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			02/14/19 10:55	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			02/14/19 10:55	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			02/14/19 10:55	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			02/14/19 10:55	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			02/14/19 10:55	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			02/14/19 10:55	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			02/14/19 10:55	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			02/14/19 10:55	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			02/14/19 10:55	1
Acrolein	ND		100	17	ug/L			02/14/19 10:55	1
Acrylonitrile	ND		50	1.9	ug/L			02/14/19 10:55	1
Benzene	ND		5.0	0.60	ug/L			02/14/19 10:55	1
Bromoform	ND		5.0	0.47	ug/L			02/14/19 10:55	1
Bromomethane	ND		5.0	1.2	ug/L			02/14/19 10:55	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			02/14/19 10:55	1
Chlorobenzene	ND		5.0	0.48	ug/L			02/14/19 10:55	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			02/14/19 10:55	1
Chloroethane	ND		5.0	0.87	ug/L			02/14/19 10:55	1
Chloroform	ND		5.0	0.54	ug/L			02/14/19 10:55	1
Chloromethane	ND		5.0	0.64	ug/L			02/14/19 10:55	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			02/14/19 10:55	1
Dichlorobromomethane	ND		5.0	0.54	ug/L			02/14/19 10:55	1
Ethylbenzene	ND		5.0	0.46	ug/L			02/14/19 10:55	1
Methylene Chloride	ND		5.0	0.81	ug/L			02/14/19 10:55	1
Tetrachloroethene	ND		5.0	0.34	ug/L			02/14/19 10:55	1
Toluene	ND		5.0	0.45	ug/L			02/14/19 10:55	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			02/14/19 10:55	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			02/14/19 10:55	1
Trichloroethene	ND		5.0	0.60	ug/L			02/14/19 10:55	1
Vinyl chloride	ND		5.0	0.75	ug/L			02/14/19 10:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*68 - 130*		*02/14/19 10:55*	*1*
4-Bromofluorobenzene (Surr)	*104*		*76 - 123*		*02/14/19 10:55*	*1*
Toluene-d8 (Surr)	*95*		*77 - 120*		*02/14/19 10:55*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*02/14/19 10:55*	*1*

Lab Sample ID: LCS 480-459037/5
Matrix: Water
Analysis Batch: 459037

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	20.0	21.3		ug/L		106	52 - 162
1,1,2,2-Tetrachloroethane	20.0	19.1		ug/L		96	46 - 157
1,1,2-Trichloroethane	20.0	19.8		ug/L		99	52 - 150

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-459037/5
Matrix: Water
Analysis Batch: 459037

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	20.0	20.6		ug/L		103	59 - 155
1,1-Dichloroethene	20.0	20.2		ug/L		101	1 - 234
1,2-Dichlorobenzene	20.0	19.9		ug/L		99	18 - 190
1,2-Dichloroethane	20.0	20.0		ug/L		100	49 - 155
1,2-Dichloropropane	20.0	20.6		ug/L		103	1 - 210
1,3-Dichlorobenzene	20.0	20.0		ug/L		100	59 - 156
1,4-Dichlorobenzene	20.0	20.0		ug/L		100	18 - 190
2-Chloroethyl vinyl ether	20.0	20.5	J	ug/L		103	1 - 305
Benzene	20.0	21.1		ug/L		105	37 - 151
Bromoform	20.0	19.9		ug/L		99	45 - 169
Bromomethane	20.0	22.4		ug/L		112	1 - 242
Carbon tetrachloride	20.0	21.3		ug/L		106	70 - 140
Chlorobenzene	20.0	20.5		ug/L		103	37 - 160
Chlorodibromomethane	20.0	19.9		ug/L		99	53 - 149
Chloroethane	20.0	22.2		ug/L		111	14 - 230
Chloroform	20.0	20.3		ug/L		102	51 - 138
Chloromethane	20.0	21.9		ug/L		109	1 - 273
cis-1,3-Dichloropropene	20.0	21.0		ug/L		105	1 - 227
Dichlorobromomethane	20.0	20.4		ug/L		102	35 - 155
Ethylbenzene	20.0	21.1		ug/L		105	37 - 162
Methylene Chloride	20.0	20.1		ug/L		100	1 - 221
Tetrachloroethene	20.0	20.9		ug/L		104	64 - 148
Toluene	20.0	20.5		ug/L		102	47 - 150
trans-1,2-Dichloroethene	20.0	20.9		ug/L		104	54 - 156
trans-1,3-Dichloropropene	20.0	19.6		ug/L		98	17 - 183
Trichloroethene	20.0	20.9		ug/L		104	71 - 157
Vinyl chloride	20.0	22.7		ug/L		113	1 - 251

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*68 - 130*
4-Bromofluorobenzene (Surr)	*105*		*76 - 123*
Toluene-d8 (Surr)	*98*		*77 - 120*
Dibromofluoromethane (Surr)	*98*		*75 - 123*

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-459432/1-A
Matrix: Water
Analysis Batch: 459885

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 459432

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		10	0.82	ug/L		02/18/19 07:44	02/20/19 17:55	1
1,2-Dichlorobenzene	ND		10	5.0	ug/L		02/18/19 07:44	02/20/19 17:55	1
1,2-Diphenylhydrazine	ND		10	0.78	ug/L		02/18/19 07:44	02/20/19 17:55	1
1,3-Dichlorobenzene	ND		10	0.69	ug/L		02/18/19 07:44	02/20/19 17:55	1
1,4-Dichlorobenzene	ND		10	5.6	ug/L		02/18/19 07:44	02/20/19 17:55	1
2,4,6-Trichlorophenol	ND		5.0	1.0	ug/L		02/18/19 07:44	02/20/19 17:55	1
2,4-Dichlorophenol	ND		5.0	0.77	ug/L		02/18/19 07:44	02/20/19 17:55	1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 480-459432/1-A
Matrix: Water
Analysis Batch: 459885

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 459432

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		5.0	1.4	ug/L		02/18/19 07:44	02/20/19 17:55	1
2,4-Dinitrophenol	ND		10	5.0	ug/L		02/18/19 07:44	02/20/19 17:55	1
2,4-Dinitrotoluene	ND		10	5.0	ug/L		02/18/19 07:44	02/20/19 17:55	1
2,6-Dinitrotoluene	ND		5.0	1.0	ug/L		02/18/19 07:44	02/20/19 17:55	1
2-Chloronaphthalene	ND		5.0	0.91	ug/L		02/18/19 07:44	02/20/19 17:55	1
2-Chlorophenol	ND		5.0	0.66	ug/L		02/18/19 07:44	02/20/19 17:55	1
2-Nitrophenol	ND		5.0	0.70	ug/L		02/18/19 07:44	02/20/19 17:55	1
3,3'-Dichlorobenzidine	ND		5.0	0.82	ug/L		02/18/19 07:44	02/20/19 17:55	1
4,6-Dinitro-2-methylphenol	ND		10	0.66	ug/L		02/18/19 07:44	02/20/19 17:55	1
4-Bromophenyl phenyl ether	ND		5.0	1.4	ug/L		02/18/19 07:44	02/20/19 17:55	1
4-Chloro-3-methylphenol	ND		5.0	1.1	ug/L		02/18/19 07:44	02/20/19 17:55	1
4-Chlorophenyl phenyl ether	ND		5.0	1.3	ug/L		02/18/19 07:44	02/20/19 17:55	1
4-Nitrophenol	ND		15	10	ug/L		02/18/19 07:44	02/20/19 17:55	1
Acenaphthene	ND		5.0	0.81	ug/L		02/18/19 07:44	02/20/19 17:55	1
Acenaphthylene	ND		5.0	0.87	ug/L		02/18/19 07:44	02/20/19 17:55	1
Anthracene	ND		5.0	1.4	ug/L		02/18/19 07:44	02/20/19 17:55	1
Benzidine	ND		80	35	ug/L		02/18/19 07:44	02/20/19 17:55	1
Benzo[a]anthracene	ND		5.0	1.1	ug/L		02/18/19 07:44	02/20/19 17:55	1
Benzo[a]pyrene	ND		5.0	1.3	ug/L		02/18/19 07:44	02/20/19 17:55	1
Benzo[b]fluoranthene	ND		5.0	1.2	ug/L		02/18/19 07:44	02/20/19 17:55	1
Benzo[g,h,i]perylene	ND		5.0	1.5	ug/L		02/18/19 07:44	02/20/19 17:55	1
Benzo[k]fluoranthene	ND		5.0	1.3	ug/L		02/18/19 07:44	02/20/19 17:55	1
bis (2-chloroisopropyl) ether	ND		5.0	0.84	ug/L		02/18/19 07:44	02/20/19 17:55	1
Bis(2-chloroethoxy)methane	ND		5.0	0.75	ug/L		02/18/19 07:44	02/20/19 17:55	1
Bis(2-chloroethyl)ether	ND		5.0	0.93	ug/L		02/18/19 07:44	02/20/19 17:55	1
Bis(2-ethylhexyl) phthalate	ND		10	1.2	ug/L		02/18/19 07:44	02/20/19 17:55	1
Butyl benzyl phthalate	ND		5.0	1.1	ug/L		02/18/19 07:44	02/20/19 17:55	1
Chrysene	ND		5.0	1.0	ug/L		02/18/19 07:44	02/20/19 17:55	1
Dibenz(a,h)anthracene	ND		5.0	1.5	ug/L		02/18/19 07:44	02/20/19 17:55	1
Diethyl phthalate	ND		5.0	1.0	ug/L		02/18/19 07:44	02/20/19 17:55	1
Dimethyl phthalate	ND		5.0	0.91	ug/L		02/18/19 07:44	02/20/19 17:55	1
Di-n-butyl phthalate	ND		5.0	1.6	ug/L		02/18/19 07:44	02/20/19 17:55	1
Di-n-octyl phthalate	ND		5.0	1.2	ug/L		02/18/19 07:44	02/20/19 17:55	1
Fluoranthene	ND		5.0	1.6	ug/L		02/18/19 07:44	02/20/19 17:55	1
Fluorene	ND		5.0	1.0	ug/L		02/18/19 07:44	02/20/19 17:55	1
Hexachlorobenzene	ND		5.0	1.0	ug/L		02/18/19 07:44	02/20/19 17:55	1
Hexachlorobutadiene	ND		5.0	1.0	ug/L		02/18/19 07:44	02/20/19 17:55	1
Hexachlorocyclopentadiene	ND		10	5.0	ug/L		02/18/19 07:44	02/20/19 17:55	1
Hexachloroethane	ND		5.0	0.60	ug/L		02/18/19 07:44	02/20/19 17:55	1
Indeno[1,2,3-cd]pyrene	ND		5.0	1.5	ug/L		02/18/19 07:44	02/20/19 17:55	1
Isophorone	ND		5.0	0.74	ug/L		02/18/19 07:44	02/20/19 17:55	1
Naphthalene	ND		5.0	0.86	ug/L		02/18/19 07:44	02/20/19 17:55	1
Nitrobenzene	ND		5.0	0.81	ug/L		02/18/19 07:44	02/20/19 17:55	1
N-Nitrosodimethylamine	ND		10	5.0	ug/L		02/18/19 07:44	02/20/19 17:55	1
N-Nitrosodi-n-propylamine	ND		5.0	0.89	ug/L		02/18/19 07:44	02/20/19 17:55	1
N-Nitrosodiphenylamine	ND		5.0	0.40	ug/L		02/18/19 07:44	02/20/19 17:55	1
Pentachlorophenol	ND		10	1.6	ug/L		02/18/19 07:44	02/20/19 17:55	1
Phenanthrene	ND		5.0	1.2	ug/L		02/18/19 07:44	02/20/19 17:55	1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 480-459432/1-A
Matrix: Water
Analysis Batch: 459885

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 459432

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		5.0	0.35	ug/L		02/18/19 07:44	02/20/19 17:55	1
Pyrene	ND		5.0	1.4	ug/L		02/18/19 07:44	02/20/19 17:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*90*		*52 - 151*	*02/18/19 07:44*	*02/20/19 17:55*	*1*
2-Fluorobiphenyl	*90*		*44 - 120*	*02/18/19 07:44*	*02/20/19 17:55*	*1*
2-Fluorophenol	*51*		*17 - 120*	*02/18/19 07:44*	*02/20/19 17:55*	*1*
Nitrobenzene-d5	*89*		*15 - 314*	*02/18/19 07:44*	*02/20/19 17:55*	*1*
Phenol-d5	*35*		*8 - 424*	*02/18/19 07:44*	*02/20/19 17:55*	*1*
p-Terphenyl-d14	*123*		*22 - 125*	*02/18/19 07:44*	*02/20/19 17:55*	*1*

Lab Sample ID: LCS 480-459432/2-A
Matrix: Water
Analysis Batch: 459885

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 459432

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	50.0	37.4		ug/L		75	44 - 142
1,2-Dichlorobenzene	50.0	36.6		ug/L		73	32 - 129
1,3-Dichlorobenzene	50.0	33.7		ug/L		67	1 - 172
1,4-Dichlorobenzene	50.0	34.1		ug/L		68	20 - 124
2,4,6-Trichlorophenol	50.0	46.1		ug/L		92	37 - 144
2,4-Dichlorophenol	50.0	49.0		ug/L		98	39 - 135
2,4-Dimethylphenol	50.0	46.5		ug/L		93	32 - 120
2,4-Dinitrophenol	100	94.2		ug/L		94	1 - 191
2,4-Dinitrotoluene	50.0	49.9		ug/L		100	39 - 139
2,6-Dinitrotoluene	50.0	46.8		ug/L		94	50 - 158
2-Chloronaphthalene	50.0	40.6		ug/L		81	60 - 120
2-Chlorophenol	50.0	40.3		ug/L		81	23 - 134
2-Nitrophenol	50.0	47.0		ug/L		94	29 - 182
3,3'-Dichlorobenzidine	100	90.3		ug/L		90	1 - 262
4,6-Dinitro-2-methylphenol	100	118		ug/L		118	1 - 181
4-Bromophenyl phenyl ether	50.0	49.8		ug/L		100	53 - 127
4-Chloro-3-methylphenol	50.0	49.9		ug/L		100	22 - 147
4-Chlorophenyl phenyl ether	50.0	47.2		ug/L		94	25 - 158
4-Nitrophenol	100	59.6		ug/L		60	1 - 132
Acenaphthene	50.0	43.1		ug/L		86	47 - 145
Acenaphthylene	50.0	44.7		ug/L		89	33 - 145
Anthracene	50.0	53.4		ug/L		107	27 - 133
Benzidine	100	ND		ug/L		34	1 - 120
Benzo[a]anthracene	50.0	51.9		ug/L		104	33 - 143
Benzo[a]pyrene	50.0	52.0		ug/L		104	17 - 163
Benzo[b]fluoranthene	50.0	52.5		ug/L		105	24 - 159
Benzo[g,h,i]perylene	50.0	53.0		ug/L		106	1 - 219
Benzo[k]fluoranthene	50.0	50.9		ug/L		102	11 - 162
bis (2-chloroisopropyl) ether	50.0	30.5		ug/L		61	36 - 166
Bis(2-chloroethoxy)methane	50.0	41.0		ug/L		82	33 - 184
Bis(2-chloroethyl)ether	50.0	39.7		ug/L		79	12 - 158
Bis(2-ethylhexyl) phthalate	50.0	62.1		ug/L		124	8 - 158

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-459432/2-A
Matrix: Water
Analysis Batch: 459885

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 459432

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Butyl benzyl phthalate	50.0	57.2		ug/L		114	1 - 152
Chrysene	50.0	51.6		ug/L		103	17 - 168
Dibenz(a,h)anthracene	50.0	55.1		ug/L		110	1 - 227
Diethyl phthalate	50.0	52.7		ug/L		105	1 - 120
Dimethyl phthalate	50.0	48.7		ug/L		97	1 - 120
Di-n-butyl phthalate	50.0	56.5		ug/L		113	1 - 120
Di-n-octyl phthalate	50.0	59.4		ug/L		119	4 - 146
Fluoranthene	50.0	53.2		ug/L		106	26 - 137
Fluorene	50.0	46.5		ug/L		93	59 - 121
Hexachlorobenzene	50.0	49.0		ug/L		98	1 - 152
Hexachlorocyclopentadiene	50.0	35.2		ug/L		70	5 - 120
Hexachloroethane	50.0	30.6		ug/L		61	40 - 120
Indeno[1,2,3-cd]pyrene	50.0	54.6		ug/L		109	1 - 171
Isophorone	50.0	44.1		ug/L		88	21 - 196
Naphthalene	50.0	41.9		ug/L		84	21 - 133
Nitrobenzene	50.0	41.6		ug/L		83	35 - 180
N-Nitrosodi-n-propylamine	50.0	42.5		ug/L		85	1 - 230
N-Nitrosodiphenylamine	50.0	53.2		ug/L		106	54 - 125
Pentachlorophenol	100	104		ug/L		104	14 - 176
Phenanthrene	50.0	50.6		ug/L		101	54 - 120
Phenol	50.0	19.7		ug/L		39	5 - 120
Pyrene	50.0	53.1		ug/L		106	52 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*102*		*52 - 151*
2-Fluorobiphenyl	*88*		*44 - 120*
2-Fluorophenol	*48*		*17 - 120*
Nitrobenzene-d5	*88*		*15 - 314*
Phenol-d5	*36*		*8 - 424*
p-Terphenyl-d14	*116*		*22 - 125*

Lab Sample ID: LCSD 480-459432/3-A
Matrix: Water
Analysis Batch: 459885

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 459432

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	50.0	40.4		ug/L		81	44 - 142	8	34
1,2-Dichlorobenzene	50.0	39.3		ug/L		79	32 - 129	7	38
1,3-Dichlorobenzene	50.0	36.2		ug/L		72	1 - 172	7	37
1,4-Dichlorobenzene	50.0	37.3		ug/L		75	20 - 124	9	40
2,4,6-Trichlorophenol	50.0	51.1		ug/L		102	37 - 144	10	20
2,4-Dichlorophenol	50.0	51.1		ug/L		102	39 - 135	4	23
2,4-Dimethylphenol	50.0	51.2		ug/L		102	32 - 120	10	18
2,4-Dinitrophenol	100	106		ug/L		106	1 - 191	12	29
2,4-Dinitrotoluene	50.0	53.4		ug/L		107	39 - 139	7	20
2,6-Dinitrotoluene	50.0	52.4		ug/L		105	50 - 158	11	17
2-Chloronaphthalene	50.0	46.7		ug/L		93	60 - 120	14	30
2-Chlorophenol	50.0	43.7		ug/L		87	23 - 134	8	26

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 480-459432/3-A
Matrix: Water
Analysis Batch: 459885

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 459432

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Nitrophenol			50.0	50.2		ug/L		100	29 - 182	7	28
3,3'-Dichlorobenzidine			100	96.2		ug/L		96	1 - 262	6	31
4,6-Dinitro-2-methylphenol			100	125		ug/L		125	1 - 181	6	30
4-Bromophenyl phenyl ether			50.0	55.5		ug/L		111	53 - 127	11	16
4-Chloro-3-methylphenol			50.0	54.0		ug/L		108	22 - 147	8	16
4-Chlorophenyl phenyl ether			50.0	51.5		ug/L		103	25 - 158	9	15
4-Nitrophenol			100	64.3		ug/L		64	1 - 132	8	24
Acenaphthene			50.0	47.2		ug/L		94	47 - 145	9	25
Acenaphthylene			50.0	50.2		ug/L		100	33 - 145	12	22
Anthracene			50.0	57.3		ug/L		115	27 - 133	7	15
Benzidine			100	44.0	J	ug/L		44	1 - 120	25	50
Benzo[a]anthracene			50.0	54.0		ug/L		108	33 - 143	4	15
Benzo[a]pyrene			50.0	55.9		ug/L		112	17 - 163	7	15
Benzo[b]fluoranthene			50.0	56.4		ug/L		113	24 - 159	7	17
Benzo[g,h,i]perylene			50.0	56.4		ug/L		113	1 - 219	6	19
Benzo[k]fluoranthene			50.0	53.5		ug/L		107	11 - 162	5	19
bis (2-chloroisopropyl) ether			50.0	34.2		ug/L		68	36 - 166	11	36
Bis(2-chloroethoxy)methane			50.0	45.9		ug/L		92	33 - 184	11	23
Bis(2-chloroethyl)ether			50.0	42.5		ug/L		85	12 - 158	7	33
Bis(2-ethylhexyl) phthalate			50.0	66.6		ug/L		133	8 - 158	7	15
Butyl benzyl phthalate			50.0	61.1		ug/L		122	1 - 152	7	15
Chrysene			50.0	55.3		ug/L		111	17 - 168	7	15
Dibenz(a,h)anthracene			50.0	59.5		ug/L		119	1 - 227	8	18
Diethyl phthalate			50.0	58.3		ug/L		117	1 - 120	10	15
Dimethyl phthalate			50.0	53.1		ug/L		106	1 - 120	9	15
Di-n-butyl phthalate			50.0	62.0	*	ug/L		124	1 - 120	9	15
Di-n-octyl phthalate			50.0	64.7		ug/L		129	4 - 146	9	15
Fluoranthene			50.0	57.5		ug/L		115	26 - 137	8	15
Fluorene			50.0	51.0		ug/L		102	59 - 121	9	18
Hexachlorobenzene			50.0	54.5		ug/L		109	1 - 152	11	15
Hexachlorocyclopentadiene			50.0	40.2		ug/L		80	5 - 120	13	50
Hexachloroethane			50.0	33.2		ug/L		66	40 - 120	8	43
Indeno[1,2,3-cd]pyrene			50.0	58.1		ug/L		116	1 - 171	6	17
Isophorone			50.0	48.6		ug/L		97	21 - 196	10	21
Naphthalene			50.0	45.4		ug/L		91	21 - 133	8	31
Nitrobenzene			50.0	47.0		ug/L		94	35 - 180	12	27
N-Nitrosodi-n-propylamine			50.0	46.8		ug/L		94	1 - 230	10	23
N-Nitrosodiphenylamine			50.0	56.6		ug/L		113	54 - 125	6	15
Pentachlorophenol			100	111		ug/L		111	14 - 176	7	21
Phenanthrene			50.0	53.9		ug/L		108	54 - 120	6	16
Phenol			50.0	22.7		ug/L		45	5 - 120	14	36
Pyrene			50.0	57.6		ug/L		115	52 - 120	8	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*108*		*52 - 151*
2-Fluorobiphenyl	*96*		*44 - 120*
2-Fluorophenol	*52*		*17 - 120*
Nitrobenzene-d5	*96*		*15 - 314*

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 480-459432/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459885 — **Prep Batch: 459432**

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Phenol-d5	*38*		*8 - 424*
p-Terphenyl-d14	*124*		*22 - 125*

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 480-459316/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459642 — **Prep Batch: 459316**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		02/18/19 07:25	02/18/19 15:17	1
Selenium	ND		0.025	0.0087	mg/L		02/18/19 07:25	02/18/19 15:17	1

Lab Sample ID: LCS 480-459316/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459642 — **Prep Batch: 459316**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.200	0.200		mg/L		100	85 - 115
Selenium	0.200	0.204		mg/L		102	85 - 115

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 480-459500/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459563 — **Prep Batch: 459500**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		02/18/19 11:20	02/18/19 14:01	1

Lab Sample ID: LCS 480-459500/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459563 — **Prep Batch: 459500**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00685		mg/L		103	85 - 115

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 480-459497/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459537 — **Prep Batch: 459497**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil & Grease	2.50	J	5.0	1.4	mg/L		02/18/19 10:16	02/18/19 13:49	1
SGT-HEM	ND		5.0	1.9	mg/L		02/18/19 10:16	02/18/19 13:49	1

Method: 1664B - HEM and SGT-HEM (Continued)

Lab Sample ID: LCS 480-459497/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459537 — **Prep Batch: 459497**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oil & Grease	40.6	31.88		mg/L		79	78 - 114
SGT-HEM	20.3	14.11		mg/L		69	64 - 132

Method: 335.4 - Cyanide, Total

Lab Sample ID: MB 480-459886/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459909 — **Prep Batch: 459886**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.010	0.0050	mg/L		02/20/19 12:10	02/20/19 15:07	1

Lab Sample ID: LCS 480-459886/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459909 — **Prep Batch: 459886**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.236		mg/L		94	90 - 110

Lab Sample ID: 480-149032-1 DU — **Client Sample ID: TC-WEIR01-190213-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459909 — **Prep Batch: 459886**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cyanide, Total	0.28		0.238		mg/L		15	15

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-460068/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 460068

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			02/21/19 13:50	1

Lab Sample ID: LCS 480-460068/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 460068

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.988		mg/L		99	90 - 110

QC Sample Results

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 480-459599/1-A
Matrix: Water
Analysis Batch: 460097

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 459599

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	0.180	J	0.20	0.15	mg/L		02/19/19 07:00	02/21/19 14:03	1

Lab Sample ID: LCS 480-459599/2-A
Matrix: Water
Analysis Batch: 460097

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 459599

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Kjeldahl Nitrogen	2.50	2.55		mg/L		102	90 - 110

Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 480-459217/3
Matrix: Water
Analysis Batch: 459217

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			02/14/19 18:25	1

Lab Sample ID: LCS 480-459217/4
Matrix: Water
Analysis Batch: 459217

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	1.50	1.59		mg/L		106	90 - 110

Method: 410.4 - COD

Lab Sample ID: MB 480-459501/3
Matrix: Water
Analysis Batch: 459501

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	5.70	J	10.0	5.0	mg/L			02/18/19 09:15	1

Lab Sample ID: MB 480-459501/75
Matrix: Water
Analysis Batch: 459501

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10.0	5.0	mg/L			02/18/19 09:15	1

Lab Sample ID: LCS 480-459501/4
Matrix: Water
Analysis Batch: 459501

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	24.09		mg/L		96	90 - 110

Method: 410.4 - COD (Continued)

Lab Sample ID: LCS 480-459501/76 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459501

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	25.0	26.43		mg/L		106	90 - 110

Method: 9040C - pH

Lab Sample ID: LCS 480-460209/23 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 460209

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.040		SU		101	99 - 101

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 480-459377/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459377

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	1.0	mg/L			02/15/19 17:32	1

Lab Sample ID: LCS 480-459377/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459377

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	242	244.8		mg/L		101	88 - 110

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 480-459506/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459506

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	ND		0.010	0.0050	mg/L			02/18/19 11:15	1

Lab Sample ID: LCS 480-459506/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 459506

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	0.200	0.197		mg/L		99	90 - 110

QC Sample Results

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 480-459238/1
Matrix: Water
Analysis Batch: 459238

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

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			02/15/19 01:56	1

Lab Sample ID: LCS 480-459238/2
Matrix: Water
Analysis Batch: 459238

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	199.8		mg/L		101	85 - 115

QC Association Summary

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

GC/MS VOA

Analysis Batch: 459037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	624.1	
MB 480-459037/7	Method Blank	Total/NA	Water	624.1	
LCS 480-459037/5	Lab Control Sample	Total/NA	Water	624.1	

GC/MS Semi VOA

Prep Batch: 459432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1 - DL	TC-WEIR01-190213-01	Total/NA	Water	625	
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	625	
MB 480-459432/1-A	Method Blank	Total/NA	Water	625	
LCS 480-459432/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 480-459432/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 459568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	625.1	459432

Analysis Batch: 459885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1 - DL	TC-WEIR01-190213-01	Total/NA	Water	625.1	459432
MB 480-459432/1-A	Method Blank	Total/NA	Water	625.1	459432
LCS 480-459432/2-A	Lab Control Sample	Total/NA	Water	625.1	459432
LCSD 480-459432/3-A	Lab Control Sample Dup	Total/NA	Water	625.1	459432

Metals

Prep Batch: 459316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	200.7	
MB 480-459316/1-A	Method Blank	Total/NA	Water	200.7	
LCS 480-459316/2-A	Lab Control Sample	Total/NA	Water	200.7	

Prep Batch: 459500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	245.1	
MB 480-459500/1-A	Method Blank	Total/NA	Water	245.1	
LCS 480-459500/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 459563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	245.1	459500
MB 480-459500/1-A	Method Blank	Total/NA	Water	245.1	459500
LCS 480-459500/2-A	Lab Control Sample	Total/NA	Water	245.1	459500

Analysis Batch: 459642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	200.7 Rev 4.4	459316
MB 480-459316/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	459316
LCS 480-459316/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	459316

QC Association Summary

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

General Chemistry

Analysis Batch: 459217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	353.2	
MB 480-459217/3	Method Blank	Total/NA	Water	353.2	
LCS 480-459217/4	Lab Control Sample	Total/NA	Water	353.2	

Analysis Batch: 459218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	Nitrate by calc	

Analysis Batch: 459238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	SM 5210B	
USB 480-459238/1	Method Blank	Total/NA	Water	SM 5210B	
LCS 480-459238/2	Lab Control Sample	Total/NA	Water	SM 5210B	

Analysis Batch: 459377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	SM 2540D	
MB 480-459377/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 480-459377/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Prep Batch: 459497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	1664B	
MB 480-459497/1-A	Method Blank	Total/NA	Water	1664B	
LCS 480-459497/2-A	Lab Control Sample	Total/NA	Water	1664B	

Analysis Batch: 459501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	410.4	
MB 480-459501/3	Method Blank	Total/NA	Water	410.4	
MB 480-459501/75	Method Blank	Total/NA	Water	410.4	
LCS 480-459501/4	Lab Control Sample	Total/NA	Water	410.4	
LCS 480-459501/76	Lab Control Sample	Total/NA	Water	410.4	

Analysis Batch: 459506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	SM 4500 P E	
MB 480-459506/3	Method Blank	Total/NA	Water	SM 4500 P E	
LCS 480-459506/4	Lab Control Sample	Total/NA	Water	SM 4500 P E	

Analysis Batch: 459537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	1664B	459497
MB 480-459497/1-A	Method Blank	Total/NA	Water	1664B	459497
LCS 480-459497/2-A	Lab Control Sample	Total/NA	Water	1664B	459497

Prep Batch: 459599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	351.2	
MB 480-459599/1-A	Method Blank	Total/NA	Water	351.2	
LCS 480-459599/2-A	Lab Control Sample	Total/NA	Water	351.2	

QC Association Summary

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Prep Batch: 459886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	Distill/CN	
MB 480-459886/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 480-459886/3-A	Lab Control Sample	Total/NA	Water	Distill/CN	
480-149032-1 DU	TC-WEIR01-190213-01	Total/NA	Water	Distill/CN	

Analysis Batch: 459909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	335.4	459886
MB 480-459886/1-A	Method Blank	Total/NA	Water	335.4	459886
LCS 480-459886/3-A	Lab Control Sample	Total/NA	Water	335.4	459886
480-149032-1 DU	TC-WEIR01-190213-01	Total/NA	Water	335.4	459886

Analysis Batch: 460068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	350.1	
MB 480-460068/3	Method Blank	Total/NA	Water	350.1	
LCS 480-460068/4	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 460097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	351.2	459599
MB 480-459599/1-A	Method Blank	Total/NA	Water	351.2	459599
LCS 480-459599/2-A	Lab Control Sample	Total/NA	Water	351.2	459599

Analysis Batch: 460209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-149032-1	TC-WEIR01-190213-01	Total/NA	Water	9040C	
LCS 480-460209/23	Lab Control Sample	Total/NA	Water	9040C	

Lab Chronicle

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Client Sample ID: TC-WEIR01-190213-01

Lab Sample ID: 480-149032-1

Date Collected: 02/13/19 09:15

Matrix: Water

Date Received: 02/13/19 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	459037	02/14/19 17:05	S1V	TAL BUF
Total/NA	Prep	625	DL		459432	02/18/19 07:44	JMP	TAL BUF
Total/NA	Analysis	625.1	DL	5	459885	02/20/19 19:09	DMR	TAL BUF
Total/NA	Prep	625			459432	02/18/19 07:44	JMP	TAL BUF
Total/NA	Analysis	625.1		1	459568	02/18/19 22:50	DMR	TAL BUF
Total/NA	Prep	200.7			459316	02/18/19 07:25	MV	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	459642	02/18/19 17:14	EMB	TAL BUF
Total/NA	Prep	245.1			459500	02/18/19 11:20	BMB	TAL BUF
Total/NA	Analysis	245.1		1	459563	02/18/19 14:12	BMB	TAL BUF
Total/NA	Prep	1664B			459497	02/18/19 10:16	AJS	TAL BUF
Total/NA	Analysis	1664B		1	459537	02/18/19 13:49	AJS	TAL BUF
Total/NA	Prep	Distill/CN			459886	02/20/19 12:10	LAW	TAL BUF
Total/NA	Analysis	335.4		1	459909	02/20/19 15:13	KEK1	TAL BUF
Total/NA	Analysis	350.1		50	460068	02/21/19 14:02	MDL	TAL BUF
Total/NA	Prep	351.2			459599	02/19/19 07:00	CLT	TAL BUF
Total/NA	Analysis	351.2		45	460097	02/21/19 15:19	KEB	TAL BUF
Total/NA	Analysis	353.2		1	459217	02/14/19 18:28	DCB	TAL BUF
Total/NA	Analysis	410.4		2	459501	02/18/19 09:15	MDL	TAL BUF
Total/NA	Analysis	9040C		1	460209	02/22/19 14:07	AEF	TAL BUF
Total/NA	Analysis	Nitrate by calc		1	459218	02/14/19 18:28	DCB	TAL BUF
Total/NA	Analysis	SM 2540D		1	459377	02/15/19 17:32	SMH	TAL BUF
Total/NA	Analysis	SM 4500 P E		1	459506	02/18/19 11:15	RP	TAL BUF
Total/NA	Analysis	SM 5210B		1	459238	02/15/19 01:56	EY	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
335.4	Distill/CN	Water	Cyanide, Total
624.1		Water	1,2-Dichloroethene, Total
625.1	625	Water	1,2-Dichlorobenzene
625.1	625	Water	1,3-Dichlorobenzene
625.1	625	Water	1,4-Dichlorobenzene
9040C		Water	pH
9040C		Water	Temperature

Method Summary

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL BUF
625.1	Semivolatile Organic Compounds (GC/MS)	40CFR136A	TAL BUF
200.7 Rev 4.4	Metals (ICP)	EPA	TAL BUF
245.1	Mercury (CVAA)	EPA	TAL BUF
1664B	HEM and SGT-HEM	1664B	TAL BUF
335.4	Cyanide, Total	MCAWW	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL BUF
353.2	Nitrogen, Nitrite	MCAWW	TAL BUF
410.4	COD	MCAWW	TAL BUF
9040C	pH	SW846	TAL BUF
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL BUF
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL BUF
SM 4500 P E	Phosphorus	SM	TAL BUF
SM 5210B	BOD, 5-Day	SM	TAL BUF
1664B	HEM and SGT-HEM (Aqueous)	1664B	TAL BUF
200.7	Preparation, Total Metals	EPA	TAL BUF
245.1	Preparation, Mercury	EPA	TAL BUF
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL BUF
625	Liquid-Liquid Extraction	40CFR136A	TAL BUF
Distill/CN	Distillation, Cyanide	None	TAL BUF

Protocol References:

1664B = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

None = None

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

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Environmental Restoration LLC
Project/Site: Tonawand Coke Plant - USEPA Region 2

TestAmerica Job ID: 480-149032-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-149032-1	TC-WEIR01-190213-01	Water	02/13/19 09:15	02/13/19 16:00

USEPA
DateShipped: 2/13/2019
CarrierName: Hand Delivered
ER Job # T2-004

CHAIN OF CUSTODY RECORD
Case #: A28U
Contact Name: Joe Overend
Contact Phone: (908) 565-2985

No: 2-021319-104924-0025
Cooler #: 1
Lab: TestAmerica Buffalo
Lab Phone: 716-691-2600

Lab #	Sample #	Location	Analyses	Matrix	Sample Date	Sample Time	Numb Cont	Container	Preservative	Lab QC
	TC-WEIR01-190213-01	TC-WEIR01	Phosphorus, Total, COD, Ammonia, TKN	Liquid Waste	2/13/2019	09:15	1	250 mL	H2SO4 pH>2	
	TC-WEIR01-190213-01	TC-WEIR01	AS, SN, and Hg	Liquid Waste	2/13/2019	09:15	1	250 mL	HNO3 pH<2	
	TC-WEIR01-190213-01	TC-WEIR01	PPL SVOCs	Liquid Waste	2/13/2019	09:15	2	1 Liter amber	None	
	TC-WEIR01-190213-01	TC-WEIR01	Biological Oxygen Demand	Liquid Waste	2/13/2019	09:15	1	1 Liter poly	None	
	TC-WEIR01-190213-01	TC-WEIR01	Total Suspended Solids	Liquid Waste	2/13/2019	09:15	1	1 Liter poly	None	
	TC-WEIR01-190213-01	TC-WEIR01	Cyanide, Total	Liquid Waste	2/13/2019	09:15	1	250 mL	NaOH	
	TC-WEIR01-190213-01	TC-WEIR01	PPL VOCs	Liquid Waste	2/13/2019	09:15	3	40 mL vials	None	
	TC-WEIR01-190213-01	TC-WEIR01	HEM, SGT-HEM	Liquid Waste	2/13/2019	09:15	2	1 Liter amber	H2SO4 pH<2	
	TC-WEIR01-190213-01	TC-WEIR01	Nitrate-Nitrite	Liquid Waste	2/13/2019	09:15	2	125 mL	None	
	TC-WEIR01-190213-01	TC-WEIR01	pH	Liquid Waste	2/13/2019	09:15	1	125 mL	None	

Special Instructions: ER Job Code T2-004, please email results to J.Overed@ERLLC.com and urbienash@yahoo.com:: TAT 5 days

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
all/analyses	(WESTON)	02-13-19 11:20	ER,LLC	02/13/19 @ 1120	
				2/13/19 1600	1.9°C #3

480-149032 Chain of Custody

Login Sample Receipt Checklist

Client: Environmental Restoration LLC

Job Number: 480-149032-1

Login Number: 149032
List Number: 1
Creator: Kinecki, Kenneth P

List Source: TestAmerica Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is 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 sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	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	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	ERLLC
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	Yes: Samples checked, no residual chlorine detected