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June 1, 2020 NY95-219-04

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Attention: James F. Cronmiller

SAMPLING EVENT REPORT
YEAR TWENTY-FOUR – OCTOBER/DECEMBER 2019
LONG TERM MONITORING PROGRAM
MARATHON REMEDIATION SITE

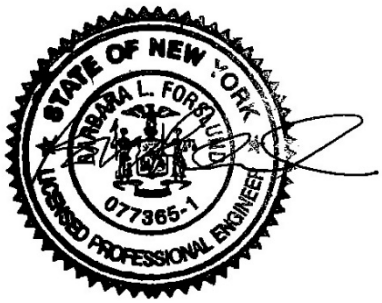
Gentlemen:

Enclosed is the report of the sampling events conducted during Year 24 of the Long Term Monitoring Program for the Marathon Remediation Site. This report covers the October 2019 sampling of sediment in East Foundry Cove and the December 2019 groundwater sampling conducted in the former Plant Grounds.

If you have any questions concerning the contents of this report, please contact me at (610) 840-9145.

Very truly yours,

ADVANCED GEOSERVICES ENGINEERING, P.C.



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INTRODUCTION

This Sampling Event Report covers the Year 24 (2020) sampling events associated with the long term monitoring program for the Marathon Remediation Site. The sediment sampling work was conducted in accordance with Advanced GeoServices' recommendations for future monitoring presented in the "Five Year Review, Long Term Monitoring Program, Marathon Remediation Site" dated May 2, 2001. The sampling procedures and analytical protocols are described in the December 20, 1995 "Long Term Monitoring Plan for the Marathon Remediation Site" and the "Supplemental Long Term Monitoring Plan" issued February 21, 1996. The groundwater sampling was conducted as detailed in the December 20, 1995 Long Term Monitoring Plan at the two remaining long-term monitoring wells. The other 11 wells in the Long Term Monitoring Plan have been decommissioned with the approval of the U.S. Environmental Protection Agency and the New York State Department of Environmental Conservation.

SAMPLING EVENT

The Year 24 event included sampling and analyses of two wells (7S and MB-3) within the Plant Ground area (Area II) and sediment from East Foundry Cove (Area III). The sampling of the two wells was incorporated into the groundwater sampling performed on December 16 and 18, 2019 as part of the work related to the ongoing groundwater natural attenuation enhancement program. The East Foundry Cove sediment samples were collected on October 17, 2019 with a hand auger in accordance with the Supplemental Long Term Monitoring Plan of February 21, 1996.

ANALYTICAL RESULTS

Laboratory analyses of the samples were conducted by Eurofins of Edison, NJ (NY Certification #11452). Validation of the analytical data was performed by Advanced GeoServices Engineering, P.C. The validation report for the sediment samples is included as Appendix A, and the validation report for the groundwater samples is included as Appendix B. Summaries of the analytical data are included in the validation reports in the Appendices, and the results are also presented on the following tables.

East Foundry Cove Sediments

Table A presents the cadmium levels detected in the sediment samples obtained from East Foundry Cove during this sampling event. For comparison purposes, the pre-remediation and post-remediation cadmium levels reported by others and the results from the previous Long Term Monitoring Program sampling events are also included in the table. The analytical results are within the range of variation experienced during previous sampling events. The average cadmium concentration of the sediment samples collected from East Foundry Cove in 2019 was 24.2 mg/kg.

The results are presented graphically for each location on Figures 1 through 5. As discussed in the August 2019 comment letter on USEPA's Optimization Review Report (April 2019), the cadmium concentrations are trending downward at each location since monitoring began in 1995 with the exception of location 3S shown on Figure 3. The upward trend at that location is attributed

to a single, anomalous measurement from 2009; when this measurement is removed, the concentration trend at location 3S is also downward as shown on Figure 3A.

Plant Ground Area Groundwater

Tables B-1, C-1, and D-1 present the Plant Ground Area groundwater sample analyses of the two long term monitoring wells (7S and MB-3) located along the southern property boundary. These tables show the concentrations of trichloroethene (TCE), 1,1,1-trichloroethane (TCA), and tetrachloroethene (PCE), respectively, since sampling began in 1985 for well MB-3 and in 1988 for well MW-7S; the results are depicted graphically on Figures 6 and 7. The TCE, TCA and PCE concentrations in Wells MB-3 and 7S are generally consistent with previous results and show the continued overall decrease in concentrations observed since sampling began.

For reference purposes, we have also included Tables B-2, C-2, and D-2 that show the TCE, TCA, and PCE results from all wells during the period from their initial installation until 2003.

FUTURE SAMPLING

Sampling of the Area II groundwater and Area III sediments (East Foundry Cove) for the 2020 long term monitoring program will be performed in the fall of 2020.

TABLES

TABLE A

CADMIUM CONCENTRATIONS (mg/kg)
AREA III SEDIMENTS
EAST FOUNDRY COVE

SAMPLE LOCATION	EFC-1S	EFC-2S	EFC-3S	EFC-4S	EFC-5S
PRE-REMED.(1)	171	873	127	998	43.1
POST REMED.(2)	15.7	19.4	4.0	12.9	6.3
11/95	16J (52J)	85	6	190	42
3/96	7.08	14.4J (29.0J)	1.55	0.959	21.2
6/96	6.91	7.76	3.15	50.6	9.69J (4.01J)
4/97	0.386	46.4	21.5 (16.0)	104	0.454
4/98	14.2J	46.3J	7J	2.9J	75J
4/99	20.8	58.7	0.34	67.1	9.4
4/00	142.J (13.5J)	96.9J	0.83J	277J	100J
8/01	10.5 (14.1)	19.8	12.7	69.8	57.3
10/02	16.7J	58.1J (145J)	0.31J	58.3J	3.5
11/03	6.3J	31.7J	0.16U	50J (50.3J)	20.8J
11/04	17.1	50.5	20.4	35 (32.7)	36.8
9/06	22.9	22.5	6	0.35J (0.55J)	18.6
8/07	13.5 (12)	130	0.22U	16.1	0.3U
11/08	4.9	79.4 (62.3)	0.32	31.4	8.6
10/09	3.7 (3.8)	15	263	28.4	1.8
9/10	6 (6.3)	20.2	30.8	17.6	7.3
10/11	5.3 (5.6)	16.6	1	25.2	25.1
8/12	5.8 (4.6)	137	1.3	28.2	16.3
9/13	5.4 (4)	18.3	U	23.8	3.4
8/14	5 (4.6)	U	0.49	0.57	3
9/15	4.6	19.3	U	33.6 (40.1)	1
8/16	8.5	20.8	U	3.1 (2.7)	0.69
11/17	3.8	57.8	6.4	0.96J (0.9J)	3.5
10/18	6.7	22.8	U	11.9 (7.3)	22.3
10/19	16.2	17.5	U	66.7	18.7

NOTES:

(1) Samples obtained by Malcolm-Pirnie and others prior to the Remedial Action. These are the reported data closest to the present LTM sampling location.

(2) Average value of either the two closest post-remediation sample node locations or the analytical results of the various testing agencies (Sevenson, IQAT, and USCOE) for the same node location.

Values shown in parenthesis are field duplicates

J Estimated Value

U Undetected

TABLE B-1

TRICHLOROETHENE (TCE) CONCENTRATIONS (µg/l)
AREA II (PLANT GROUNDS) GROUNDWATER

Date	Well 7S	Well MB-3
1985[1]	-	170
1988[1]	100	-
1988[1]	82	65
11/93[2]	110J	76J
2/94[2]	100 (100)	73
10/94[2]	100	110
11/95[3]	80	51
6/96	82	120
10/96	89	70
4/97	99 (86)	61
10/97	99	64
4/98	100	78
11/98	94J	23J
4/99	84	62
11/99	82J (71J)[6]	25J
4/00	77 (75)	33
10/00	82 (81)[5]	46
8/01	74	47 (46)
9/03	74	50
11/04	76	43 (45)
9/06	79 (74)	47
7/07	73	44
7/08	68	37
8/09	59	20
9/09	60	36
9/10	65 (65)	29
8/11	58 (58)	38
8/12	66 (64)	43
5/14	66	29
11/15	57	23
11/16	63	21
12/17	50	23
12/18	52	22
12/19	53	20

NOTES:
(1) Sampling performed by others.
(2) Sampling performed by Advanced GeoServices Corp. during the remedial action.
(3) First long-term monitoring sampling event.
(4) Blank spaces or hyphen indicate the well was not sampled.
(5) ND-Not Detected (detection limit=5 *ug/l* for 1985 through 1995 samples, and 2 *ug/l* from 1996 to the present).
(6) 7S duplicate was a blind duplicate listed as 71 for analysis.

Values shown in parenthesis are field duplicates

TABLE B-2

TRICHLOROETHENE (TCE) CONCENTRATIONS (ug/l)
AREA II (PLANT GROUNDS) GROUNDWATER

WELL	SAMPLING EVENTS																		
	8/85[1]	88(#1)[1]	88(#2)[1]	11/93[2]	2/94[2]	10/94[2]	11/95[3]	6/96	10/96	4/97	10/97	4/98	11/98	4/99	11/99	4/00	10/00	8/01	9/03
2S	[4]	ND[5]	4J	ND		ND	[6]	ND	0.4U	0.4U	0.4U(0.4U)	1U	1U	0.3U	1U	0.2U	1U		
4I		ND	ND	ND	ND	ND	3.3U	ND	0.4U	0.4U	16	4.5(4.3)	2.4J	0.3U	2.1J	0.2U	6		1U
4D		ND	ND	ND	ND	ND	12	2	0.4U	0.7	32	3.9	6.3J	2.3	0.8J	0.2U	1U		1U
5S		ND	1J	ND	ND	ND	5.6	ND	0.4U	0.4U	23	1U	1U	0.3U	1.1J	0.2U	1U		
5I		ND	ND	ND	ND	ND	22	4	0.4U	0.4U	35	7.7	15J	8.1	2J	0.2U	1U		
6I		ND	ND	ND	ND	ND	7.3(5.3)	ND	0.4U	0.4U	1.6	1U	3.4J	1	1U	0.2U	1U		
6D				ND	ND	ND	10	3.5(4.0)	1.4	0.4U	4.7	1U	34J	0.7	1U	0.2U	1J		
7S		100	82	110J	100(100)	100	80	82	89	99(86)	99	100	94J	84	82J(71J)[9]	77(75)	82(81)	74	74
7D				ND	4.3J	ND	4.4J	ND	0.4U	0.4U	0.4U	1U	1U	0.7	1U	0.2U	1U		
V5		ND	ND	ND		ND	22	ND	0.4U	0.4U	190	1U(1U)	1U	0.3U	1U	0.2U	1U		1U
MB-1			2J	ND	ND	ND	4.3J	2.8	2.5(2.1)	0.4U	0.4U	[8]	0.9J	1	1.6J	0.9	0.9J		
MB-2				ND			6.2	ND	0.4U	0.4U	0.4U	1U	1U	0.3U	1U	0.2U	1U		
MB-3	170		65	76J	73	110	51	120	70	61	64	78	23J	62	25J	33	46	47(46)	50

NOTES:

(1) Sampling performed by others.
(2) Sampling performed by Advanced GeoServices Corp. during the Remedial Action.
(3) First long term monitoring sampling event.
(4) Blank spaces indicate the well was not sampled.
(5) ND=Not detected (detection limit=5 µg/l) for 1985 through 1995 samples, and 2 µg/l from 1996 to the present).
(6) Well casing was bent; no sample was obtained.
(7) MB-1 duplicate was a blind duplicate listed as MB-100 for analysis.
(8) Well dry during sampling event.
(9) 7S duplicate was a blind duplicate listed as 71 for analysis.

Values shown in parenthesis are field duplicates

TABLE C-1

1,1,1 - TRICHLOROETHANE (TCA) CONCENTRATIONS (µg/l)
AREA II (PLANT GROUNDS) GROUNDWATER

Date	Well 7S	Well MB-3
11/93 [2]	3.2J	3J
2/94[2]	5U	7.9
10/94[2]	ND [4]	6
11/95[3]	2.7J	2.7J
6/96	ND	7
10/96	5.8	7.4
4/97	ND	3
10/97	0.4U	0.4U
4/98	2	4.3
11/98	3.8J	5U
4/99	3	3.7
11/99	2.1J (1.6J) [6]	1.2J
4/00	1.4 (1.2)	1.9
10/00	2.3J (2.2J) [5]	2.1J
8/01	2.1	2.2 (2.1)
10/02	1.4J (1.5J)	1.7J
9/03	1.2	2.4
11/04	0.9	2.1 (2.3)
9/06	0.7	1.6
7/07	0.6	1.4
7/08	0.4	1.2
8/09	0.39	0.71
9/09	0.47	1.9
9/10	0.53 (0.58)	0.98
8/11	0.44 (0.49)	1.2
8/12	0.39 (0.44)	1.6
5/14	ND	ND
11/15	0.29	0.61
11/16	0.38	0.54
12/17	ND	0.76
12/18	ND	0.97
12/19	ND	0.49

NOTES:

(1) All other wells had non-detect results for all sampling events.
(2) Sampling performed by Advanced GeoServices Corp. during the Remedial Action.
(3) First long-term monitoring sampling event.
(4) ND=Not Detected (detection limit= 5 *ug/l* for 1993 through 1995 samples, and 2 *ug/l* from 1996 to the present).
(5) Blank spaces indicate the well was not sampled.
(6) 7S duplicate was a blind duplicate listed as 71 for analysis.

Values shown in parenthesis are field duplicates

TABLE C-2

1,1,1-TRICHLOROETHANE (TCA) CONCENTRATIONS (UG/L)
AREA II (PLANT GROUNDS) GROUNDWATER

	SAMPLING EVENTS																
WELL[1]	**11/93[2]**	**2/94[2]**	**10/94[2]**	**11/95[3]**	**6/96**	**10/96**	**4/97**	**10/97**	**4/98**	**11/98**	**4/99**	**11/99**	**4/00**	**10/00**	**8/01**	**10/02**	**9/03**
7S	3.2J	5U	ND[4]	2.7J	0.4U	5.8	0.4U	0.4U	2	3.8J	3	2.1J(1.6J)[6]	1.4(1.2)	2.3J(2.2J)[5]	2.1	1.4J(1.5J)	1.2
7D	ND	4.8J	ND	ND	0.4U	0.4U	0.4U	0.4U	1U	5U	1.3U	5U	0.2U	5U			
MB-2	2J	[5]		ND	0.4U	0.4U	0.4U	0.4U	1.3	1.2J	1J	0.8J	0.8	0.7J			
MB-3	3J	7.9	6	2.7J	7	7.4	3	0.4U	4.3	5U	3.7	1.2J	1.9	2.1J	2.2(2.1)	1.7J	2.4
4D	ND	ND	ND	ND	0.4U	5.6	0.4U	0.4U	1U	5U	1.3U	5U	0.2U	5U			
4I					0.4U	0.4U	0.4U	0.4U	1U	5U	1.3U	5U	0.2U	5U		5U	5U
V5					0.4U	0.4U	0.4U	0.4U	1U	5U	1.3U	5U	0.2U	5U		5U	5U

NOTES:

(1) All other wells had non-detect results for all sampling events.
(2) Sampling performed by Advanced GeoServices Corp. during the Remedial Action.
(3) First long term monitoring sampling event.
(4) ND=Not detected (detection limit=5 µg/l) for 1993 through 1995 samples, and 2 µg/l from 1996 to the present).
(5) Blank spaces indicate the well was not sampled.
(6) 7S duplicate was a blind duplicate listed as 71 for analysis.
(7) Samples collected as part of in-situ bioremediation program.

Values shown in parenthesis are field duplicates

TABLE D-1

TETRACHLOROETHENE (PCE) CONCENTRATIONS (µg/l)
AREA II (PLANT GROUNDS) GROUNDWATER

Date	Well 7S	Well MB-3
11/93 (2)	1.2J	ND(4)
2/94 (2)	5.2	ND
10/94 (2)	ND	ND
11/95 (3)	7.7	3.2J
6/96	3	3
10/96	1.3	0.4U
4/97	0.4UJ (7.2J)	ND
10/97	3.1	3.6
4/98	4.5	2.6
11/98	5.6J	2.2J
4/99	6.3	2.7
11/99	4.8J (4.3J) (5)	2.2J
4/00	4.0 (3.6)	3.3
10/00	5.4 (5.2) (5)	2.7
8/01	3.8	4.8 (4.9)
10/02	3.3 (3.2)	4
9/03	3.5	4.2
11/04	3.5	2.3 (2.5)
9/06	4.2 (4)	1.8
7/07	4.5	2
7/08	4.8	1.4
8/09	4.9	1.4
9/09	4.2	1.5
9/10	4.1 (3.9)	2.0
8/11	3.8 (4)	2
8/12	4.9 (4.8)	1.7
5/14	7.0	1.5
11/15	4.1	4
11/16	4.2	4.7
12/17	4.2	4
12/18	4	1.6
12/19	3	3.1

NOTES:

(1) All other wells had non-detect results for all sampling events.
(2) Sampling performed by Advanced GeoServices Corp. during the Remedial Action.
(3) First long-term monitoring sampling event.
(4) ND=Not detected (detection limit=5*ug/l*) for 1993 through 1995 samples, and 2 *ug/l* from 1996 to the present.
(5) 7S duplicate was a blind duplicate listed as 71 for analysis.

TABLE D-2

TETRACHLOROETHENE (PCE) CONCENTRATIONS (ug/l)
AREA II (PLANT GROUNDS) GROUNDWATER

WELL[1]	SAMPLING EVENTS																
	11/93[2]	2/94[2]	10/94[2]	11/95[3]	6/96	10/96	4/97	10/97	4/98	11/98	4/99	11/99	4/00	10/00	8/01	10/02	9/03
7S	1.2J	5.2	ND[4]	7.7	2.7	1.3	0.4UJ(7.2J)	3.1	4.5	5.6J	6.3	4.8J(4.3J)[5]	4.0(3.6)	5.4(5.2)[5]	3.8	3.3(3.2)	3.5
MB-3	ND	ND	ND	3.2J	2.6	0.4U	0.4U	3.6	2.6	2.2J	2.7	2.2J	3.3	2.7	4.8(4.9)	4	4.2
4I					0.4U	0.4U	0.4U	0.4U	1U	1U	0.3U	1UJ	0.4U	1U		1U	1U
V5					0.4U	0.4U	0.4U	0.4U	1U	1U	0.3U	1U	0.4U	1U		1U	0.6J

NOTES:

(1) All other wells had non-detect results for all sampling events.
(2) Sampling performed by Advanced GeoServices Corp. during the Remedial Action.
(3) First long term monitoring sampling event.
(4) ND=Not detected (detection limit=5 µg/l) for 1993 through 1995 samples, and 2 µg/l from 1996 to the present).
(5) 7S duplicate was a blind duplicate listed as 7I for analysis.
(6) Samples collected as part of in-situ bioremediation program

Values shown in parenthesis are field duplicates

FIGURES

FIGURE 1
CADMIUM CONCENTRATION TRENDS IN EFC-1S
Marathon Remediation Site
Cold Spring, New York

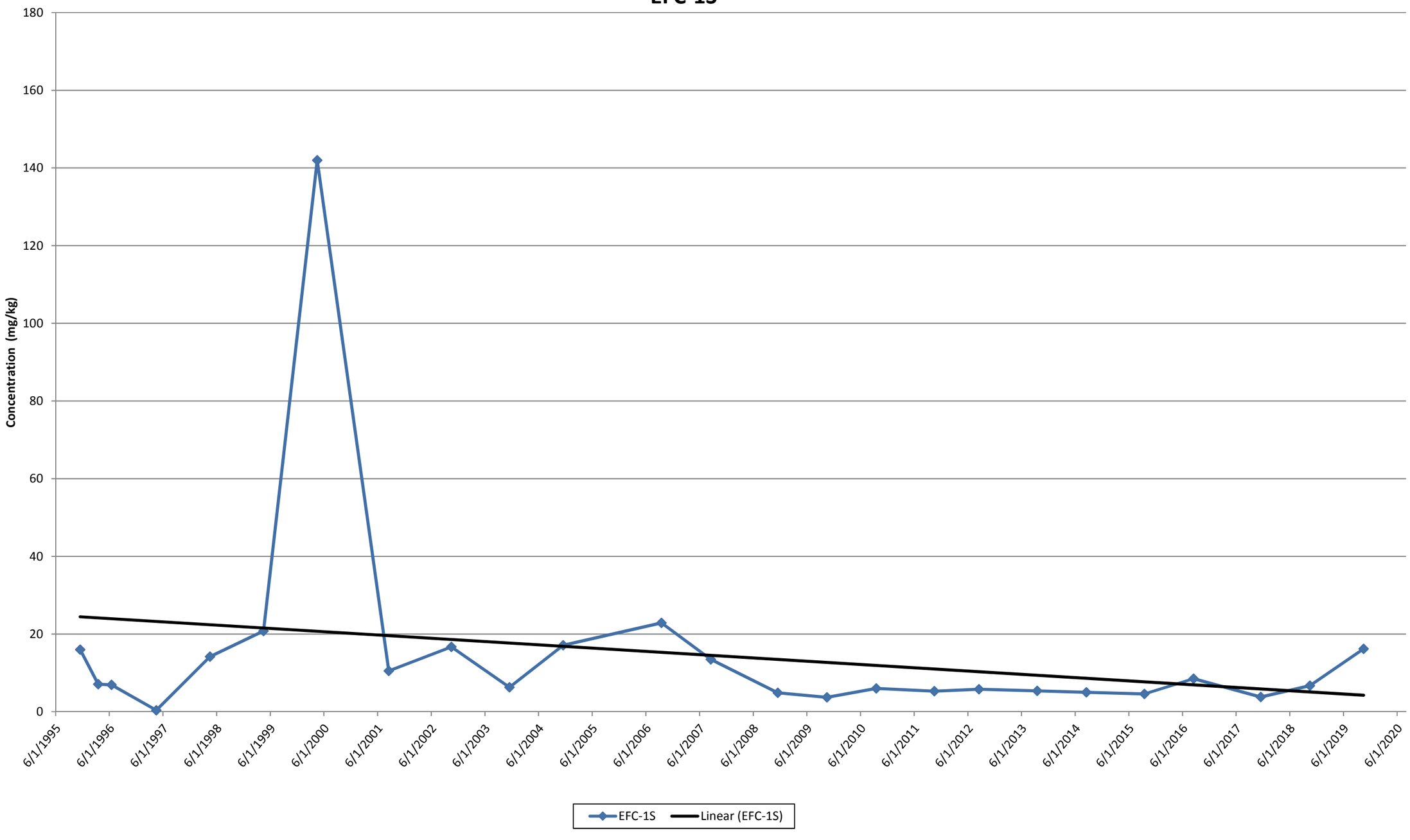

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FIGURE 2
CADMIUM CONCENTRATION TRENDS IN EFC-2S
Marathon Remediation Site
Cold Spring, New York

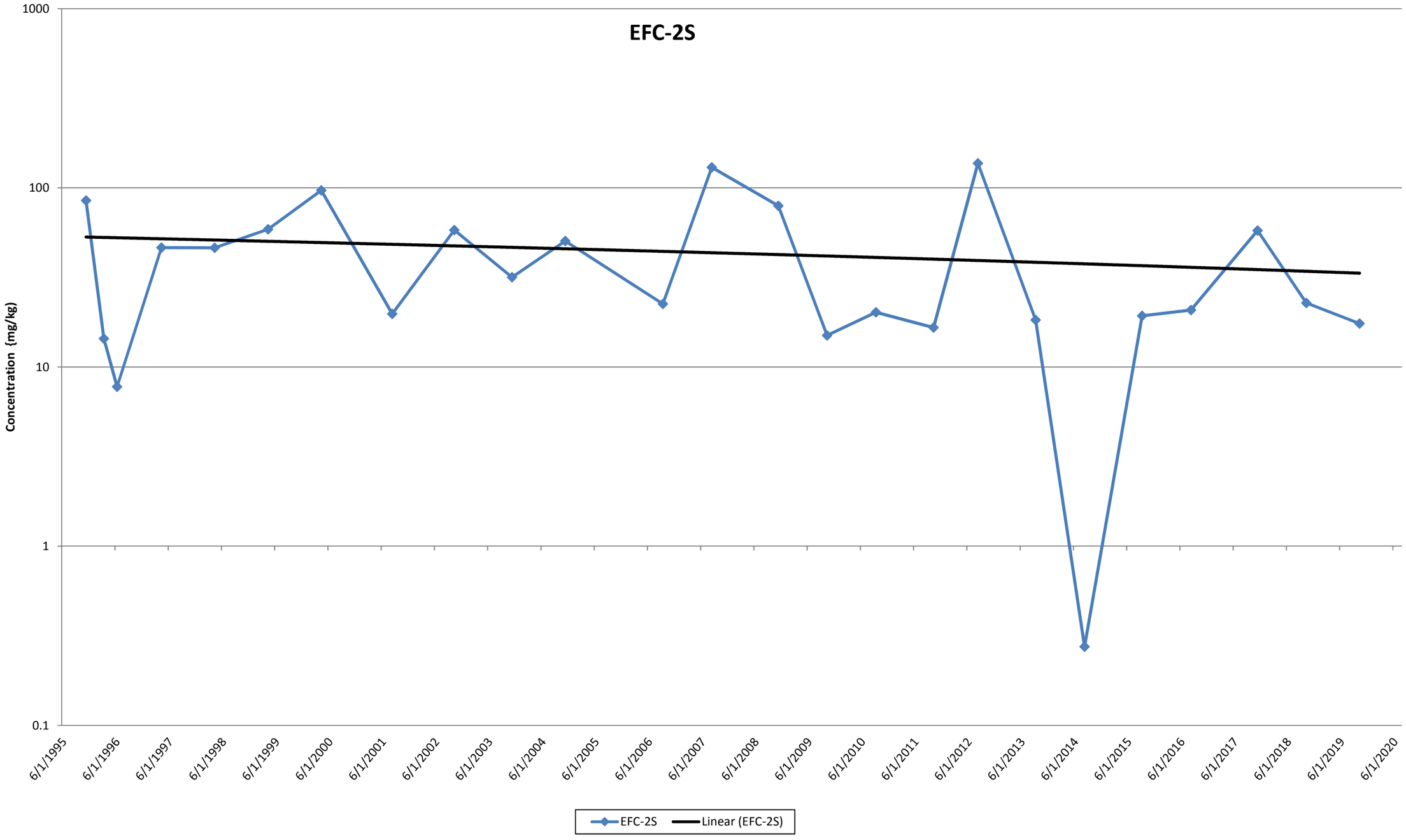

FIGURE 3
CADMIUM CONCENTRATION TRENDS IN EFC-3S
Marathon Remediation Site
Cold Spring, New York

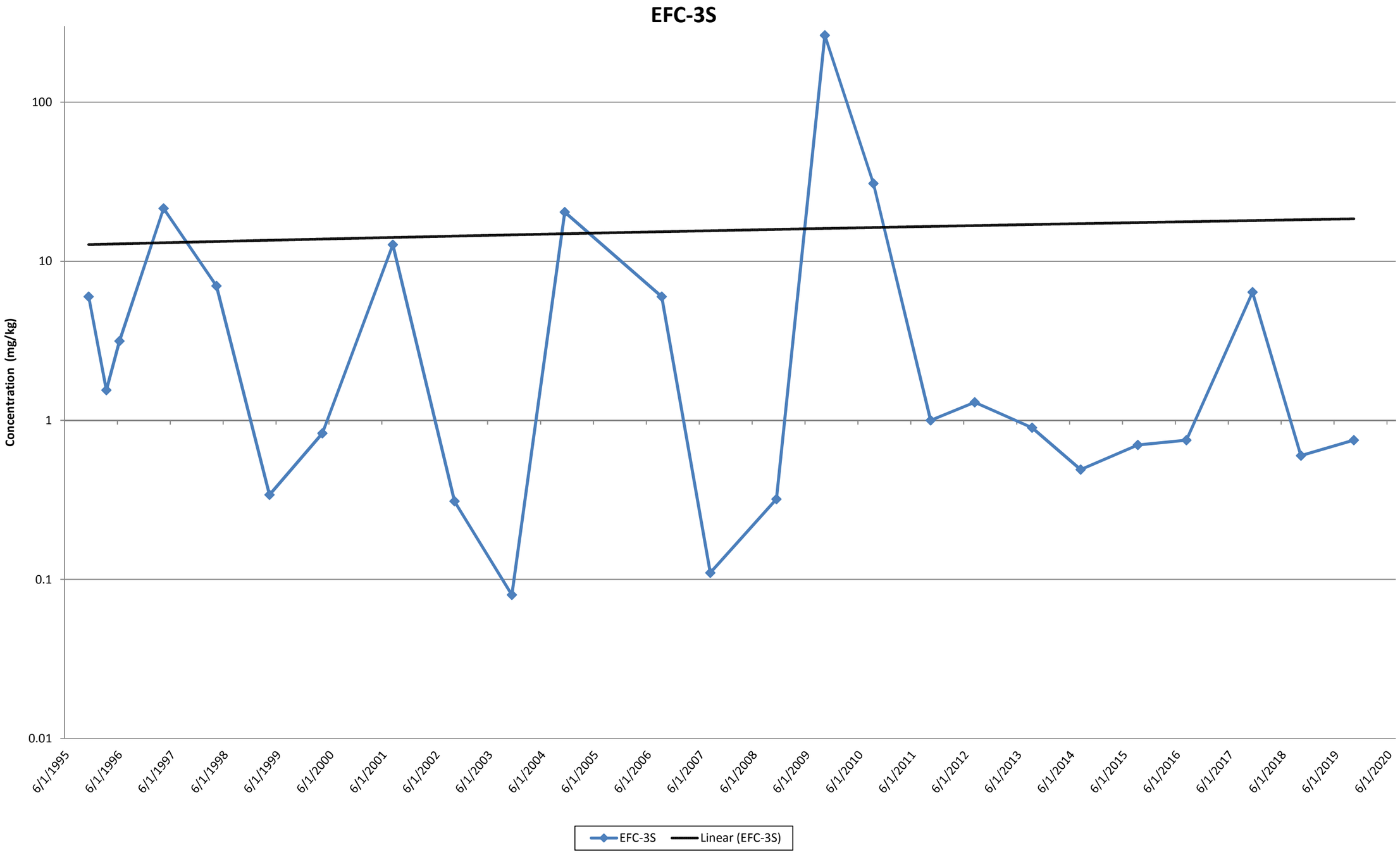

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FIGURE 3a
CADMIUM CONCENTRATION TRENDS IN EFC-3S
Marathon Remediation Site
Cold Spring, New York

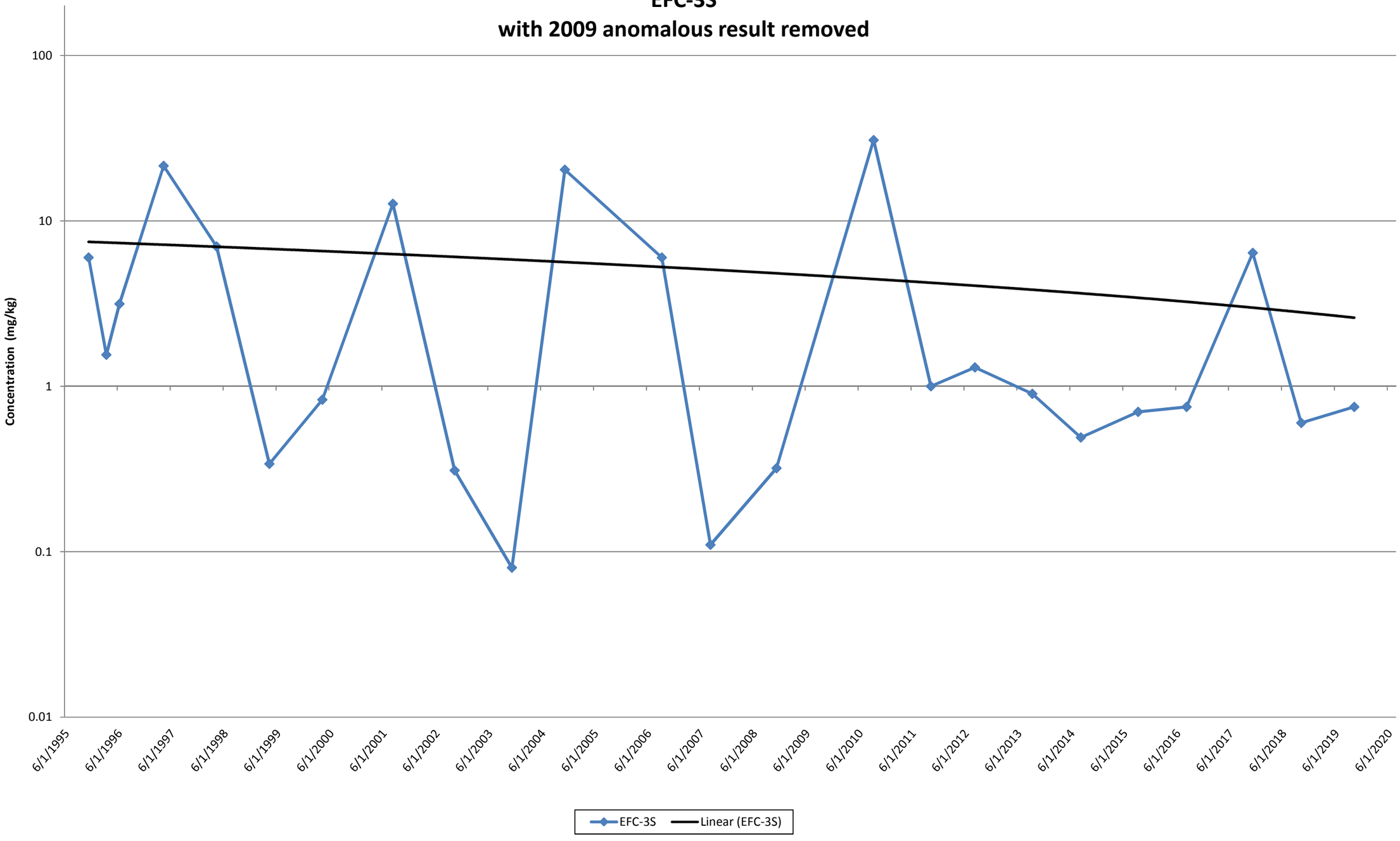

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FIGURE 4
CADMIUM CONCENTRATION TRENDS IN EFC-4S
Marathon Remediation Site
Cold Spring, New York

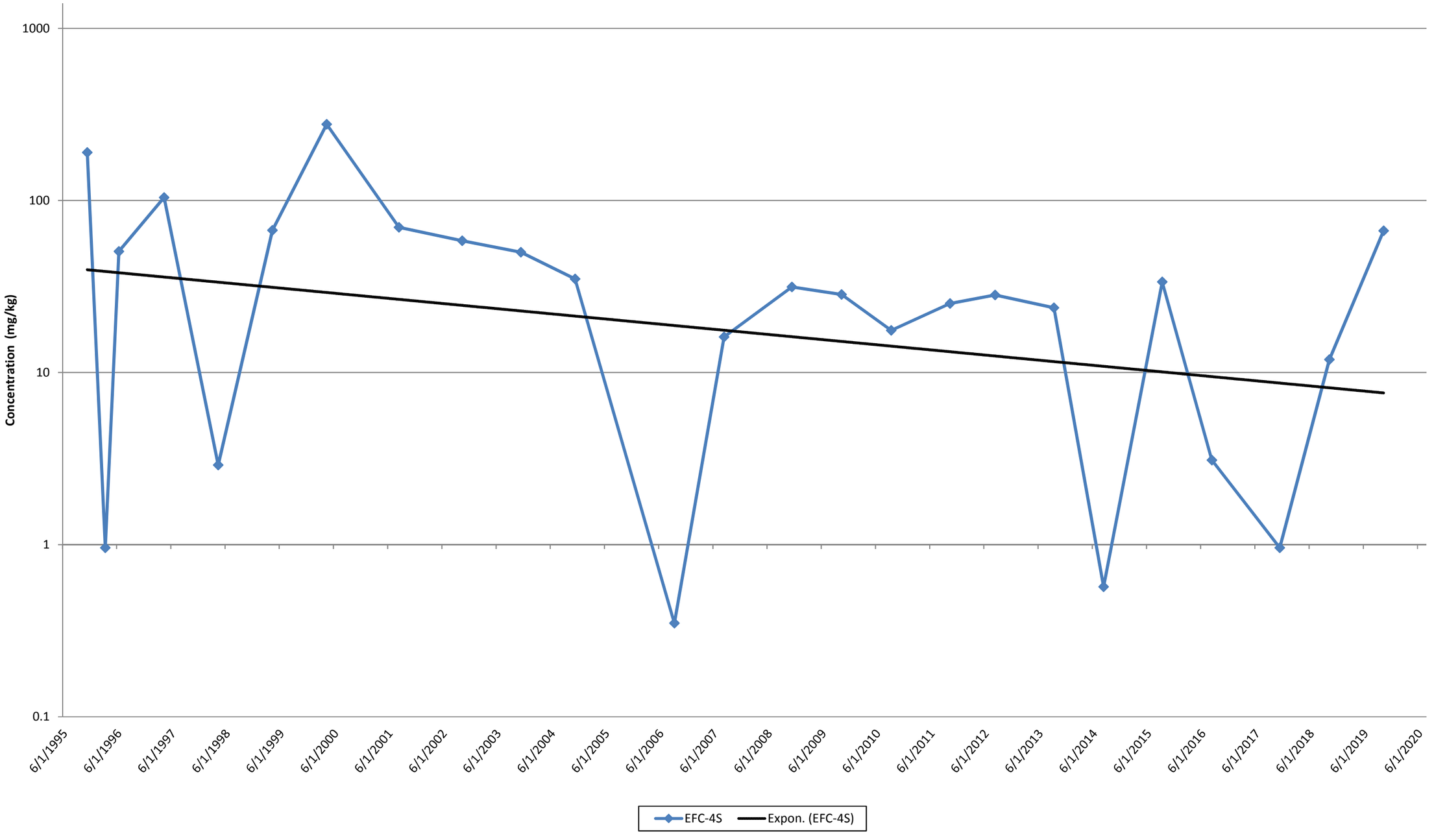

FIGURE 5
CADMIUM CONCENTRATION TRENDS IN EFC-5S
Marathon Remediation Site
Cold Spring, New York

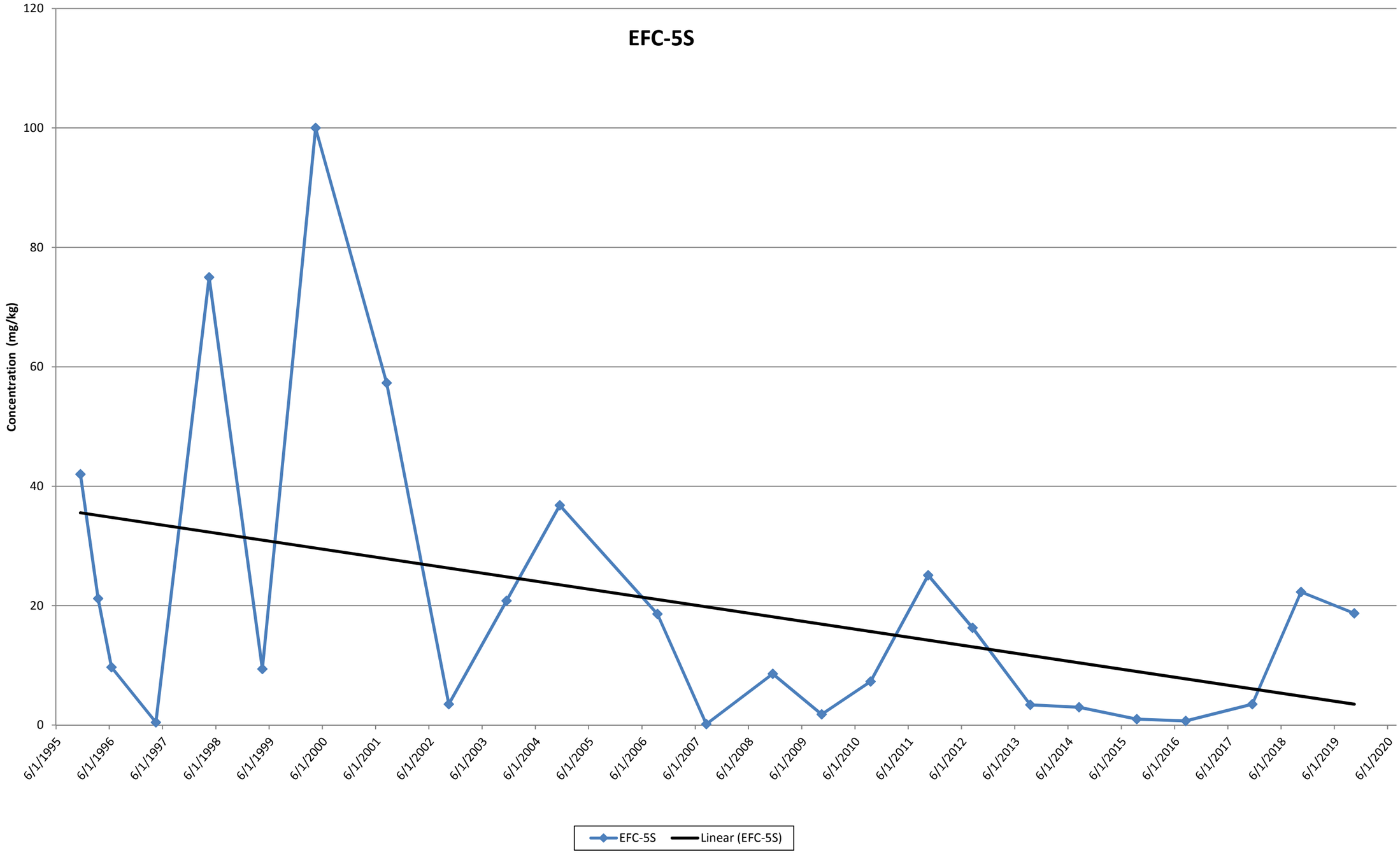

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FIGURE 6
VOC CONCENTRATION TRENDS IN MW-7S
Marathon Remediation Site
Cold Spring, New York

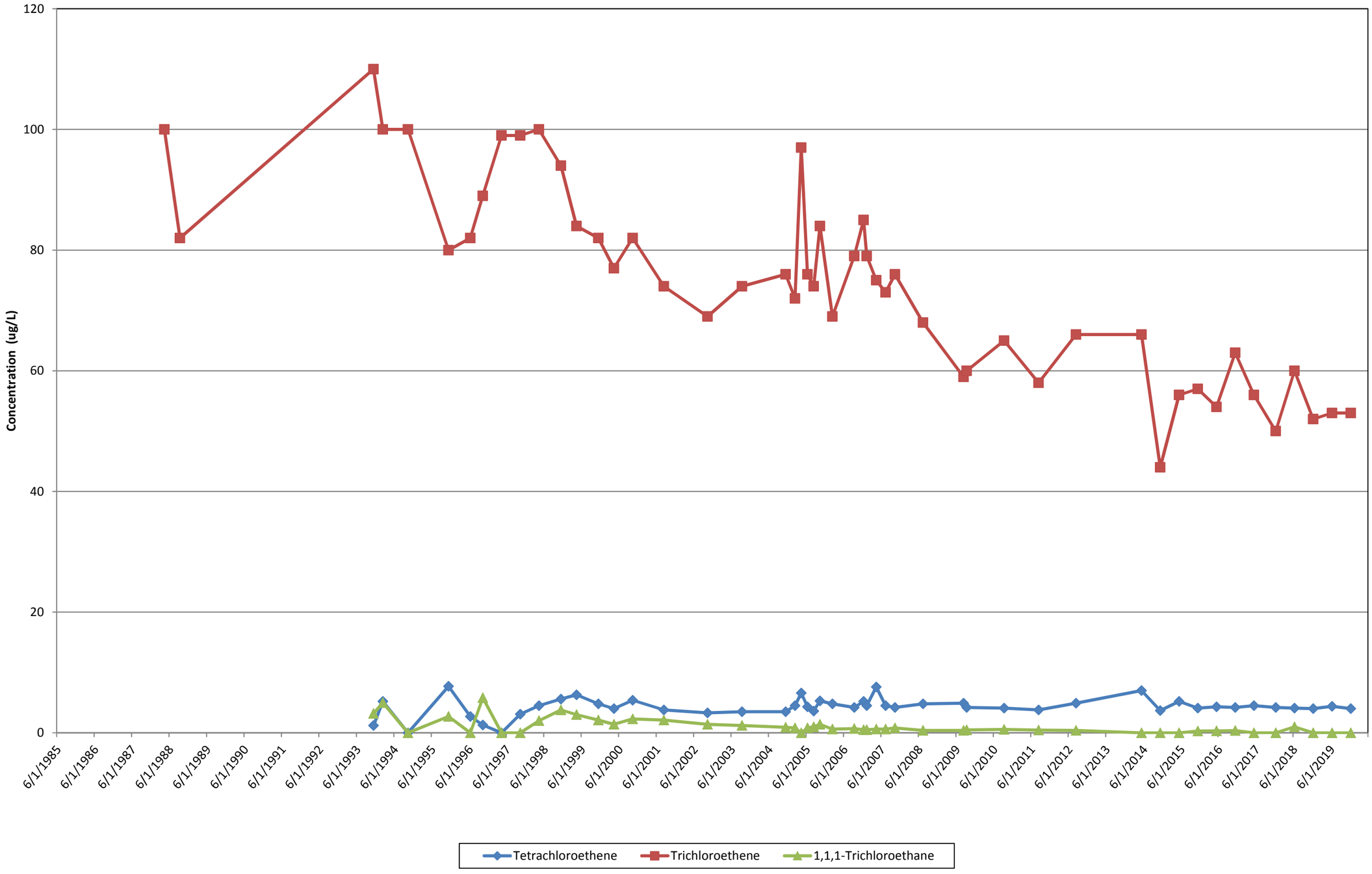
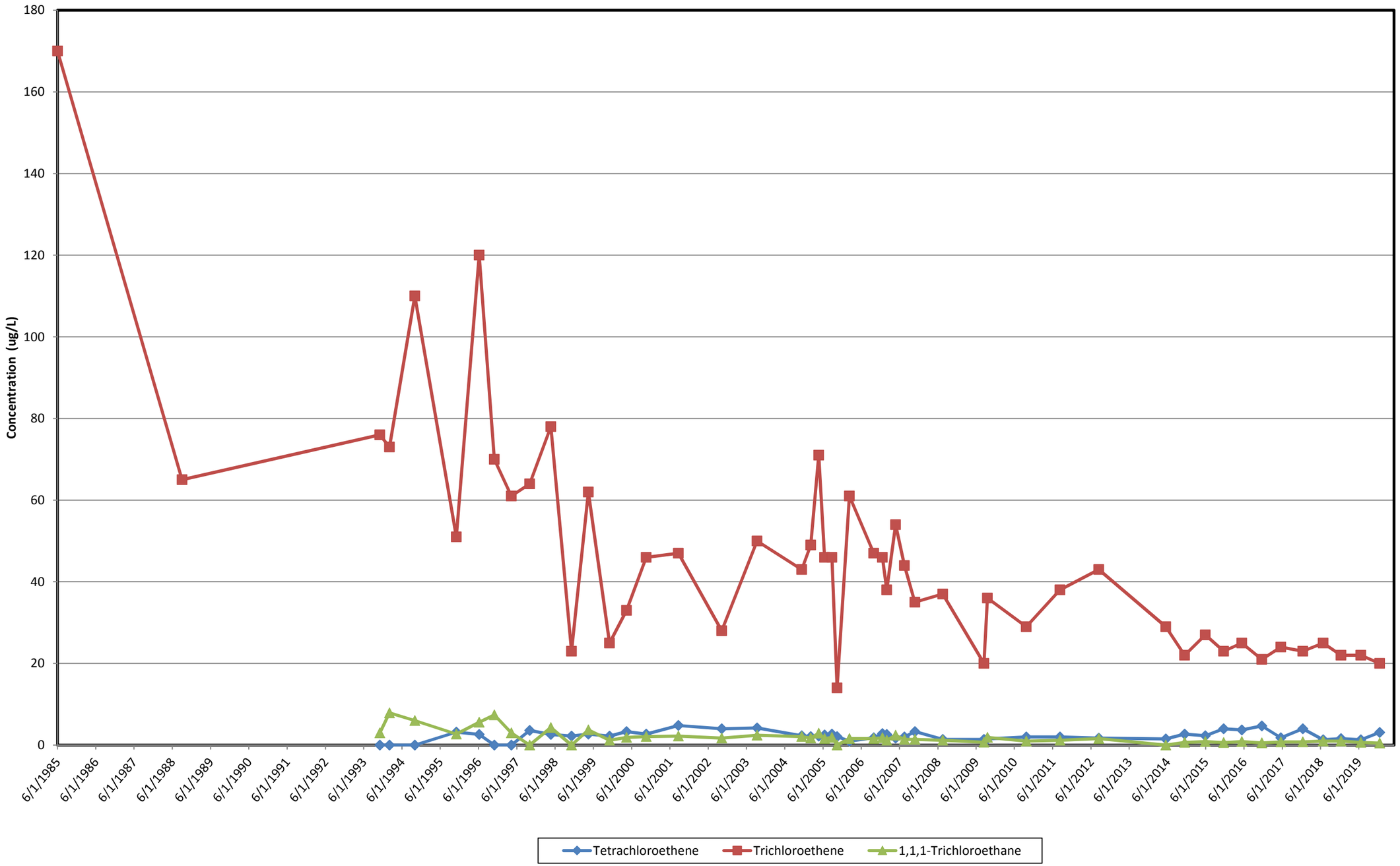


FIGURE 7
VOC CONCENTRATION TRENDS IN MB-3
Marathon Remediation Site
Cold Spring, New York



APPENDIX A

DATA VALIDATION REPORT

OF

SEDIMENT SAMPLES

COLLECTED ON OCTOBER 17, 2019

FOR

INORGANIC AND CONVENTIONAL ANALYSES

Laboratory Case Number 460-194458

PREPARED FOR:

GOULD ELECTRONICS INC.
MARATHON SITE
COLD SPRING, NEW YORK

PREPARED BY:

ADVANCED GEOSERVICES CORP
WEST CHESTER, PENNSYLVANIA

December 18, 2019
Project Number NY 95-219-03

DATA VALIDATION REPORT
INORGANIC COMPOUNDS

INTRODUCTION

This data validation report addresses the inorganic results from the sediment samples collected from the Marathon Site on October 17, 2019, in Cold Spring, New York. Samples were analyzed by Test America in Edison, NJ (TA-Edison) by USEPA SW-846 methods. The data were reported by TA-Edison under sample delivery group (SDG) 460-194458.

The qualified analytical results are presented on the data summary table. The data summary table lists both non-detected and detected results. Support documentation summarizing the specifics of this review is presented at the end of this report.

INORGANIC COMPOUNDS

Six sediment samples and one equipment blank sample were collected and analyzed for cadmium by USEPA SW-846 Method 6010D.

This review has been performed with guidance from the USEPA's *National Functional Guidelines for Inorganic Superfund Methods Data Review* (January 2017). The findings presented in this report are based upon a review of all data supplied by the laboratory. The information examined consists of sample results, analytical holding times, initial and continuing calibrations, blank analysis results, ICP interference check sample recoveries, duplicate results, matrix spike/matrix spike duplicate (MS/MSD) recoveries and relative percent differences (RPDs), serial dilution, laboratory control samples results, and field duplicates.

Holding times were met for all samples. All analytes and system monitoring compounds were within the method-required limits for the initial and continuing calibrations (90-110%). No equipment blank contamination was present. Sample EFC-4SD was the field duplicate of EFC-4S. The field duplicate RPD was less than 40%. The percent recoveries for the MS and MSD, and LCS were acceptable. Laboratory duplicates and serial dilutions were acceptable.

QUALIFIERS

No qualification was required.

SUMMARY

The results are acceptable as reported.

DATA VALIDATION REPORT
CONVENTIONALS

INTRODUCTION

This data validation report addresses the conventional analysis results from the sediment samples collected from the Marathon Site on October 17, 2019, in Cold Spring, New York. All samples were analyzed by Test America in Edison, NJ (TA-Edison). Sediment samples were analyzed for total organic carbon (TOC) by the Lloyd Kahn Method. The sample results were reported under TA-Edison sample delivery group (SDG) 460-194458.

The qualified analytical results are presented on the data summary table. The data summary table lists both non-detected and detected results. Support documentation summarizing the specifics of this review is presented at the end of this report.

CONVENTIONAL PARAMETERS

Six sediment samples were collected and analyzed for TOC by the Lloyd Kahn Method. The equipment blank was collected and analyzed for TOC by USEPA SW-846 Method 9060A.

This conventional data review has been performed with guidance from the USEPA's *National Functional Guidelines for Inorganic Superfund Methods Data Review*, January 2017. The findings presented in this report are based upon a review of all data supplied by the laboratory. The information examined consists of sample results, analytical holding times, initial and continuing calibration standard recoveries, calibration curves, blank analysis results, matrix spike (MS) recoveries, matrix spike duplicate (MSD) recoveries, laboratory and field duplicate relative percent differences (RPD), and laboratory control sample results.

Holding times were met for all parameters. Initial and continuing calibration standard sample results were accurate. Calibration curves had correlation coefficients greater than 0.99. TOC was detected in the equipment blank (EB-01-101719) associated to all project samples but sample concentrations were greater then 5X the equipment blank concentration. The TOC laboratory control sample percent recoveries were acceptable. Sample EFC-4SD was the field duplicate of EFC-4S. The field duplicate RPDs were less than 40%. The TOC laboratory control sample percent recoveries were acceptable.

QUALIFIERS

Confirmation Reanalysis

- Sample EFC-5S was reanalyzed at AGC's request based on low concentrations in comparison to historical concentrations. The initial concentration was 444 mg/kg, reanalysis was 1180 mg/kg and final reanalysis was 6250 mg/kg. The final reanalysis was analyzed outside of the method hold time, therefore the initial reanalysis

concentration of 1180 mg/kg was reported by the laboratory. The sample was qualified during validation as estimated due to non-homogeneous sample.

SUMMARY

All the data is useable as qualified.

QUALIFIER CODES

U - Denotes the compound or analyte was not detected at or above the associated detection limit.

J - Denotes an estimated value or the result is below the quantitation limit.

UJ - Denotes an estimated detection or quantitation limit.

R - Denotes a rejected result. The analyte may or may not be present.

Data review was performed by an experienced quality assurance scientist independent of the analytical laboratory.

This is to certify that I have examined the analytical data and based on the information provided to me by the laboratory, in my professional judgment the data are acceptable for use except where qualified with qualifiers that modify the usefulness of those individual values.

Amy Graham — 1/8/2020

Quality Assurance Scientist — Date

Adam W Daly — 1/8/2020

Quality Assurance Manager — Date

TABLES

MARATHON
Annual Sediment Sampling 2019, 10/17/19
Test America# 460-194458, Project# NY95-219

Sample Location		EFC-1S			EFC-2S			EFC-5S			EFC-4S			EFC-4SD			EFC-3S				EB-01-101719		
Lab ID		460-194458-01			460-194458-02			460-194458-03			460-194458-04			460-194458-05			460-194458-06				460-194458-07		
Sample Date		10/17/2019			10/17/2019			10/17/2019			10/17/2019			10/17/2019			10/17/2019				10/17/2019		
Matrix		Sediment			Sediment			Sediment			Sediment			Sediment			Sediment				Aqueous		
Remarks														FD of EFC-4S							Equipment Blank		
Parameter	**Units**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Units**	**Result**	**Q**	**RL**
Total Metals																							
Cadmium	mg/Kg	16.2		1.9	17.5		2.2	18.7		1.3	66.7		2.2	64		1.9		U	1.5	ug/L		U	4
Conventionals																							
Percent Moisture	%	59.3		1	64.1		1	40.2		1	63.1		1	61.7		1	46.5		1	NA		NA	
Percent Solids	%	40.7		1	35.9		1	59.8		1	36.9		1	38.3		1	53.5		1	NA		NA	
Total Organic Carbon	mg/Kg	19800		246	21600		278	1180	J	167	21300		271	22900		261	14400		187	mg/L	0.65	J	1

QA Scientist_____

Date 12/18/2019

SUPPORT DOCUMENTATION
INORGANICS

METALS DATA VALIDATION SUMMARY

Site Name: Marathon
Project Number: NY95-219
Sampling Date(s): 10/17/2019

Laboratory: Test America - Edison
Case/Order No.: 460-194458

Compound List: Cadmium

Method: 6010D

The following table indicates the data validation criteria examined, any problems identified, and the QA action applied.

Data Validation Criteria:	Accept	FYI	Qualify	Comments
Holding Times	X			
ICP/MS Tuning				NA
Initial Calibrations	X			
Continuing Calibrations	X			
Blank Analysis	X			
Field Duplicate Analysis	X			EFC-4SD & EFC-4S
Matrix Spike Analysis (MS/MSD)	X			EFC-2S
Laboratory Control Sample Analysis (LCS)				
Laboratory Duplicate Analysis	X			EFC-2S
ICP Internal Standard	X			
CRDL Standard				NA
Serial Dilution	X			
Interference Check Sample Recoveries	X			
Overall Assessment of Data	X			
Other:				

General Comments: Cooler Temp: 0.3°C

Accept - No qualification required.
FYI - For your information only, no qualification necessary.
Qualify - Qualify as rejected, estimated or biased.
NR - Not Reviewed
NA - Not Applicable

QA Scientist Amy Graham

Date 12/17/2019

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EFC-1S
Lab Sample ID: 460-194458-1
Lab Name: Eurofins TestAmerica, Edison
Job No.: 460-194458-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/17/2019 10:55
Reporting Basis: DRY
Date Received: 10/17/2019 16:28
% Solids: 40.7

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	16.2	1.9	0.33	mg/Kg			4	6010D

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EFC-2S
Lab Sample ID: 460-194458-2
Lab Name: Eurofins TestAmerica, Edison
Job No.: 460-194458-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/17/2019 11:10
Reporting Basis: DRY
Date Received: 10/17/2019 16:28
% Solids: 35.9

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	17.5	2.2	0.37	mg/Kg			4	6010D

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EFC-5S
Lab Sample ID: 460-194458-3
Lab Name: Eurofins TestAmerica, Edison
Job No.: 460-194458-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/17/2019 11:25
Reporting Basis: DRY
Date Received: 10/17/2019 16:28
% Solids: 59.8

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	18.7	1.3	0.22	mg/Kg			4	6010D

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EFC-4S
Lab Sample ID: 460-194458-4
Lab Name: Eurofins TestAmerica, Edison
Job No.: 460-194458-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/17/2019 11:50
Reporting Basis: DRY
Date Received: 10/17/2019 16:28
% Solids: 36.9

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	66.7	2.2	0.37	mg/Kg			4	6010D

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EFC-4SD
Lab Sample ID: 460-194458-5
Lab Name: Eurofins TestAmerica, Edison
Job No.: 460-194458-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/17/2019 11:55
Reporting Basis: DRY
Date Received: 10/17/2019 16:28
% Solids: 38.3

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	64.0	1.9	0.32	mg/Kg			4	6010D

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EFC-3S
Lab Sample ID: 460-194458-6
Lab Name: Eurofins TestAmerica, Edison
Job No.: 460-194458-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/17/2019 12:10
Reporting Basis: DRY
Date Received: 10/17/2019 16:28
% Solids: 53.5

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	0.25	1.5	0.25	mg/Kg	U		4	6010D

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: EB-01-101719 Lab Sample ID: 460-194458-7

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-194458-1

SDG ID.:

Matrix: Water Date Sampled: 10/17/2019 12:55

Reporting Basis: WET Date Received: 10/17/2019 16:28

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-43-9	Cadmium	0.22	4.0	0.22	ug/L	U		1	6010D

12/17/2019

Site Name: **Marathon** **Metals**

Lab ID	Sample ID	Matrix	Analyte	Sample Date	Analyzed Date	Analysis Hold Time (days)	Days to Analysis	Qualify
460-194458-03	EFC-5S	Sediment	Cadmium	10/17/2019	10/23/2019	180	6.0	
460-194458-06	EFC-3S	Sediment	Cadmium	10/17/2019	10/23/2019	180	6.0	
460-194458-01	EFC-1S	Sediment	Cadmium	10/17/2019	10/23/2019	180	6.0	
460-194458-02	EFC-2S	Sediment	Cadmium	10/17/2019	10/22/2019	180	5.0	
460-194458-05	EFC-4SD	Sediment	Cadmium	10/17/2019	10/23/2019	180	6.0	
460-194458-07	EB-01-101719	Aqueous	Cadmium	10/17/2019	10/24/2019	180	7.0	
460-194458-04	EFC-4S	Sediment	Cadmium	10/17/2019	10/23/2019	180	6.0	

AK
12/17/2019

460-194458_Field Duplicate.xls
Total Metals

Site Name:	**Marathon**	**Laboratory:**	**Test America - Edison**
Project Number:	**NY95-219**	**Matrix:**	**Sediment**

Sample ID	Analyte	Units	Result	Q	RL	RPD	Qualify
EFC-4S	Cadmium	mg/Kg	66.7		2.2		
EFC-4SD	Cadmium	mg/Kg	64		1.9	4.13	no

Duplicate Criteria: Aqueous matrices <30 % RPD or < ± 1*RL, Soil/Solid matrices <40 %RPD or < ± 2*RL.

*** - Denotes %RPD or difference outside criteria.**

NA - Duplicate relative percent difference or difference cannot be calculated.

U / ND - Not detected.

SUPPORT DOCUMENTATION
CONVENTIONALS

CONVENTIONALS DATA VALIDATION SUMMARY

Site Name: Marathon
Project Number: NY95-219
Sampling Date(s): 10/17/2019

Laboratory: Test America - Edison
Case/Order No.: 460-194458

Compound List: TOC, Total Solids

Method: Lloyd Kahn, 9060A

The following table indicates the data validation criteria examined, any problems identified, and the QA action applied.

Data Validation Criteria:	Accept	FYI	Qualify	Comments
Holding Times	X			
Calibration Curve	X			
Initial Calibrations	X			
Continuing Calibrations	X			
Blank Analysis		X		Equipment Blank
Field Duplicate Analysis	X			EFC-4SD & EFC-4S
Matrix Spike Analysis (MS/MSD)				NA
Laboratory Control Sample Analysis (LCS)	X			
Laboratory Duplicate Analysis				NA
Overall Assessment of Data	X			
Other:			X	Sample EFC-5S was reanalyzed at AGC's request based on low concentrations in comparison to historical concentrations. Initial concentration 444 mg/kg, reanalysis 1180 mg/kg and third analysis outside of the method hold time of 6250 mg/kg. The 1180 was reported by the laboratory and was qualified during validation as estimated due to non-homogeneous sample.

General Comments: Cooler Temp: 0.3°C

Accept - No qualification required.
FYI - For your information only, no qualification necessary.
Qualify - Qualify as rejected, estimated or biased.
NR - Not Reviewed
NA - Not Applicable

QA Scientist 

Date 12/18/2019

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EFC-1S
Lab Sample ID: 460-194458-1
Lab Name: Eurofins TestAmerica, Edison
Job No.: 460-194458-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/17/2019 10:55
Reporting Basis: DRY
Date Received: 10/17/2019 16:28
% Solids: 40.7

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	19800	246	168	mg/Kg			1	Lloyd Kahn

12/18/2019

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EFC-2S
Lab Sample ID: 460-194458-2
Lab Name: Eurofins TestAmerica, Edison
Job No.: 460-194458-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/17/2019 11:10
Reporting Basis: DRY
Date Received: 10/17/2019 16:28
% Solids: 35.9

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	21600	278	191	mg/Kg			1	Lloyd Kahn

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EFC-5S
Lab Sample ID: 460-194458-3
Lab Name: Eurofins TestAmerica, Edison
Job No.: 460-194458-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/17/2019 11:25
Reporting Basis: DRY
Date Received: 10/17/2019 16:28
% Solids: 59.8

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	1180	167	115	mg/Kg		J	1	Lloyd Kahn

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EFC-4S
Lab Sample ID: 460-194458-4
Lab Name: Eurofins TestAmerica, Edison
Job No.: 460-194458-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/17/2019 11:50
Reporting Basis: DRY
Date Received: 10/17/2019 16:28
% Solids: 36.9

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	21300	271	186	mg/Kg			1	Lloyd Kahn

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EFC-4SD
Lab Sample ID: 460-194458-5
Lab Name: Eurofins TestAmerica, Edison
Job No.: 460-194458-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/17/2019 11:55
Reporting Basis: DRY
Date Received: 10/17/2019 16:28
% Solids: 38.3

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	22900	261	179	mg/Kg			1	Lloyd Kahn

12/18/2019

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EFC-3S
Lab Sample ID: 460-194458-6
Lab Name: Eurofins TestAmerica, Edison
Job No.: 460-194458-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/17/2019 12:10
Reporting Basis: DRY
Date Received: 10/17/2019 16:28
% Solids: 53.5

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	14400	187	128	mg/Kg			1	Lloyd Kahn

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: EB-01-101719 Lab Sample ID: 460-194458-7

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-194458-1

SDG ID.:

Matrix: Water Date Sampled: 10/17/2019 12:55

Reporting Basis: WET Date Received: 10/17/2019 16:28

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	0.65	1.0	0.35	mg/L	J		1	9060A

12/18/2019

HOLDING TIMES
WC

Site Name: Marathon **Wet Chemistry**

Lab ID	Sample ID	Matrix	Analyte	Sample Date	Date Analyzed	Analysis Hold Time (days)	Days to Analysis	Qualify
460-145294-01	EFC-1S	Sediment	Percent Moisture	11/16/2017	11/20/2017	7	4	
460-145294-02	EFC-2S	Sediment	Percent Moisture	11/16/2017	11/20/2017	7	4	
460-145294-03	EFC-3S	Sediment	Percent Moisture	11/16/2017	11/20/2017	7	4	
460-145294-04	EFC-4S	Sediment	Percent Moisture	11/16/2017	11/20/2017	7	4	
460-145294-05	EFC-4SD	Sediment	Percent Moisture	11/16/2017	11/20/2017	7	4	
460-145294-06	EFC-5S	Sediment	Percent Moisture	11/16/2017	11/20/2017	7	4	
460-145294-01	EFC-1S	Sediment	Percent Solids	11/16/2017	11/20/2017	7	4	
460-145294-02	EFC-2S	Sediment	Percent Solids	11/16/2017	11/20/2017	7	4	
460-145294-03	EFC-3S	Sediment	Percent Solids	11/16/2017	11/20/2017	7	4	
460-145294-04	EFC-4S	Sediment	Percent Solids	11/16/2017	11/20/2017	7	4	
460-145294-05	EFC-4SD	Sediment	Percent Solids	11/16/2017	11/20/2017	7	4	
460-145294-06	EFC-5S	Sediment	Percent Solids	11/16/2017	11/20/2017	7	4	
460-145294-01	EFC-1S	Sediment	Total Organic Carbon	11/16/2017	11/21/2017	14	5	
460-145294-02	EFC-2S	Sediment	Total Organic Carbon	11/16/2017	11/21/2017	14	5	
460-145294-03	EFC-3S	Sediment	Total Organic Carbon	11/16/2017	11/21/2017	14	5	
460-145294-04	EFC-4S	Sediment	Total Organic Carbon	11/16/2017	11/21/2017	14	5	
460-145294-05	EFC-4SD	Sediment	Total Organic Carbon	11/16/2017	11/21/2017	14	5	
460-145294-06	EFC-5S	Sediment	Total Organic Carbon	11/16/2017	11/21/2017	14	5	
460-145294-07	EB-1-111617	Aqueous	Total Organic Carbon	11/16/2017	11/23/2017	28	7	

BLANKS
TOC water blank to soil

Blank ID	Analyte	% Solids (decimal)	Dilution Factor	Extract Volume (L)	Weight (g)	Blank Conc	Units	Corrected Blank	Blank*5	Lab ID	Sample ID	Sample Concentration	Sample RL	Units	Qualify*	Qualify**
EB-01-101719	Total Organic Carbon	0.407	1.0	1.00	0.0287	0.65	mg/Kg	55.646	278.23	460-194458-01	EFC-1S	19800	246	mg/Kg		
EB-01-101719	Total Organic Carbon	0.359	1.0	1.00	0.0363	0.65	mg/Kg	49.906	249.53	460-194458-02	EFC-2S	21600	278	mg/Kg		
EB-01-101719	Total Organic Carbon	0.598	1.0	1.00	0.0542	0.65	mg/Kg	20.055	100.27	460-194458-03	EFC-5S	1180	167	mg/Kg		
EB-01-101719	Total Organic Carbon	0.369	1.0	1.00	0.0441	0.65	mg/Kg	39.926	199.63	460-194458-04	EFC-4S	21300	271	mg/Kg		
EB-01-101719	Total Organic Carbon	0.383	1.0	1.00	0.0603	0.65	mg/Kg	28.140	140.70	460-194458-05	EFC-4SD	22900	261	mg/Kg		
EB-01-101719	Total Organic Carbon	0.535	1.0	1.00	0.0565	0.65	mg/Kg	21.504	107.52	460-194458-06	EFC-3S	14400	187	mg/Kg		

* Sample Concentration is < RL, qualified as (U) and reported to the RL.
** Sample Concentration is >RL and < 5X blank concentration, qualified as (U)

12/18/2019

Site Name:	**Marathon**	**Laboratory:**	**Test America - Edison**
Project Number:	**NY95-219**	**Matrix:**	**Sediment**

Sample ID	Analyte	Units	Result	Q	RL	RPD	Qualify
EFC-4S	Percent Moisture	%	63.1		1		
EFC-4SD	Percent Moisture	%	61.7		1	2.24	no

Sample ID	Analyte	Units	Result	Q	RL	RPD	Qualify
EFC-4S	Percent Solids	%	36.9		1		
EFC-4SD	Percent Solids	%	38.3		1	3.72	no

Sample ID	Analyte	Units	Result	Q	RL	RPD	Qualify
EFC-4S	Total Organic Carbon	mg/Kg	21300		271		
EFC-4SD	Total Organic Carbon	mg/Kg	22900		261	7.24	no

Duplicate Criteria: Aqueous matrices <30 % RPD or < ± 1*RL, Soil/Solid matrices <40 %RPD or < ± 2*RL.

*** - Denotes %RPD or difference outside criteria.**

NA - Duplicate relative percent difference or difference cannot be calculated.

U / ND - Not detected.

12/18/2019

APPENDIX B

DATA VALIDATION REPORT

OF

GROUNDWATER SAMPLES

COLLECTED ON DECEMBER 15-18, 2019

FOR

ORGANIC ANALYSES

Laboratory Case Number 460-199519 and 460-199520

PREPARED FOR:

GOULD ELECTRONICS INC.
MARATHON SITE
COLD SPRING, NEW YORK

PREPARED BY:

ADVANCED GEOSERVICES / MONTROSE ENVIRONMENTAL
WEST CHESTER, PENNSYLVANIA

February 4, 2020
Project Number NY 95-219-03

DATA VALIDATION REPORT
ORGANIC COMPOUNDS

INTRODUCTION

This data validation report addresses the organic results from the groundwater samples collected from the Marathon Site monitoring wells on December 15-18, 2019 in Cold Spring, New York. Samples were analyzed by TestAmerica in Edison, NJ. The samples were analyzed for volatile organic compounds (VOCs) by USEPA *Test Methods for Evaluating Solid Waste Physical/Chemical Methods* (SW-846) Method 8260C. The sample results were reported under TestAmerica Case Number 460-199519 and 460-199520.

The qualified analytical results are presented on the data summary table. The data summary table lists both non-detected and detected results. Support documentation summarizing the specifics of this review is presented at the end of this report.

VOLATILE ORGANIC COMPOUNDS

Nineteen (19) groundwater samples, two (2) field duplicate samples, one (1) equipment blank, and one (1) trip blank sample were collected and analyzed for VOCs by USEPA SW-846 Method 8260C.

This organic review has been performed with guidance from the USEPA "National Functional Guidelines for Organic Superfund Methods Data Review, January 2017. The findings presented in this report are based upon a review of all data supplied by the laboratory. The information examined consists of sample results, analytical holding times, initial and continuing calibrations, gas chromatographic/mass spectrometric (GC/MS) tunes, blank analysis results, matrix spike/matrix spike duplicate (MS/MSD) recoveries and relative percent differences (RPDs), laboratory control sample (LCS) recoveries and relative percent differences (RPDs), surrogate spike recoveries, standard areas and retention times and target compound identification.

The holding times were met for all samples. All GC/MS tunes for the target analytes were within method criteria. All analytes and system monitoring compounds relative response factors (RRF) and percent differences (%D) were within the National Functional Guidelines criteria for the initial and continuing calibrations, except those addressed in the “QUALIFIER” section. The trip blank, equipment blank and method blanks were free of contamination. All volatile system monitoring compound recoveries and internal standard areas were within acceptance criteria. All detected compounds met the relative retention time and mass spectral identification criteria. Samples IW-7 /IW-7D and OSMW-01/OSMW-01D were field duplicates. The field duplicate results were precise. The LCS recoveries and the MS and MSD recoveries were within acceptance criteria.

QUALIFIER

460-199519

Continuing Calibration

- CCVIS 460-664693/3; Chloromethane (43.2%) and Chloroethane (66.8%) had a %D greater than 30%. The associated samples included VP-1, VP-2, VP-3, VP-7, VP-8, VP-9, VP-10, ASMP-1, VP-11, MB-3, IW-8, MW-4 and IW-7. The sample reporting limits were qualified as estimated (UJ).

- CCVIS 460-664782/2; Chloromethane (31.2%), Chloroethane (53.1%) and Bromoform (-25.5) had a %D greater than 30%. The associated samples included IW-6, IW-9, MW-7S and IW-7D. The sample reporting limits were qualified as estimated (UJ).

- CCVIS 460-664987/3; Chloromethane (35.6%), Chloroethane (34.6%) and Bromomethane (34.6) had a %D greater than 30%. The associated sample included EB-01-121819. The sample reporting limits were qualified as estimated (UJ).

460-199520

Continuing Calibration

- CCVIS 460-664780/2; Dibromochloromethane (-23.6%) had a %D greater than 20%. The associated samples included OSMW-03, OSMW-01, OSWM-01D and OSMW-02. The sample reporting limits were qualified as estimated (UJ).

- CCVIS 460-664918/2; Dibromochloromethane (-21.0%) had a %D greater than 20%. The associated samples included OSMW-04. The sample reporting limits were qualified as estimated (UJ).

- CCVIS 460-664918/2; Bromoform (-33.3) had a %D greater than 30%. The associated samples included OSMW-04. The sample reporting limits were qualified as estimated (UJ).

SUMMARY

The results are acceptable as qualified.

QUALIFIER CODES

U - Denotes the compound or analyte was not detected at or above the associated detection limit.

J - Denotes an estimated value or the result is below the quantitation limit.

UJ - Denotes an estimated detection or quantitation limit.

R - Denotes a rejected result. The analyte may or may not be present.

Data review was performed by an experienced quality assurance scientist independent of the analytical laboratory.

This is to certify that I have examined the analytical data and based on the information provided to me by the laboratory, in my professional judgment the data are acceptable for use except where qualified with qualifiers that modify the usefulness of those individual values.

Quality Assurance Scientist	2/10/2020 Date
Quality Assurance Manager	2/20/2020 Date

TABLES

MARATHON
2019 Semi-Annual Groundwater, 12/15-18/2019
TestAmerica# 460-199519, Project# NY95-219

Sample Location		VP-1			VP-2			VP-3			VP-7			VP-8			VP-9			VP-10			ASMP-1			VP-11			MB-3			IW-8		
Lab ID		460-199519-01			460-199519-02			460-199519-03			460-199519-04			460-199519-05			460-199519-06			460-199519-07			460-199519-08			460-199519-09			460-199519-10			460-199519-11		
Sample Date		12/15/2019			12/15/2019			12/15/2019			12/15/2019			12/15/2019			12/16/2019			12/16/2019			12/16/2019			12/16/2019			12/16/2019			12/17/2019		
Matrix		Groundwater			Groundwater			Groundwater			Groundwater			Groundwater			Groundwater			Groundwater			Groundwater			Groundwater			Groundwater			Groundwater		
Remarks																																		
Parameter	**Units**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**
Volatiles																																		
1,1,1-Trichloroethane	ug/L		U	1		U	1	0.39	J	1		U	1	0.83	J	1	1.1		1	0.95	J	1	1		1		U	1	0.49	J	1	1.2		1
1,1,2,2-Tetrachloroethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2-Trichloroethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloropropane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
2-Butanone	ug/L		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
2-Hexanone	ug/L		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
4-Methyl-2-pentanone	ug/L		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
Acetone	ug/L		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
Benzene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Bromodichloromethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Bromoform	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Bromomethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Carbon disulfide	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Carbon tetrachloride	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Chlorobenzene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Chloroethane	ug/L		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1
Chloroform	ug/L		U	1		U	1	1.8		1	1.8		1	0.82	J	1	0.33	J	1	0.59	J	1	0.91	J	1	2.9		1	0.68	J	1	0.97	J	1
Chloromethane	ug/L		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1
cis-1,2-Dichloroethene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1	0.41	J	1		U	1
cis-1,3-Dichloropropene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Dibromochloromethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Ethylbenzene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Methylene Chloride	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Styrene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Tetrachloroethene	ug/L		U	1		U	1	13		1	2.9		1	2.1		1	0.55	J	1	0.82	J	1	9.3		1	6.6		1	3.1		1	4.8		1
Toluene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
trans-1,2-Dichloroethene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
trans-1,3-Dichloropropene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Trichloroethene	ug/L		U	1	5		1	73		1	32		1	11		1	5.7		1	16		1	52		1	31		1	20		1	32		1
Vinyl chloride	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Xylenes, Total	ug/L		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2

QA Scientist_____

Date 02/04/2020

MARATHON
2019 Semi-Annual Groundwater, 12/15-18/2019
TestAmerica# 460-199519, Project# NY95-219

Sample Location		MW-4			IW-7			IW-7D			IW-6			IW-9			MW-7S			EB-01-121819			Tripblank		
Lab ID		460-199519-12			460-199519-13			460-199519-14			460-199519-15			460-199519-16			460-199519-17			460-199519-18			460-199519-19		
Sample Date		12/17/2019			12/17/2019			12/17/2019			12/18/2019			12/18/2019			12/18/2019			12/18/2019			12/18/2019		
Matrix		Groundwater			Groundwater			Groundwater			Groundwater			Groundwater			Groundwater			Aqueous			Aqueous		
Remarks								FD of IW-7												Equipment Blank			Trip Blank		
Parameter	**Units**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**
Volatiles																									
1,1,1-Trichloroethane	ug/L	0.75	J	1	0.94	J	1	0.89	J	1	2.1		1	1.3		1		U	1		U	1		U	1
1,1,2,2-Tetrachloroethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1,2-Trichloroethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,1-Dichloroethene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloroethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
1,2-Dichloropropane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
2-Butanone	ug/L		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
2-Hexanone	ug/L		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
4-Methyl-2-pentanone	ug/L		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
Acetone	ug/L		U	5		U	5		U	5		U	5		U	5		U	5		U	5		U	5
Benzene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Bromodichloromethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Bromoform	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		UJ	1		U	1
Bromomethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Carbon disulfide	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Carbon tetrachloride	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Chlorobenzene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Chloroethane	ug/L		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1
Chloroform	ug/L	0.66	J	1	1.1		1	1.1		1	0.58	J	1	0.73	J	1	3.8		1		U	1		U	1
Chloromethane	ug/L		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1		UJ	1
cis-1,2-Dichloroethene	ug/L		U	1		U	1		U	1	0.5	J	1	2		1		U	1		U	1		U	1
cis-1,3-Dichloropropene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Dibromochloromethane	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Ethylbenzene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Methylene Chloride	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Styrene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Tetrachloroethene	ug/L	1.6		1	0.56	J	1	0.29	J	1	1.1		1	6.6		1	4		1		U	1		U	1
Toluene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
trans-1,2-Dichloroethene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
trans-1,3-Dichloropropene	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Trichloroethene	ug/L	28		1	24		1	24		1	85		1	45		1	53		1		U	1		U	1
Vinyl chloride	ug/L		U	1		U	1		U	1		U	1		U	1		U	1		U	1		U	1
Xylenes, Total	ug/L		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2

QA Scientist_____

Date_____02/04/2020_____

MARATHON
2019 Semi-Annual Groundwater, 12/17/2019
TestAmerica# 460-199520, Project# NY95-219

Sample Location		OSMW-01			OSMW-01D			OSMW-02			OSMW-03		
Lab ID		460-199520-01			460-199520-02			460-199520-03			460-199520-04		
Sample Date		12/17/2019			12/17/2019			12/17/2019			12/17/2019		
Matrix		Groundwater			Groundwater			Groundwater			Groundwater		
Remarks					FD of OSMW-01								
Parameter	**Units**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**	**Result**	**Q**	**RL**
Volatiles													
1,1,1-Trichloroethane	ug/L	0.55	J	1	0.56	J	1	0.45	J	1	0.64	J	1
1,1,2,2-Tetrachloroethane	ug/L		U	1		U	1		U	1		U	1
1,1,2-Trichloroethane	ug/L		U	1		U	1		U	1		U	1
1,1-Dichloroethane	ug/L		U	1		U	1		U	1		U	1
1,1-Dichloroethene	ug/L		U	1		U	1		U	1		U	1
1,2-Dichloroethane	ug/L		U	1		U	1		U	1		U	1
1,2-Dichloropropane	ug/L		U	1		U	1		U	1		U	1
2-Butanone	ug/L		U	5		U	5		U	5		U	5
2-Hexanone	ug/L		U	5		U	5		U	5		U	5
4-Methyl-2-pentanone	ug/L		U	5		U	5		U	5		U	5
Acetone	ug/L		U	5		U	5		U	5		U	5
Benzene	ug/L		U	1		U	1		U	1		U	1
Bromodichloromethane	ug/L		U	1		U	1		U	1		U	1
Bromoform	ug/L		U	1		U	1		U	1		UJ	1
Bromomethane	ug/L		U	1		U	1		U	1		U	1
Carbon disulfide	ug/L		U	1		U	1		U	1		U	1
Carbon tetrachloride	ug/L		U	1		U	1		U	1		U	1
Chlorobenzene	ug/L		U	1		U	1		U	1		U	1
Chloroethane	ug/L		U	1		U	1		U	1		U	1
Chloroform	ug/L		U	1		U	1		U	1	0.8	J	1
Chloromethane	ug/L		U	1		U	1		U	1		U	1
cis-1,2-Dichloroethene	ug/L		U	1		U	1		U	1		U	1
cis-1,3-Dichloropropene	ug/L		U	1		U	1		U	1		U	1
Dibromochloromethane	ug/L		UJ	1		UJ	1		UJ	1		UJ	1
Ethylbenzene	ug/L		U	1		U	1		U	1		U	1
Methylene Chloride	ug/L		U	1		U	1		U	1		U	1
Styrene	ug/L		U	1		U	1		U	1		U	1
Tetrachloroethene	ug/L		U	1		U	1		U	1	0.48	J	1
Toluene	ug/L		U	1		U	1		U	1		U	1
trans-1,2-Dichloroethene	ug/L		U	1		U	1		U	1		U	1
trans-1,3-Dichloropropene	ug/L		U	1		U	1		U	1		U	1
Trichloroethene	ug/L		U	1		U	1		U	1	12		1
Vinyl chloride	ug/L		U	1		U	1		U	1		U	1
Xylenes, Total	ug/L		U	2		U	2		U	2		U	2

QA Scientist Amy Graham

Date 02/04/2020

SUPPORT DOCUMENTATION
ORGANICS

VOLATILES DATA VALIDATION SUMMARY

Site Name: Marathon
Project Number: NY95-219
Sampling Date(s): 12/15-18/2019

Laboratory: TestAmerica - Edison
Case/Order No.: 460-199519

Compound List: Volatiles

Method: 8260C

The following table indicates the data validation criteria examined, any problems identified, and the QA action applied.

Data Validation Criteria:	Accept	FYI	Qualify	Comments
Holding Times	X			
GC/MS Tuning	X			
Initial Calibrations/ICV		X		ICV not provided
Continuing Calibrations			X	%D > 20%
Blank Analysis	X			
System Monitoring/Surrogate	X			
Field Duplicate Analysis	X			IW-7 & IW-7D
Matrix Spike Analysis (MS/MSD)		X		MS/MSD Recoveries
Laboratory Control Sample Analysis (LCS)		X		LCS/LCSD Recoveries
Internal Standard Areas/RT	X			
Target Compound Identification	X			
TIC Identification				NA
Overall Assessment of Data	X			
Other:				

General Comments: Cooler temp: 5.5°C

Accept - No qualification required.
FYI - For your information only, no qualification necessary.
Qualify - Qualify as rejected, estimated or biased.
NR - Not Reviewed
NA - Not Applicable

QA Scientist 

Date 2/4/2020

Client Sample ID: VP-1

Date Collected: 12/15/19 14:34
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.24	U	1.0	0.24	ug/L			12/23/19 23:25	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/23/19 23:25	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/23/19 23:25	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/23/19 23:25	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/23/19 23:25	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/23/19 23:25	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/23/19 23:25	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/23/19 23:25	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/23/19 23:25	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/23/19 23:25	1
Acetone	4.4	U	5.0	4.4	ug/L			12/23/19 23:25	1
Benzene	0.20	U	1.0	0.20	ug/L			12/23/19 23:25	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/23/19 23:25	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/23/19 23:25	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/23/19 23:25	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/23/19 23:25	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/23/19 23:25	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/23/19 23:25	1
Chloroethane	0.32	U *J	1.0	0.32	ug/L			12/23/19 23:25	1
Chloroform	0.33	U	1.0	0.33	ug/L			12/23/19 23:25	1
Chloromethane	0.40	U J	1.0	0.40	ug/L			12/23/19 23:25	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/23/19 23:25	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/23/19 23:25	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/23/19 23:25	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/23/19 23:25	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/23/19 23:25	1
Styrene	0.42	U	1.0	0.42	ug/L			12/23/19 23:25	1
Tetrachloroethene	0.25	U	1.0	0.25	ug/L			12/23/19 23:25	1
Toluene	0.38	U	1.0	0.38	ug/L			12/23/19 23:25	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/23/19 23:25	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/23/19 23:25	1
Trichloroethene	0.31	U	1.0	0.31	ug/L			12/23/19 23:25	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/23/19 23:25	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/23/19 23:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*74 - 132*		*12/23/19 23:25*	*1*
Bromofluorobenzene	*87*		*77 - 124*		*12/23/19 23:25*	*1*
Dibromofluoromethane (Surr)	*105*		*72 - 131*		*12/23/19 23:25*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/23/19 23:25*	*1*

Client Sample ID: VP-2

Date Collected: 12/15/19 15:45
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.24	U	1.0	0.24	ug/L			12/23/19 23:48	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/23/19 23:48	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/23/19 23:48	1

Client Sample ID: VP-2

Date Collected: 12/15/19 15:45
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/23/19 23:48	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/23/19 23:48	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/23/19 23:48	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/23/19 23:48	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/23/19 23:48	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/23/19 23:48	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/23/19 23:48	1
Acetone	4.4	U	5.0	4.4	ug/L			12/23/19 23:48	1
Benzene	0.20	U	1.0	0.20	ug/L			12/23/19 23:48	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/23/19 23:48	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/23/19 23:48	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/23/19 23:48	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/23/19 23:48	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/23/19 23:48	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/23/19 23:48	1
Chloroethane	0.32	U J	1.0	0.32	ug/L			12/23/19 23:48	1
Chloroform	0.33	U	1.0	0.33	ug/L			12/23/19 23:48	1
Chloromethane	0.40	U J	1.0	0.40	ug/L			12/23/19 23:48	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/23/19 23:48	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/23/19 23:48	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/23/19 23:48	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/23/19 23:48	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/23/19 23:48	1
Styrene	0.42	U	1.0	0.42	ug/L			12/23/19 23:48	1
Tetrachloroethene	0.25	U	1.0	0.25	ug/L			12/23/19 23:48	1
Toluene	0.38	U	1.0	0.38	ug/L			12/23/19 23:48	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/23/19 23:48	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/23/19 23:48	1
Trichloroethene	**5.0**		1.0	0.31	ug/L			12/23/19 23:48	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/23/19 23:48	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/23/19 23:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*130*		*74 - 132*		*12/23/19 23:48*	*1*
Bromofluorobenzene	*100*		*77 - 124*		*12/23/19 23:48*	*1*
Dibromofluoromethane (Surr)	*123*		*72 - 131*		*12/23/19 23:48*	*1*
Toluene-d8 (Surr)	*116*		*80 - 120*		*12/23/19 23:48*	*1*

Client Sample ID: VP-3

Date Collected: 12/15/19 16:40
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**0.39**	**J**	1.0	0.24	ug/L			12/24/19 00:12	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 00:12	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 00:12	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 00:12	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 00:12	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 00:12	1

Client Sample ID: VP-3

Date Collected: 12/15/19 16:40
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 00:12	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 00:12	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 00:12	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 00:12	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 00:12	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 00:12	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 00:12	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 00:12	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 00:12	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 00:12	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 00:12	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 00:12	1
Chloroethane	0.32	U *J	1.0	0.32	ug/L			12/24/19 00:12	1
Chloroform	**1.8**		1.0	0.33	ug/L			12/24/19 00:12	1
Chloromethane	0.40	U J	1.0	0.40	ug/L			12/24/19 00:12	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 00:12	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 00:12	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 00:12	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 00:12	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 00:12	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 00:12	1
Tetrachloroethene	**13**		1.0	0.25	ug/L			12/24/19 00:12	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 00:12	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 00:12	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 00:12	1
Trichloroethene	**73**		1.0	0.31	ug/L			12/24/19 00:12	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 00:12	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 00:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*74 - 132*		*12/24/19 00:12*	*1*
Bromofluorobenzene	*87*		*77 - 124*		*12/24/19 00:12*	*1*
Dibromofluoromethane (Surr)	*105*		*72 - 131*		*12/24/19 00:12*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/24/19 00:12*	*1*

Client Sample ID: VP-7

Date Collected: 12/15/19 17:30
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.24	U	1.0	0.24	ug/L			12/24/19 00:35	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 00:35	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 00:35	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 00:35	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 00:35	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 00:35	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 00:35	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 00:35	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 00:35	1

Client Sample ID: VP-7

Date Collected: 12/15/19 17:30
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 00:35	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 00:35	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 00:35	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 00:35	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 00:35	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 00:35	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 00:35	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 00:35	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 00:35	1
Chloroethane	0.32	U *J	1.0	0.32	ug/L			12/24/19 00:35	1
Chloroform	**1.8**		1.0	0.33	ug/L			12/24/19 00:35	1
Chloromethane	0.40	U J	1.0	0.40	ug/L			12/24/19 00:35	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 00:35	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 00:35	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 00:35	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 00:35	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 00:35	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 00:35	1
Tetrachloroethene	**2.9**		1.0	0.25	ug/L			12/24/19 00:35	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 00:35	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 00:35	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 00:35	1
Trichloroethene	**32**		1.0	0.31	ug/L			12/24/19 00:35	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 00:35	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 00:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*74 - 132*		*12/24/19 00:35*	*1*
Bromofluorobenzene	*88*		*77 - 124*		*12/24/19 00:35*	*1*
Dibromofluoromethane (Surr)	*106*		*72 - 131*		*12/24/19 00:35*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/24/19 00:35*	*1*

Client Sample ID: VP-8

Date Collected: 12/15/19 18:27
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**0.83**	**J**	1.0	0.24	ug/L			12/24/19 00:58	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 00:58	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 00:58	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 00:58	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 00:58	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 00:58	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 00:58	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 00:58	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 00:58	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 00:58	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 00:58	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 00:58	1

Client Sample ID: VP-8

Date Collected: 12/15/19 18:27
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 00:58	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 00:58	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 00:58	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 00:58	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 00:58	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 00:58	1
Chloroethane	0.32	U *j	1.0	0.32	ug/L			12/24/19 00:58	1
Chloroform	**0.82**	**J**	1.0	0.33	ug/L			12/24/19 00:58	1
Chloromethane	0.40	UJ	1.0	0.40	ug/L			12/24/19 00:58	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 00:58	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 00:58	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 00:58	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 00:58	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 00:58	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 00:58	1
Tetrachloroethene	**2.1**		1.0	0.25	ug/L			12/24/19 00:58	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 00:58	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 00:58	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 00:58	1
Trichloroethene	**11**		1.0	0.31	ug/L			12/24/19 00:58	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 00:58	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 00:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*74 - 132*		*12/24/19 00:58*	*1*
Bromofluorobenzene	*87*		*77 - 124*		*12/24/19 00:58*	*1*
Dibromofluoromethane (Surr)	*106*		*72 - 131*		*12/24/19 00:58*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/24/19 00:58*	*1*

Client Sample ID: VP-9

Date Collected: 12/16/19 09:04
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**1.1**		1.0	0.24	ug/L			12/24/19 01:22	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 01:22	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 01:22	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 01:22	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 01:22	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 01:22	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 01:22	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 01:22	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 01:22	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 01:22	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 01:22	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 01:22	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 01:22	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 01:22	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 01:22	1

Client Sample ID: VP-9

Date Collected: 12/16/19 09:04
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 01:22	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 01:22	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 01:22	1
Chloroethane	0.32	U *J	1.0	0.32	ug/L			12/24/19 01:22	1
Chloroform	**0.33**	**J**	1.0	0.33	ug/L			12/24/19 01:22	1
Chloromethane	0.40	U J	1.0	0.40	ug/L			12/24/19 01:22	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 01:22	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 01:22	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 01:22	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 01:22	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 01:22	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 01:22	1
Tetrachloroethene	**0.55**	**J**	1.0	0.25	ug/L			12/24/19 01:22	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 01:22	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 01:22	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 01:22	1
Trichloroethene	**5.7**		1.0	0.31	ug/L			12/24/19 01:22	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 01:22	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 01:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*74 - 132*		*12/24/19 01:22*	*1*
Bromofluorobenzene	*88*		*77 - 124*		*12/24/19 01:22*	*1*
Dibromofluoromethane (Surr)	*106*		*72 - 131*		*12/24/19 01:22*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/24/19 01:22*	*1*

Client Sample ID: VP-10

Date Collected: 12/16/19 10:32
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**0.95**	**J**	1.0	0.24	ug/L			12/24/19 01:45	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 01:45	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 01:45	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 01:45	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 01:45	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 01:45	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 01:45	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 01:45	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 01:45	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 01:45	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 01:45	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 01:45	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 01:45	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 01:45	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 01:45	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 01:45	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 01:45	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 01:45	1

Client Sample ID: VP-10

Date Collected: 12/16/19 10:32
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	0.32	U *J	1.0	0.32	ug/L			12/24/19 01:45	1
Chloroform	**0.59**	**J**	1.0	0.33	ug/L			12/24/19 01:45	1
Chloromethane	0.40	U J	1.0	0.40	ug/L			12/24/19 01:45	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 01:45	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 01:45	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 01:45	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 01:45	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 01:45	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 01:45	1
Tetrachloroethene	**0.82**	**J**	1.0	0.25	ug/L			12/24/19 01:45	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 01:45	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 01:45	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 01:45	1
Trichloroethene	**16**		1.0	0.31	ug/L			12/24/19 01:45	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 01:45	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 01:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*74 - 132*		*12/24/19 01:45*	*1*
Bromofluorobenzene	*88*		*77 - 124*		*12/24/19 01:45*	*1*
Dibromofluoromethane (Surr)	*104*		*72 - 131*		*12/24/19 01:45*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/24/19 01:45*	*1*

Client Sample ID: ASMP-1

Date Collected: 12/16/19 11:18
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**1.0**		1.0	0.24	ug/L			12/24/19 02:09	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 02:09	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 02:09	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 02:09	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 02:09	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 02:09	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 02:09	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 02:09	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 02:09	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 02:09	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 02:09	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 02:09	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 02:09	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 02:09	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 02:09	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 02:09	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 02:09	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 02:09	1
Chloroethane	0.32	U *J	1.0	0.32	ug/L			12/24/19 02:09	1
Chloroform	**0.91**	**J**	1.0	0.33	ug/L			12/24/19 02:09	1
Chloromethane	0.40	U J	1.0	0.40	ug/L			12/24/19 02:09	1

Client Sample ID: ASMP-1

Date Collected: 12/16/19 11:18
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 02:09	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 02:09	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 02:09	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 02:09	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 02:09	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 02:09	1
Tetrachloroethene	**9.3**		1.0	0.25	ug/L			12/24/19 02:09	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 02:09	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 02:09	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 02:09	1
Trichloroethene	**52**		1.0	0.31	ug/L			12/24/19 02:09	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 02:09	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 02:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*74 - 132*		*12/24/19 02:09*	*1*
Bromofluorobenzene	*85*		*77 - 124*		*12/24/19 02:09*	*1*
Dibromofluoromethane (Surr)	*104*		*72 - 131*		*12/24/19 02:09*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*12/24/19 02:09*	*1*

Client Sample ID: VP-11

Date Collected: 12/16/19 12:13
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-9

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.24	U	1.0	0.24	ug/L			12/24/19 02:33	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 02:33	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 02:33	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 02:33	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 02:33	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 02:33	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 02:33	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 02:33	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 02:33	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 02:33	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 02:33	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 02:33	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 02:33	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 02:33	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 02:33	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 02:33	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 02:33	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 02:33	1
Chloroethane	0.32	U *J	1.0	0.32	ug/L			12/24/19 02:33	1
Chloroform	**2.9**		1.0	0.33	ug/L			12/24/19 02:33	1
Chloromethane	0.40	UJ	1.0	0.40	ug/L			12/24/19 02:33	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 02:33	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 02:33	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 02:33	1

Client Sample ID: VP-11

Date Collected: 12/16/19 12:13
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-9

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 02:33	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 02:33	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 02:33	1
Tetrachloroethene	**6.6**		1.0	0.25	ug/L			12/24/19 02:33	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 02:33	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 02:33	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 02:33	1
Trichloroethene	**31**		1.0	0.31	ug/L			12/24/19 02:33	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 02:33	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 02:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*74 - 132*		*12/24/19 02:33*	*1*
Bromofluorobenzene	*87*		*77 - 124*		*12/24/19 02:33*	*1*
Dibromofluoromethane (Surr)	*105*		*72 - 131*		*12/24/19 02:33*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/24/19 02:33*	*1*

Client Sample ID: MB-3

Date Collected: 12/16/19 13:48
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-10

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**0.49**	**J**	1.0	0.24	ug/L			12/24/19 02:56	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 02:56	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 02:56	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 02:56	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 02:56	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 02:56	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 02:56	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 02:56	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 02:56	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 02:56	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 02:56	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 02:56	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 02:56	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 02:56	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 02:56	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 02:56	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 02:56	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 02:56	1
Chloroethane	0.32	U J	1.0	0.32	ug/L			12/24/19 02:56	1
Chloroform	**0.68**	**J**	1.0	0.33	ug/L			12/24/19 02:56	1
Chloromethane	0.40	U J	1.0	0.40	ug/L			12/24/19 02:56	1
cis-1,2-Dichloroethene	**0.41**	**J**	1.0	0.22	ug/L			12/24/19 02:56	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 02:56	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 02:56	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 02:56	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 02:56	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 02:56	1

Client Sample ID: MB-3

Lab Sample ID: 460-199519-10

Date Collected: 12/16/19 13:48

Matrix: Water

Date Received: 12/19/19 13:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**3.1**		1.0	0.25	ug/L			12/24/19 02:56	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 02:56	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 02:56	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 02:56	1
Trichloroethene	**20**		1.0	0.31	ug/L			12/24/19 02:56	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 02:56	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 02:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*74 - 132*		*12/24/19 02:56*	*1*
Bromofluorobenzene	*94*		*77 - 124*		*12/24/19 02:56*	*1*
Dibromofluoromethane (Surr)	*115*		*72 - 131*		*12/24/19 02:56*	*1*
Toluene-d8 (Surr)	*108*		*80 - 120*		*12/24/19 02:56*	*1*

Client Sample ID: IW-8

Lab Sample ID: 460-199519-11

Date Collected: 12/17/19 08:54

Matrix: Water

Date Received: 12/19/19 13:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**1.2**		1.0	0.24	ug/L			12/24/19 03:19	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 03:19	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 03:19	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 03:19	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 03:19	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 03:19	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 03:19	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 03:19	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 03:19	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 03:19	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 03:19	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 03:19	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 03:19	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 03:19	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 03:19	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 03:19	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 03:19	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 03:19	1
Chloroethane	0.32	~~U F1~~ UJ	1.0	0.32	ug/L			12/24/19 03:19	1
Chloroform	**0.97**	**J**	1.0	0.33	ug/L			12/24/19 03:19	1
Chloromethane	0.40	~~U F1~~ UJ	1.0	0.40	ug/L			12/24/19 03:19	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 03:19	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 03:19	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 03:19	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 03:19	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 03:19	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 03:19	1
Tetrachloroethene	**4.8**		1.0	0.25	ug/L			12/24/19 03:19	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 03:19	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 03:19	1

Client Sample ID: IW-8

Lab Sample ID: 460-199519-11

Date Collected: 12/17/19 08:54

Matrix: Water

Date Received: 12/19/19 13:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 03:19	1
Trichloroethene	**32**		1.0	0.31	ug/L			12/24/19 03:19	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 03:19	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 03:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*74 - 132*		*12/24/19 03:19*	*1*
Bromofluorobenzene	*87*		*77 - 124*		*12/24/19 03:19*	*1*
Dibromofluoromethane (Surr)	*106*		*72 - 131*		*12/24/19 03:19*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/24/19 03:19*	*1*

Client Sample ID: MW-4

Lab Sample ID: 460-199519-12

Date Collected: 12/17/19 10:06

Matrix: Water

Date Received: 12/19/19 13:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**0.75**	**J**	1.0	0.24	ug/L			12/24/19 03:43	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 03:43	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 03:43	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 03:43	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 03:43	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 03:43	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 03:43	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 03:43	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 03:43	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 03:43	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 03:43	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 03:43	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 03:43	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 03:43	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 03:43	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 03:43	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 03:43	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 03:43	1
Chloroethane	0.32	U J	1.0	0.32	ug/L			12/24/19 03:43	1
Chloroform	**0.66**	**J**	1.0	0.33	ug/L			12/24/19 03:43	1
Chloromethane	0.40	U J	1.0	0.40	ug/L			12/24/19 03:43	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 03:43	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 03:43	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 03:43	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 03:43	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 03:43	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 03:43	1
Tetrachloroethene	**1.6**		1.0	0.25	ug/L			12/24/19 03:43	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 03:43	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 03:43	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 03:43	1
Trichloroethene	**28**		1.0	0.31	ug/L			12/24/19 03:43	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 03:43	1

Client Sample ID: MW-4

Lab Sample ID: 460-199519-12

Date Collected: 12/17/19 10:06

Matrix: Water

Date Received: 12/19/19 13:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 03:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*74 - 132*		*12/24/19 03:43*	*1*
Bromofluorobenzene	*86*		*77 - 124*		*12/24/19 03:43*	*1*
Dibromofluoromethane (Surr)	*107*		*72 - 131*		*12/24/19 03:43*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/24/19 03:43*	*1*

Client Sample ID: IW-7

Lab Sample ID: 460-199519-13

Date Collected: 12/17/19 11:07

Matrix: Water

Date Received: 12/19/19 13:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**0.94**	**J**	1.0	0.24	ug/L			12/24/19 04:06	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 04:06	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 04:06	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 04:06	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 04:06	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 04:06	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 04:06	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 04:06	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 04:06	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 04:06	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 04:06	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 04:06	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 04:06	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 04:06	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 04:06	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 04:06	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 04:06	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 04:06	1
Chloroethane	0.32	U J	1.0	0.32	ug/L			12/24/19 04:06	1
Chloroform	**1.1**		1.0	0.33	ug/L			12/24/19 04:06	1
Chloromethane	0.40	UJ	1.0	0.40	ug/L			12/24/19 04:06	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 04:06	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 04:06	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 04:06	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 04:06	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 04:06	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 04:06	1
Tetrachloroethene	**0.56**	**J**	1.0	0.25	ug/L			12/24/19 04:06	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 04:06	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 04:06	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 04:06	1
Trichloroethene	**24**		1.0	0.31	ug/L			12/24/19 04:06	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 04:06	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 04:06	1

Client Sample ID: IW-7

Date Collected: 12/17/19 11:07
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-13

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*74 - 132*		*12/24/19 04:06*	*1*
Bromofluorobenzene	*86*		*77 - 124*		*12/24/19 04:06*	*1*
Dibromofluoromethane (Surr)	*107*		*72 - 131*		*12/24/19 04:06*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/24/19 04:06*	*1*

Client Sample ID: IW-7D

Date Collected: 12/17/19 11:37
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-14

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**0.89**	**J**	1.0	0.24	ug/L			12/24/19 12:43	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 12:43	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 12:43	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 12:43	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 12:43	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 12:43	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 12:43	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 12:43	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 12:43	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 12:43	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 12:43	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 12:43	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 12:43	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 12:43	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 12:43	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 12:43	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 12:43	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 12:43	1
Chloroethane	0.32	U J	1.0	0.32	ug/L			12/24/19 12:43	1
Chloroform	**1.1**		1.0	0.33	ug/L			12/24/19 12:43	1
Chloromethane	0.40	U J	1.0	0.40	ug/L			12/24/19 12:43	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 12:43	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 12:43	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 12:43	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 12:43	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 12:43	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 12:43	1
Tetrachloroethene	**0.29**	**J**	1.0	0.25	ug/L			12/24/19 12:43	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 12:43	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 12:43	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 12:43	1
Trichloroethene	**24**		1.0	0.31	ug/L			12/24/19 12:43	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 12:43	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 12:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*74 - 132*		*12/24/19 12:43*	*1*
Bromofluorobenzene	*86*		*77 - 124*		*12/24/19 12:43*	*1*
Dibromofluoromethane (Surr)	*106*		*72 - 131*		*12/24/19 12:43*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/24/19 12:43*	*1*

Client Sample ID: IW-6

Lab Sample ID: 460-199519-15

Date Collected: 12/18/19 10:40
Date Received: 12/19/19 13:00

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**2.1**		1.0	0.24	ug/L			12/24/19 11:10	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 11:10	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 11:10	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 11:10	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 11:10	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 11:10	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 11:10	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 11:10	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 11:10	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 11:10	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 11:10	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 11:10	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 11:10	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 11:10	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 11:10	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 11:10	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 11:10	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 11:10	1
Chloroethane	0.32	U *	1.0	0.32	ug/L			12/24/19 11:10	1
Chloroform	**0.58**	**J**	1.0	0.33	ug/L			12/24/19 11:10	1
Chloromethane	0.40	U *	1.0	0.40	ug/L			12/24/19 11:10	1
cis-1,2-Dichloroethene	**0.50**	**J**	1.0	0.22	ug/L			12/24/19 11:10	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 11:10	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 11:10	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 11:10	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 11:10	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 11:10	1
Tetrachloroethene	**1.1**		1.0	0.25	ug/L			12/24/19 11:10	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 11:10	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 11:10	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 11:10	1
Trichloroethene	**85**		1.0	0.31	ug/L			12/24/19 11:10	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 11:10	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 11:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*74 - 132*		*12/24/19 11:10*	*1*
Bromofluorobenzene	*86*		*77 - 124*		*12/24/19 11:10*	*1*
Dibromofluoromethane (Surr)	*104*		*72 - 131*		*12/24/19 11:10*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/24/19 11:10*	*1*

Client Sample ID: IW-9

Lab Sample ID: 460-199519-16

Date Collected: 12/18/19 11:43
Date Received: 12/19/19 13:00

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**1.3**		1.0	0.24	ug/L			12/24/19 11:33	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 11:33	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 11:33	1

Client Sample ID: IW-9

Date Collected: 12/18/19 11:43
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-16

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 11:33	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 11:33	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 11:33	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 11:33	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 11:33	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 11:33	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 11:33	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 11:33	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 11:33	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 11:33	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 11:33	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 11:33	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 11:33	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 11:33	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 11:33	1
Chloroethane	0.32	U J	1.0	0.32	ug/L			12/24/19 11:33	1
Chloroform	**0.73**	**J**	1.0	0.33	ug/L			12/24/19 11:33	1
Chloromethane	0.40	U J	1.0	0.40	ug/L			12/24/19 11:33	1
cis-1,2-Dichloroethene	**2.0**		1.0	0.22	ug/L			12/24/19 11:33	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 11:33	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 11:33	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 11:33	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 11:33	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 11:33	1
Tetrachloroethene	**6.6**		1.0	0.25	ug/L			12/24/19 11:33	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 11:33	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 11:33	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 11:33	1
Trichloroethene	**45**		1.0	0.31	ug/L			12/24/19 11:33	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 11:33	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 11:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*74 - 132*		*12/24/19 11:33*	*1*
Bromofluorobenzene	*88*		*77 - 124*		*12/24/19 11:33*	*1*
Dibromofluoromethane (Surr)	*106*		*72 - 131*		*12/24/19 11:33*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/24/19 11:33*	*1*

Client Sample ID: MW-7S

Date Collected: 12/18/19 13:20
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-17

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.24	U	1.0	0.24	ug/L			12/24/19 11:56	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 11:56	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 11:56	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 11:56	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 11:56	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 11:56	1

Client Sample ID: MW-7S

Date Collected: 12/18/19 13:20
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-17

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 11:56	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 11:56	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 11:56	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 11:56	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 11:56	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 11:56	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 11:56	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 11:56	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 11:56	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 11:56	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 11:56	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 11:56	1
Chloroethane	0.32	U J	1.0	0.32	ug/L			12/24/19 11:56	1
Chloroform	**3.8**		1.0	0.33	ug/L			12/24/19 11:56	1
Chloromethane	0.40	U J	1.0	0.40	ug/L			12/24/19 11:56	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 11:56	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 11:56	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/24/19 11:56	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 11:56	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 11:56	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 11:56	1
Tetrachloroethene	**4.0**		1.0	0.25	ug/L			12/24/19 11:56	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 11:56	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 11:56	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 11:56	1
Trichloroethene	**53**		1.0	0.31	ug/L			12/24/19 11:56	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 11:56	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 11:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*74 - 132*		*12/24/19 11:56*	*1*
Bromofluorobenzene	*89*		*77 - 124*		*12/24/19 11:56*	*1*
Dibromofluoromethane (Surr)	*108*		*72 - 131*		*12/24/19 11:56*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*12/24/19 11:56*	*1*

Client Sample ID: EB-01-121819

Date Collected: 12/18/19 14:30
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-18

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.24	U	1.0	0.24	ug/L			12/25/19 02:30	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/25/19 02:30	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/25/19 02:30	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/25/19 02:30	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/25/19 02:30	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/25/19 02:30	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/25/19 02:30	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/25/19 02:30	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/25/19 02:30	1

Client Sample ID: EB-01-121819

Date Collected: 12/18/19 14:30
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-18

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/25/19 02:30	1
Acetone	4.4	U	5.0	4.4	ug/L			12/25/19 02:30	1
Benzene	0.20	U	1.0	0.20	ug/L			12/25/19 02:30	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/25/19 02:30	1
Bromoform	0.54	UJ	1.0	0.54	ug/L			12/25/19 02:30	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/25/19 02:30	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/25/19 02:30	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/25/19 02:30	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/25/19 02:30	1
Chloroethane	0.32	UJ	1.0	0.32	ug/L			12/25/19 02:30	1
Chloroform	0.33	U	1.0	0.33	ug/L			12/25/19 02:30	1
Chloromethane	0.40	UJ	1.0	0.40	ug/L			12/25/19 02:30	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/25/19 02:30	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/25/19 02:30	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/25/19 02:30	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/25/19 02:30	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/25/19 02:30	1
Styrene	0.42	U	1.0	0.42	ug/L			12/25/19 02:30	1
Tetrachloroethene	0.25	U	1.0	0.25	ug/L			12/25/19 02:30	1
Toluene	0.38	U	1.0	0.38	ug/L			12/25/19 02:30	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/25/19 02:30	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/25/19 02:30	1
Trichloroethene	0.31	U	1.0	0.31	ug/L			12/25/19 02:30	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/25/19 02:30	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/25/19 02:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*74 - 132*		*12/25/19 02:30*	*1*
Bromofluorobenzene	*87*		*77 - 124*		*12/25/19 02:30*	*1*
Dibromofluoromethane (Surr)	*99*		*72 - 131*		*12/25/19 02:30*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*12/25/19 02:30*	*1*

Client Sample ID: Trip Blank

Date Collected: 12/18/19 14:30
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-19

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.24	U	1.0	0.24	ug/L			12/23/19 22:14	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/23/19 22:14	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/23/19 22:14	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/23/19 22:14	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/23/19 22:14	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/23/19 22:14	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/23/19 22:14	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/23/19 22:14	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/23/19 22:14	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/23/19 22:14	1
Acetone	4.4	U	5.0	4.4	ug/L			12/23/19 22:14	1
Benzene	0.20	U	1.0	0.20	ug/L			12/23/19 22:14	1

Client Sample ID: Trip Blank

Date Collected: 12/18/19 14:30
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199519-19

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/23/19 22:14	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/23/19 22:14	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/23/19 22:14	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/23/19 22:14	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/23/19 22:14	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/23/19 22:14	1
Chloroethane	0.32	U *J	1.0	0.32	ug/L			12/23/19 22:14	1
Chloroform	0.33	U	1.0	0.33	ug/L			12/23/19 22:14	1
Chloromethane	0.40	U J	1.0	0.40	ug/L			12/23/19 22:14	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/23/19 22:14	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/23/19 22:14	1
Dibromochloromethane	0.28	U	1.0	0.28	ug/L			12/23/19 22:14	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/23/19 22:14	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/23/19 22:14	1
Styrene	0.42	U	1.0	0.42	ug/L			12/23/19 22:14	1
Tetrachloroethene	0.25	U	1.0	0.25	ug/L			12/23/19 22:14	1
Toluene	0.38	U	1.0	0.38	ug/L			12/23/19 22:14	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/23/19 22:14	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/23/19 22:14	1
Trichloroethene	0.31	U	1.0	0.31	ug/L			12/23/19 22:14	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/23/19 22:14	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/23/19 22:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*74 - 132*		*12/23/19 22:14*	*1*
Bromofluorobenzene	*87*		*77 - 124*		*12/23/19 22:14*	*1*
Dibromofluoromethane (Surr)	*105*		*72 - 131*		*12/23/19 22:14*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*12/23/19 22:14*	*1*

HOLDING TIMES
Volatiles

Site Name: **Marathon** **Volatiles**

Lab ID	Sample ID	Matrix	Analyte	Sample Date	Date Analyzed	Analysis Hold Time (days)	Days to Analysis	Qualify
460-199519-01	VP-1	Groundwater	Volatiles	12/15/2019	12/23/2019	14	8	
460-199519-02	VP-2	Groundwater	Volatiles	12/15/2019	12/23/2019	14	8	
460-199519-03	VP-3	Groundwater	Volatiles	12/15/2019	12/24/2019	14	9	
460-199519-04	VP-7	Groundwater	Volatiles	12/15/2019	12/24/2019	14	9	
460-199519-05	VP-8	Groundwater	Volatiles	12/15/2019	12/24/2019	14	9	
460-199519-06	VP-9	Groundwater	Volatiles	12/16/2019	12/24/2019	14	8	
460-199519-07	VP-10	Groundwater	Volatiles	12/16/2019	12/24/2019	14	8	
460-199519-08	ASMP-1	Groundwater	Volatiles	12/16/2019	12/24/2019	14	8	
460-199519-09	VP-11	Groundwater	Volatiles	12/16/2019	12/24/2019	14	8	
460-199519-10	MB-3	Groundwater	Volatiles	12/16/2019	12/24/2019	14	8	
460-199519-11	IW-8	Groundwater	Volatiles	12/17/2019	12/24/2019	14	7	
460-199519-12	MW-4	Groundwater	Volatiles	12/17/2019	12/24/2019	14	7	
460-199519-13	IW-7	Groundwater	Volatiles	12/17/2019	12/24/2019	14	7	
460-199519-14	IW-7D	Groundwater	Volatiles	12/17/2019	12/24/2019	14	7	
460-199519-15	IW-6	Groundwater	Volatiles	12/18/2019	12/24/2019	14	6	
460-199519-16	IW-9	Groundwater	Volatiles	12/18/2019	12/24/2019	14	6	
460-199519-17	MW-7S	Groundwater	Volatiles	12/18/2019	12/24/2019	14	6	
460-199519-18	EB-01-121819	Aqueous	Volatiles	12/18/2019	12/25/2019	14	7	
460-199519-19	Tripblank	Aqueous	Volatiles	12/18/2019	12/23/2019	14	5	

AK
02/04/2020

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199519-1

SDG No.:

Lab Sample ID: CCVIS 460-664693/3 Calibration Date: 12/23/2019 19:29

Instrument ID: CVOAMS16 Calib Start Date: 10/04/2019 22:45

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/05/2019 01:17

Lab File ID: U16611.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D	
Dichlorodifluoromethane	Ave	0.2537	0.2517	0.1000	19.8	20.0	-0.8	20.0	
Chloromethane	Ave	0.1764	0.2526	0.1000	28.6	20.0	43.2*	20.0	
Vinyl chloride	Ave	0.2619	0.3101	0.1000	23.7	20.0	18.4	20.0	
Butadiene	Ave	0.2233	0.2516		22.5	20.0	12.7	20.0	
Bromomethane	Ave	0.6590	0.8669	0.1000	26.3	20.0	31.5	50.0	
Chloroethane	QuaF		0.1524	0.1000	33.4	20.0	66.8*	50.0	
~~Dichlorofluoromethane~~	~~Ave~~	~~0.3594~~	~~0.4357~~		~~24.2~~	~~20.0~~	~~21.2*~~	~~20.0~~	NR
Trichlorofluoromethane	Ave	0.2815	0.3242	0.1000	23.0	20.0	15.2	20.0	
Pentane	Ave	0.0278	0.0226		32.4	40.0	-18.9	20.0	
Ethanol	Ave	0.0483	0.0528		875	800	9.4	50.0	
Ethyl ether	Ave	0.1575	0.1648		20.9	20.0	4.6	20.0	
2-Methyl-1,3-butadiene	Ave	0.1525	0.1791		23.5	20.0	17.5	20.0	
Acrolein	QuaF		1.020		44.0	40.0	10.1	50.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1864	0.1842	0.1000	19.8	20.0	-1.1	20.0	
1,1-Dichloroethene	Ave	0.1773	0.2046	0.1000	23.1	20.0	15.4	20.0	
Acetone	Ave	0.1859	0.1750	0.0500	94.1	100	-5.9	50.0	
Iodomethane	QuaF		0.0703		18.8	20.0	-6.1	20.0	
Carbon disulfide	Ave	0.6228	0.7533	0.1000	24.2	20.0	21.0	50.0	
Isopropyl alcohol	Ave	0.5772	0.5763		200	200	-0.2	50.0	
~~Acetonitrile~~	~~Ave~~	~~0.2359~~	~~0.3145~~		~~267~~	~~200~~	~~33.3*~~	~~20.0~~	NR
Allyl chloride	Ave	0.1532	0.1322		17.3	20.0	-13.7	20.0	
Methyl acetate	Ave	1.585	1.558	0.1000	39.3	40.0	-1.7	20.0	
Cyclopentene	Ave	0.4857	0.5058		20.8	20.0	4.1	20.0	
Methylene Chloride	Ave	0.2350	0.2522	0.1000	21.5	20.0	7.3	20.0	
2-Methyl-2-propanol	Ave	0.9635	0.8634		179	200	-10.4	50.0	
Acrylonitrile	QuaF		0.0795		194	200	-3.0	20.0	
trans-1,2-Dichloroethene	Ave	0.2166	0.2384	0.1000	22.0	20.0	10.1	20.0	
Methyl tert-butyl ether	Ave	0.5865	0.5849	0.1000	19.9	20.0	-0.3	20.0	
Hexane	Ave	0.2303	0.2370		20.6	20.0	2.9	20.0	
1,1-Dichloroethane	Ave	0.3729	0.4233	0.2000	22.7	20.0	13.5	20.0	
Vinyl acetate	Lin2		0.3776		42.7	40.0	6.7	20.0	
2-Chloro-1,3-butadiene	Ave	0.2059	0.2211		21.5	20.0	7.3	20.0	
~~Isopropyl ether~~	~~Ave~~	~~0.6671~~	~~0.8384~~		~~25.1~~	~~20.0~~	~~25.7*~~	~~20.0~~	NR
Tert-butyl ethyl ether	Ave	0.6490	0.7019		21.6	20.0	8.2	20.0	
~~2,2-Dichloropropane~~	~~Ave~~	~~0.0637~~	~~0.0800~~		~~25.4~~	~~20.0~~	~~26.8*~~	~~20.0~~	NR
cis-1,2-Dichloroethene	Ave	0.2468	0.2598	0.1000	21.1	20.0	5.3	20.0	
2-Butanone	Ave	0.2523	0.2159	0.0500	85.6	100	-14.4	50.0	
Propionitrile	Ave	0.2777	0.2891		208	200	4.1	20.0	
Ethyl acetate	Lin2		0.1932		33.0	40.0	-17.5	20.0	
Methyl acrylate	Ave	0.2406	0.2161		18.0	20.0	-10.2	20.0	

%D>30% associated samples include Trip Blank, VP-1, VP-2, VP-3, VP-7, VP-8, VP-9, VP-10, ASMP-1, VP-11, MB-3, IW-8, MW-4 and IW-7. All samples results were non-detect, therefore sample reporting limits qualified as estimated (UJ).

FORM VII 8260C

NR - Not Reported

02/04/2020

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199519-1

SDG No.:

Lab Sample ID: CCVIS 460-664782/2 Calibration Date: 12/24/2019 06:22

Instrument ID: CVOAMS16 Calib Start Date: 10/04/2019 22:45

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/05/2019 01:17

Lab File ID: U16639.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D	
Dichlorodifluoromethane	Ave	0.2537	0.3237	0.1000	25.5	20.0	27.6*	20.0	NR
Chloromethane	Ave	0.1764	0.2315	0.1000	26.2	20.0	31.2*	20.0	
Vinyl chloride	Ave	0.2619	0.2762	0.1000	21.1	20.0	5.4	20.0	
Butadiene	Ave	0.2233	0.2378		21.3	20.0	6.5	20.0	
Bromomethane	Ave	0.6590	0.7170	0.1000	21.8	20.0	8.8	50.0	
Chloroethane	QuaF		0.1403	0.1000	30.6	20.0	53.1*	50.0	
Dichlorofluoromethane	Ave	0.3594	0.3739		20.8	20.0	4.0	20.0	
Trichlorofluoromethane	Ave	0.2815	0.3091	0.1000	22.0	20.0	9.8	20.0	
Pentane	Ave	0.0278	0.0302		43.4	40.0	8.5	20.0	
Ethanol	Ave	0.0483	0.0461		763	800	-4.6	50.0	
Ethyl ether	Ave	0.1575	0.1472		18.7	20.0	-6.5	20.0	
2-Methyl-1,3-butadiene	Ave	0.1525	0.1673		21.9	20.0	9.7	20.0	
Acrolein	QuaF		0.9458		40.8	40.0	1.9	50.0	
1,1-Dichloroethene	Ave	0.1773	0.1848	0.1000	20.8	20.0	4.2	20.0	
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1864	0.2029	0.1000	21.8	20.0	8.9	20.0	
Acetone	Ave	0.1859	0.1612	0.0500	86.7	100	-13.3	50.0	
Iodomethane	QuaF		0.0601		16.1	20.0	-19.7	20.0	
Carbon disulfide	Ave	0.6228	0.6549	0.1000	21.0	20.0	5.2	50.0	
Isopropyl alcohol	Ave	0.5772	0.5175		179	200	-10.4	50.0	
Acetonitrile	Ave	0.2359	0.3227		274	200	36.8*	20.0	NR
Allyl chloride	Ave	0.1532	0.1238		16.2	20.0	-19.2	20.0	
Methyl acetate	Ave	1.585	1.330	0.1000	33.6	40.0	-16.1	20.0	
Cyclopentene	Ave	0.4857	0.4816		19.8	20.0	-0.8	20.0	
Methylene Chloride	Ave	0.2350	0.2237	0.1000	19.0	20.0	-4.8	20.0	
2-Methyl-2-propanol	Ave	0.9635	0.7742		161	200	-19.6	50.0	
Acrylonitrile	QuaF		0.0691		168	200	-15.9	20.0	
trans-1,2-Dichloroethene	Ave	0.2166	0.2083	0.1000	19.2	20.0	-3.8	20.0	
Methyl tert-butyl ether	Ave	0.5865	0.5227	0.1000	17.8	20.0	-10.9	20.0	
Hexane	Ave	0.2303	0.2929		25.4	20.0	27.2*	20.0	NR
1,1-Dichloroethane	Ave	0.3729	0.3648	0.2000	19.6	20.0	-2.2	20.0	
Vinyl acetate	Lin2		0.3169		36.0	40.0	-10.1	20.0	
2-Chloro-1,3-butadiene	Ave	0.2059	0.1960		19.0	20.0	-4.8	20.0	
Isopropyl ether	Ave	0.6671	0.7396		22.2	20.0	10.9	20.0	
Tert-butyl ethyl ether	Ave	0.6490	0.6197		19.1	20.0	-4.5	20.0	
2,2-Dichloropropane	Ave	0.0637	0.0704		22.1	20.0	10.4	20.0	
cis-1,2-Dichloroethene	Ave	0.2468	0.2255	0.1000	18.3	20.0	-8.7	20.0	
2-Butanone	Ave	0.2523	0.1967	0.0500	78.0	100	-22.0	50.0	
Propionitrile	Ave	0.2777	0.2517		181	200	-9.4	20.0	
Ethyl acetate	Lin2		0.1763		30.0	40.0	24.9*	20.0	NR
Methyl acrylate	Ave	0.2406	0.1946		16.2	20.0	-19.1	20.0	

%D >30% associated samples include IW-6, IW-9, MW-7S and IW-7D. All samples results were non-detect, therefore sample reporting limits qualified as estimated (UJ).

NR - Not Reported

02/04/2020

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199519-1

SDG No.:

Lab Sample ID: CCVIS 460-664782/2 Calibration Date: 12/24/2019 06:22

Instrument ID: CVOAMS16 Calib Start Date: 10/04/2019 22:45

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/05/2019 01:17

Lab File ID: U16639.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D	
1,1,1,2-Tetrachloroethane	Ave	0.2979	0.2617		17.6	20.0	-12.2	20.0	
Ethylbenzene	Ave	0.4242	0.3686	0.1000	17.4	20.0	-13.1	20.0	
m-Xylene & p-Xylene	Ave	0.5284	0.4598	0.1000	17.4	20.0	-13.0	20.0	
o-Xylene	Ave	0.5228	0.4467	0.3000	17.1	20.0	-14.5	20.0	
Styrene	Ave	0.8817	0.7637	0.3000	17.3	20.0	-13.4	20.0	
~~n-Butyl acrylate~~	~~Ave~~	~~0.2330~~	~~0.1847~~		~~15.9~~	~~20.0~~	~~20.7*~~	~~20.0~~	NR
Bromoform	Ave	0.2404	0.1790	0.1000	14.9	20.0	-25.5*	20.0	
Amyl acetate (mixed isomers)	Ave	0.8275	0.7102		17.2	20.0	-14.2	20.0	
Isopropylbenzene	Ave	1.235	1.157	0.1000	18.7	20.0	-6.3	20.0	
Bromobenzene	Ave	0.6502	0.5267		16.2	20.0	-19.0	20.0	
1,1,2,2-Tetrachloroethane	Ave	0.5904	0.5236	0.3000	17.7	20.0	-11.3	20.0	
1,2,3-Trichloropropane	Ave	0.1630	0.1340		16.4	20.0	-17.8	20.0	
trans-1,4-Dichloro-2-butene	Ave	0.1465	0.1323		18.1	20.0	-9.7	20.0	
N-Propylbenzene	Ave	2.484	2.313		18.6	20.0	-6.9	20.0	
2-Chlorotoluene	Ave	1.502	1.412		18.8	20.0	-6.0	20.0	
4-Ethyltoluene	Ave	2.110	1.926		18.3	20.0	-8.7	20.0	
4-Chlorotoluene	Ave	1.649	1.484		18.0	20.0	-10.0	20.0	
1,3,5-Trimethylbenzene	Ave	1.733	1.609		18.6	20.0	-7.1	20.0	
Butyl Methacrylate	Ave	0.7019	0.5624		16.0	20.0	-19.9	20.0	
tert-Butylbenzene	Ave	1.467	1.332		18.2	20.0	-9.2	20.0	
1,2,4-Trimethylbenzene	Ave	1.810	1.675		18.5	20.0	-7.4	20.0	
sec-Butylbenzene	Ave	2.076	2.006		19.3	20.0	-3.4	20.0	
1,3-Dichlorobenzene	Ave	1.158	1.045	0.6000	18.0	20.0	-9.8	20.0	
1,4-Dichlorobenzene	Ave	1.174	1.062	0.5000	18.1	20.0	-9.5	20.0	
4-Isopropyltoluene	Ave	1.800	1.737		19.3	20.0	-3.5	20.0	
1,2,3-Trimethylbenzene	Ave	1.875	1.754		18.7	20.0	-6.5	20.0	
Benzyl chloride	Ave	0.1771	0.1931		21.8	20.0	9.1	50.0	
Indan	Ave	2.023	1.768		17.5	20.0	-12.6	20.0	
1,2-Dichlorobenzene	Ave	1.153	1.010	0.4000	17.5	20.0	-12.4	20.0	
p-Diethylbenzene	Ave	1.015	0.9792		19.3	20.0	-3.5	20.0	
n-Butylbenzene	Ave	0.8940	0.9285		20.8	20.0	3.9	20.0	
1,2-Dibromo-3-Chloropropane	Ave	0.1207	0.0865	0.0500	14.3	20.0	-28.4	50.0	
1,2,4,5-Tetramethylbenzene	Ave	1.878	1.695		18.0	20.0	-9.8	20.0	
1,3,5-Trichlorobenzene	Ave	0.8648	0.7341		17.0	20.0	-15.1	20.0	
~~1,2,4-Trichlorobenzene~~	~~Ave~~	~~0.8416~~	~~0.6434~~	~~0.2000~~	~~15.3~~	~~20.0~~	~~-23.6*~~	~~20.0~~	NR
~~Hexachlorobutadiene~~	~~Ave~~	~~0.3224~~	~~0.2424~~		~~15.0~~	~~20.0~~	~~24.8*~~	~~20.0~~	NR
Naphthalene	Ave	2.152	1.295		12.0	20.0	-39.8	50.0	
~~1,2,3-Trichlorobenzene~~	~~Ave~~	~~0.8000~~	~~0.5405~~		~~13.7~~	~~20.0~~	~~31.5*~~	~~20.0~~	NR
Dibromofluoromethane (Surr)	Ave	0.2663	0.2808		52.7	50.0	5.4	20.0	
1,2-Dichloroethane-d4 (Surr)	Ave	0.2681	0.2850		53.2	50.0	6.3	20.0	
Toluene-d8 (Surr)	Ave	1.231	1.202		48.8	50.0	-2.4	20.0	

FYI %D > 20%, but < 30%, associated samples include IW-6, IW-9, MW-7S and IW-7D.

NR -Not Reported

02/04/2020

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199519-1

SDG No.:

Lab Sample ID: CCVIS 460-664987/3 Calibration Date: 12/24/2019 23:21

Instrument ID: CVOAMS16 Calib Start Date: 10/04/2019 22:45

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/05/2019 01:17

Lab File ID: U16667.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2537	0.2557	0.1000	20.2	20.0	0.8	20.0
Chloromethane	Ave	0.1764	0.2391	0.1000	27.1	20.0	35.6*	20.0
Vinyl chloride	Ave	0.2619	0.2779	0.1000	21.2	20.0	6.1	20.0
Butadiene	Ave	0.2233	0.2249		20.2	20.0	0.8	20.0
Bromomethane	Ave	0.6590	0.9111	0.1000	27.7	20.0	38.3	50.0
Chloroethane	QuaF		0.1416	0.1000	30.9	20.0	54.6*	50.0
Dichlorofluoromethane	Ave	0.3594	0.4094		22.8	20.0	13.9	20.0
Trichlorofluoromethane	Ave	0.2815	0.3290	0.1000	23.4	20.0	16.9	20.0
Pentane	Ave	0.0278	0.0301		43.2	40.0	8.0	20.0
Ethanol	Ave	0.0483	0.0451		747	800	-6.6	50.0
Ethyl ether	Ave	0.1575	0.1649		20.9	20.0	4.7	20.0
2-Methyl-1,3-butadiene	Ave	0.1525	0.1794		23.5	20.0	17.7	20.0
Acrolein	QuaF		0.999		43.1	40.0	7.8	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.1864	0.2121	0.1000	22.8	20.0	13.8	20.0
1,1-Dichloroethene	Ave	0.1773	0.1912	0.1000	21.6	20.0	7.8	20.0
Acetone	Ave	0.1859	0.1700	0.0500	91.4	100	-8.6	50.0
Iodomethane	QuaF		0.0743		19.9	20.0	-0.7	20.0
Carbon disulfide	Ave	0.6228	0.7340	0.1000	23.6	20.0	17.9	50.0
Isopropyl alcohol	Ave	0.5772	0.5665		196	200	-1.9	50.0
Acetonitrile	Ave	0.2359	0.3755		318	200	59.2*	20.0
Allyl chloride	Ave	0.1532	0.1228		16.0	20.0	-19.9	20.0
Methyl acetate	Ave	1.585	1.546	0.1000	39.0	40.0	-2.5	20.0
Cyclopentene	Ave	0.4857	0.4965		20.4	20.0	2.2	20.0
Methylene Chloride	Ave	0.2350	0.2456	0.1000	20.9	20.0	4.5	20.0
2-Methyl-2-propanol	Ave	0.9635	0.8434		175	200	-12.5	50.0
Acrylonitrile	QuaF		0.0753		184	200	-8.2	20.0
trans-1,2-Dichloroethene	Ave	0.2166	0.2300	0.1000	21.2	20.0	6.2	20.0
Methyl tert-butyl ether	Ave	0.5865	0.5638	0.1000	19.2	20.0	-3.9	20.0
Hexane	Ave	0.2303	0.3046		26.5	20.0	32.3*	20.0
1,1-Dichloroethane	Ave	0.3729	0.4212	0.2000	22.6	20.0	13.0	20.0
Vinyl acetate	Lin2		0.3598		40.7	40.0	1.8	20.0
2-Chloro-1,3-butadiene	Ave	0.2059	0.2062		20.0	20.0	0.1	20.0
Isopropyl ether	Ave	0.6671	0.8153		24.4	20.0	22.2*	20.0
Tert-butyl ethyl ether	Ave	0.6490	0.6809		21.0	20.0	4.9	20.0
2,2-Dichloropropane	Ave	0.0637	0.0726		22.8	20.0	13.9	20.0
cis-1,2-Dichloroethene	Ave	0.2468	0.2535	0.1000	20.5	20.0	2.7	20.0
2-Butanone	Ave	0.2523	0.2048	0.0500	81.2	100	-18.8	50.0
Propionitrile	Ave	0.2777	0.2753		198	200	-0.9	20.0
Ethyl acetate	Lin2		0.1932		33.0	40.0	-17.5	20.0
Methyl acrylate	Ave	0.2406	0.2331		19.4	20.0	-3.1	20.0

%D > 30%, associated sample includes EB-01-121819. All samples results non-detect, therfore reporting limits qualified as estimated (UJ).

460-199519_Field Duplicate.xls
All Water

Site Name:	**Marathon**	**Laboratory:**	**Test America - Edison**
Project Number:	**NY95-219**	**Matrix:**	**Groundwater**

Sample ID	Analyte	Units	Result	Q	RL	Difference	Qualify
IW-7	1,1,1-Trichloroethane	ug/L	0.94	J	1		
IW-7D	1,1,1-Trichloroethane	ug/L	0.89	J	1	0.05	no

Sample ID	Analyte	Units	Result	Q	RL	Difference	Qualify
IW-7	Chloroform	ug/L	1.1		1		
IW-7D	Chloroform	ug/L	1.1		1	0.00	no

Sample ID	Analyte	Units	Result	Q	RL	Difference	Qualify
IW-7	Tetrachloroethene	ug/L	0.56	J	1		
IW-7D	Tetrachloroethene	ug/L	0.29	J	1	0.27	no

Sample ID	Analyte	Units	Result	Q	RL	RPD	Qualify
IW-7	Trichloroethene	ug/L	24		1		
IW-7D	Trichloroethene	ug/L	24		1	0.00	no

Duplicate Criteria: Aqueous matrices <30 % RPD or < ± 1*RL, Soil/Solid matrices <40 %RPD or < ± 2*RL.

*** - Denotes %RPD or difference outside criteria.**

NA - Duplicate relative percent difference or difference cannot be calculated.

U / ND - Not detected.

AKG 02/04/2020

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199519-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U16635.D

Lab ID: 460-199519-11 MS Client ID: IW-8 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	20.0	1.2	23.2	110	75-125	
1,1,2,2-Tetrachloroethane	20.0	0.37 U	19.8	99	74-120	
1,1,2-Trichloroethane	20.0	0.43 U	19.2	96	78-120	
1,1-Dichloroethane	20.0	0.26 U	23.0	115	77-123	
1,1-Dichloroethene	20.0	0.26 U	23.6	118	74-123	
1,2-Dichloroethane	20.0	0.43 U	22.8	114	76-121	
1,2-Dichloropropane	20.0	0.35 U	22.6	113	77-123	
2-Butanone	100	1.9 U	84.8	85	64-120	
2-Hexanone	100	1.1 U	95.6	96	71-125	
4-Methyl-2-pentanone	100	1.3 U	101	101	78-124	
Acetone	100	4.4 U	88.9	89	39-150	
Benzene	20.0	0.20 U	22.0	110	77-121	
Bromodichloromethane	20.0	0.34 U	21.2	106	76-120	
Bromoform	20.0	0.54 U	16.7	84	53-120	
Bromomethane	20.0	0.55 U	17.1	85	10-150	
Carbon disulfide	20.0	0.82 U	23.9	120	69-133	
Carbon tetrachloride	20.0	0.21 U	22.2	111	70-132	
Chlorobenzene	20.0	0.38 U	20.5	102	80-120	
Chloroethane	20.0	0.32 U	33.7	169	52-150	F1
Chloroform	20.0	0.97 J	23.2	111	80-120	
Chloromethane	20.0	0.40 U	28.5	142	56-131	F1
cis-1,2-Dichloroethene	20.0	0.22 U	20.4	102	80-120	
cis-1,3-Dichloropropene	20.0	0.22 U	20.8	104	77-120	
Dibromochloromethane	20.0	0.28 U	19.4	97	73-120	
Ethylbenzene	20.0	0.30 U	19.6	98	80-120	
Methylene Chloride	20.0	0.32 U	21.4	107	77-123	
Styrene	20.0	0.42 U	19.3	97	80-120	
Tetrachloroethene	20.0	4.8	23.2	92	78-122	
Toluene	20.0	0.38 U	19.6	98	80-120	
trans-1,2-Dichloroethene	20.0	0.24 U	22.1	111	79-120	
trans-1,3-Dichloropropene	20.0	0.49 U	20.8	104	76-120	
Trichloroethene	20.0	32	47.9	79	77-120	
Vinyl chloride	20.0	0.17 U	24.0	120	62-138	
Xylenes, Total	40.0	0.65 U	39.3	98	80-120	

FYI MS/MSD Recoveries outside of the laboratory control limits (high), associated batched samples include Trip Blank, VP-1, VP-2, VP-3, VP-7, VP-8, VP-9, VP-10, ASMP-1, VP-11, MB-3, IW-8, MW-4, IW-7 All samples results non-detect.

Column to be used to flag recovery and RPD values

FORM III 8260C

02/04/2020

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199519-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U16663.D

Lab ID: 460-199521-B-5 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	20.0	0.24 U	21.1	106	75-125	
1,1,2,2-Tetrachloroethane	20.0	0.37 U	18.5	93	74-120	
1,1,2-Trichloroethane	20.0	0.43 U	18.5	93	78-120	
1,1-Dichloroethane	20.0	0.26 U	20.9	104	77-123	
1,1-Dichloroethene	20.0	0.26 U	21.6	108	74-123	
1,2-Dichloroethane	20.0	0.43 U	21.3	107	76-121	
1,2-Dichloropropane	20.0	0.35 U	21.2	106	77-123	
2-Butanone	100	1.9 U	79.6	80	64-120	
2-Hexanone	100	1.1 U	93.1	93	71-125	
4-Methyl-2-pentanone	100	1.3 U	97.7	98	78-124	
Acetone	100	4.4 U	82.4	82	39-150	
Benzene	20.0	0.20 U	20.2	101	77-121	
Bromodichloromethane	20.0	0.34 U	20.5	103	76-120	
Bromoform	20.0	0.54 U	15.9	80	53-120	
Bromomethane	20.0	0.55 U	20.0	100	10-150	
Carbon disulfide	20.0	0.82 U	22.1	110	69-133	
Carbon tetrachloride	20.0	0.21 U	19.9	99	70-132	
Chlorobenzene	20.0	0.38 U	19.2	96	80-120	
Chloroethane	20.0	0.32 U	33.2	166	52-150	F1
Chloroform	20.0	0.33 U	21.4	107	80-120	
Chloromethane	20.0	0.40 U	25.7	129	56-131	
cis-1,2-Dichloroethene	20.0	0.22 U	22.8	114	80-120	
cis-1,3-Dichloropropene	20.0	0.22 U	19.6	98	77-120	
Dibromochloromethane	20.0	0.28 U	18.6	93	73-120	
Ethylbenzene	20.0	0.30 U	18.6	93	80-120	
Methylene Chloride	20.0	0.32 U	19.5	98	77-123	
Styrene	20.0	0.42 U	18.5	92	80-120	
Tetrachloroethene	20.0	0.25 U	17.7	89	78-122	
Toluene	20.0	0.38 U	18.4	92	80-120	
trans-1,2-Dichloroethene	20.0	0.24 U	20.6	103	79-120	
trans-1,3-Dichloropropene	20.0	0.49 U	19.1	96	76-120	
Trichloroethene	20.0	0.31 U	19.7	98	77-120	
Vinyl chloride	20.0	0.17 U	23.5	118	62-138	
Xylenes, Total	40.0	0.65 U	37.0	93	80-120	

FYI MS/MSD Recoveries outside of the laboratory control limits (high), associated batched samples include IW-6, IW-9, MW-7S and IW-7D. Parent sample OSMW-03.

Column to be used to flag recovery and RPD values

FORM III 8260C

02/04/2020

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199519-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U16636.D

Lab ID: 460-199519-11 MSD Client ID: IW-8 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1-Trichloroethane	20.0	23.1	110	0	30	75-125	
1,1,2,2-Tetrachloroethane	20.0	19.8	99	0	30	74-120	
1,1,2-Trichloroethane	20.0	20.1	101	5	30	78-120	
1,1-Dichloroethane	20.0	22.2	111	3	30	77-123	
1,1-Dichloroethene	20.0	23.0	115	2	30	74-123	
1,2-Dichloroethane	20.0	22.5	113	1	30	76-121	
1,2-Dichloropropane	20.0	22.6	113	0	30	77-123	
2-Butanone	100	85.2	85	0	30	64-120	
2-Hexanone	100	95.0	95	1	30	71-125	
4-Methyl-2-pentanone	100	101	101	1	30	78-124	
Acetone	100	83.2	83	7	30	39-150	
Benzene	20.0	21.2	106	3	30	77-121	
Bromodichloromethane	20.0	22.3	112	5	30	76-120	
Bromoform	20.0	17.0	85	2	30	53-120	
Bromomethane	20.0	22.8	114	29	30	10-150	
Carbon disulfide	20.0	24.5	122	2	30	69-133	
Carbon tetrachloride	20.0	22.1	110	1	30	70-132	
Chlorobenzene	20.0	20.8	104	2	30	80-120	
Chloroethane	20.0	33.1	166	2	30	52-150	F1
Chloroform	20.0	23.4	112	1	30	80-120	
Chloromethane	20.0	28.6	143	0	30	56-131	F1
cis-1,2-Dichloroethene	20.0	20.3	101	1	30	80-120	
cis-1,3-Dichloropropene	20.0	21.2	106	2	30	77-120	
Dibromochloromethane	20.0	19.3	96	0	30	73-120	
Ethylbenzene	20.0	19.7	98	1	30	80-120	
Methylene Chloride	20.0	21.2	106	1	30	77-123	
Styrene	20.0	19.5	97	1	30	80-120	
Tetrachloroethene	20.0	23.7	95	2	30	78-122	
Toluene	20.0	19.6	98	0	30	80-120	
trans-1,2-Dichloroethene	20.0	21.4	107	3	30	79-120	
trans-1,3-Dichloropropene	20.0	21.1	105	1	30	76-120	
Trichloroethene	20.0	47.4	77	1	30	77-120	
Vinyl chloride	20.0	23.6	118	2	30	62-138	
Xylenes, Total	40.0	39.8	99	1	30	80-120	

FYI MS/MSD Recoveries outside of the laboratory control limits (high), associated batched samples include Trip Blank, VP-1, VP-2, VP-3, VP-7, VP-8, VP-9, VP-10, ASMP-1, VP-11, MB-3, IW-8, MW-4, IW-7 All samples results non-detect

Column to be used to flag recovery and RPD values

FORM III 8260C

02/04/2020

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199519-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U16664.D

Lab ID: 460-199521-B-5 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1-Trichloroethane	20.0	22.8	114	8	30	75-125	
1,1,2,2-Tetrachloroethane	20.0	20.0	100	8	30	74-120	
1,1,2-Trichloroethane	20.0	20.0	100	8	30	78-120	
1,1-Dichloroethane	20.0	23.0	115	10	30	77-123	
1,1-Dichloroethene	20.0	23.6	118	9	30	74-123	
1,2-Dichloroethane	20.0	23.2	116	8	30	76-121	
1,2-Dichloropropane	20.0	23.1	115	8	30	77-123	
2-Butanone	100	84.5	85	6	30	64-120	
2-Hexanone	100	101	101	8	30	71-125	
4-Methyl-2-pentanone	100	106	106	9	30	78-124	
Acetone	100	89.6	90	8	30	39-150	
Benzene	20.0	21.8	109	7	30	77-121	
Bromodichloromethane	20.0	22.1	110	7	30	76-120	
Bromoform	20.0	16.5	82	4	30	53-120	
Bromomethane	20.0	25.5	127	24	30	10-150	
Carbon disulfide	20.0	25.2	126	13	30	69-133	
Carbon tetrachloride	20.0	22.7	113	13	30	70-132	
Chlorobenzene	20.0	21.0	105	9	30	80-120	
Chloroethane	20.0	33.8	169	2	30	52-150	F1
Chloroform	20.0	22.9	114	7	30	80-120	
Chloromethane	20.0	27.2	136	6	30	56-131	F1
cis-1,2-Dichloroethene	20.0	22.5	113	1	30	80-120	
cis-1,3-Dichloropropene	20.0	21.1	105	7	30	77-120	
Dibromochloromethane	20.0	19.2	96	3	30	73-120	
Ethylbenzene	20.0	19.6	98	5	30	80-120	
Methylene Chloride	20.0	21.9	109	11	30	77-123	
Styrene	20.0	19.9	100	8	30	80-120	
Tetrachloroethene	20.0	19.6	98	10	30	78-122	
Toluene	20.0	19.7	98	7	30	80-120	
trans-1,2-Dichloroethene	20.0	22.1	111	7	30	79-120	
trans-1,3-Dichloropropene	20.0	20.8	104	8	30	76-120	
Trichloroethene	20.0	20.5	103	4	30	77-120	
Vinyl chloride	20.0	24.6	123	4	30	62-138	
Xylenes, Total	40.0	39.7	99	7	30	80-120	

FYI MS/MSD Recoveries outside of the laboratory control limits (high), associated batched samples include IW-6, IW-9, MW-7S and IW-7D. Parent sample OSMW-03.

Column to be used to flag recovery and RPD values

FORM III 8260C

02/04/2020

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199519-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U16612.D

Lab ID: LCS 460-664693/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	20.0	21.3	106	75-125	
1,1,2,2-Tetrachloroethane	20.0	19.9	99	74-120	
1,1,2-Trichloroethane	20.0	19.7	99	78-120	
1,1-Dichloroethane	20.0	22.0	110	77-123	
1,1-Dichloroethene	20.0	22.5	113	74-123	
1,2-Dichloroethane	20.0	22.5	113	76-121	
1,2-Dichloropropane	20.0	21.9	109	77-123	
2-Butanone	100	84.7	85	64-120	
2-Hexanone	100	96.3	96	71-125	
4-Methyl-2-pentanone	100	101	101	78-124	
Acetone	100	85.6	86	39-150	
Benzene	20.0	20.7	104	77-121	
Bromodichloromethane	20.0	21.4	107	76-120	
Bromoform	20.0	17.2	86	53-120	
Bromomethane	20.0	25.5	127	10-150	
Carbon disulfide	20.0	23.4	117	69-133	
Carbon tetrachloride	20.0	20.5	102	70-132	
Chlorobenzene	20.0	20.1	101	80-120	
Chloroethane	20.0	31.4	157	52-150	*
Chloroform	20.0	21.8	109	80-120	
Chloromethane	20.0	25.2	126	56-131	
cis-1,2-Dichloroethene	20.0	20.7	104	80-120	
cis-1,3-Dichloropropene	20.0	21.8	109	77-120	
Dibromochloromethane	20.0	19.5	98	73-120	
Ethylbenzene	20.0	19.1	96	80-120	
Methylene Chloride	20.0	21.0	105	77-123	
Styrene	20.0	19.3	96	80-120	
Tetrachloroethene	20.0	18.5	93	78-122	
Toluene	20.0	19.0	95	80-120	
trans-1,2-Dichloroethene	20.0	21.2	106	79-120	
trans-1,3-Dichloropropene	20.0	21.6	108	76-120	
Trichloroethene	20.0	19.5	98	77-120	
Vinyl chloride	20.0	22.6	113	62-138	
Xylenes, Total	40.0	38.5	96	80-120	

FYI LCS Recovery outside of the laboratory control limits (high), associated batched sample includes Trip Blank, VP-1, VP-2, VP-3, VP-7, VP-8, VP-9, VP-10, ASMP-1, VP-11, MB-3, IW-8, MW-4, IW-7. All samples results non-detect.

Column to be used to flag recovery and RPD values

FORM III 8260C

02/04/2020

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199519-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U16641.D

Lab ID: LCS 460-664782/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	20.0	19.1	96	75-125	
1,1,2,2-Tetrachloroethane	20.0	16.5	82	74-120	
1,1,2-Trichloroethane	20.0	16.8	84	78-120	
1,1-Dichloroethane	20.0	19.4	97	77-123	
1,1-Dichloroethene	20.0	20.1	101	74-123	
1,2-Dichloroethane	20.0	19.8	99	76-121	
1,2-Dichloropropane	20.0	19.3	97	77-123	
2-Butanone	100	73.4	73	64-120	
2-Hexanone	100	85.4	85	71-125	
4-Methyl-2-pentanone	100	87.3	87	78-124	
Acetone	100	82.0	82	39-150	
Benzene	20.0	18.4	92	77-121	
Bromodichloromethane	20.0	18.5	93	76-120	
Bromoform	20.0	14.5	73	53-120	
Bromomethane	20.0	26.7	133	10-150	
Carbon disulfide	20.0	21.7	108	69-133	
Carbon tetrachloride	20.0	18.8	94	70-132	
Chlorobenzene	20.0	17.9	89	80-120	
Chloroethane	20.0	32.1	160	52-150	*
Chloroform	20.0	19.1	95	80-120	
Chloromethane	20.0	28.9	145	56-131	*
cis-1,2-Dichloroethene	20.0	18.1	91	80-120	
cis-1,3-Dichloropropene	20.0	19.1	95	77-120	
Dibromochloromethane	20.0	16.6	83	73-120	
Ethylbenzene	20.0	17.4	87	80-120	
Methylene Chloride	20.0	18.2	91	77-123	
Styrene	20.0	17.3	86	80-120	
Tetrachloroethene	20.0	16.9	84	78-122	
Toluene	20.0	17.2	86	80-120	
trans-1,2-Dichloroethene	20.0	18.4	92	79-120	
trans-1,3-Dichloropropene	20.0	18.6	93	76-120	
Trichloroethene	20.0	17.8	89	77-120	
Vinyl chloride	20.0	24.2	121	62-138	
Xylenes, Total	40.0	34.1	85	80-120	

FYI LCS Recovery outside of the laboratory control limits (high), associated batched sample includes IW-6, IW-9, MW-7S and IW-7D . All samples results non-detect.

Column to be used to flag recovery and RPD values

FORM III 8260C

02/04/2020

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199519-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U16668.D

Lab ID: LCS 460-664987/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	20.0	22.4	112	75-125	
1,1,2,2-Tetrachloroethane	20.0	19.3	97	74-120	
1,1,2-Trichloroethane	20.0	19.6	98	78-120	
1,1-Dichloroethane	20.0	23.4	117	77-123	
1,1-Dichloroethene	20.0	22.6	113	74-123	
1,2-Dichloroethane	20.0	22.7	114	76-121	
1,2-Dichloropropane	20.0	22.7	114	77-123	
2-Butanone	100	85.3	85	64-120	
2-Hexanone	100	96.8	97	71-125	
4-Methyl-2-pentanone	100	104	104	78-124	
Acetone	100	89.8	90	39-150	
Benzene	20.0	21.6	108	77-121	
Bromodichloromethane	20.0	21.6	108	76-120	
Bromoform	20.0	17.0	85	53-120	
Bromomethane	20.0	27.9	140	10-150	
Carbon disulfide	20.0	24.9	124	69-133	
Carbon tetrachloride	20.0	22.3	112	70-132	
Chlorobenzene	20.0	21.1	106	80-120	
Chloroethane	20.0	33.2	166	52-150	*
Chloroform	20.0	23.3	116	80-120	
Chloromethane	20.0	28.9	144	56-131	*
cis-1,2-Dichloroethene	20.0	21.1	106	80-120	
cis-1,3-Dichloropropene	20.0	22.4	112	77-120	
Dibromochloromethane	20.0	19.6	98	73-120	
Ethylbenzene	20.0	20.0	100	80-120	
Methylene Chloride	20.0	21.3	106	77-123	
Styrene	20.0	20.4	102	80-120	
Tetrachloroethene	20.0	20.0	100	78-122	
Toluene	20.0	20.1	101	80-120	
trans-1,2-Dichloroethene	20.0	21.8	109	79-120	
trans-1,3-Dichloropropene	20.0	22.2	111	76-120	
Trichloroethene	20.0	20.1	100	77-120	
Vinyl chloride	20.0	23.0	115	62-138	
Xylenes, Total	40.0	40.8	102	80-120	

FYI LCS Recovery outside of the laboratory control limits (high), associated batched sample includes EB-01-121819. All samples results non-detect.

Column to be used to flag recovery and RPD values

FORM III 8260C

AKG 02/04/2020

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199519-1

SDG No.:

Matrix: Water Level: Low Lab File ID: U16669.D

Lab ID: LCSD 460-664987/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1-Trichloroethane	20.0	21.5	108	4	30	75-125	
1,1,2,2-Tetrachloroethane	20.0	19.7	99	2	30	74-120	
1,1,2-Trichloroethane	20.0	20.1	101	3	30	78-120	
1,1-Dichloroethane	20.0	22.0	110	6	30	77-123	
1,1-Dichloroethene	20.0	22.3	111	1	30	74-123	
1,2-Dichloroethane	20.0	22.1	111	2	30	76-121	
1,2-Dichloropropane	20.0	21.7	108	5	30	77-123	
2-Butanone	100	87.3	87	2	30	64-120	
2-Hexanone	100	96.6	97	0	30	71-125	
4-Methyl-2-pentanone	100	103	103	1	30	78-124	
Acetone	100	85.9	86	4	30	39-150	
Benzene	20.0	21.1	106	2	30	77-121	
Bromodichloromethane	20.0	20.6	103	5	30	76-120	
Bromoform	20.0	17.3	87	2	30	53-120	
Bromomethane	20.0	26.0	130	7	30	10-150	
Carbon disulfide	20.0	23.6	118	5	30	69-133	
Carbon tetrachloride	20.0	20.7	104	7	30	70-132	
Chlorobenzene	20.0	21.4	107	1	30	80-120	
Chloroethane	20.0	32.4	162	2	30	52-150	*
Chloroform	20.0	22.4	112	4	30	80-120	
Chloromethane	20.0	28.7	143	1	30	56-131	*
cis-1,2-Dichloroethene	20.0	20.0	100	6	30	80-120	
cis-1,3-Dichloropropene	20.0	23.0	115	3	30	77-120	
Dibromochloromethane	20.0	19.4	97	1	30	73-120	
Ethylbenzene	20.0	20.3	102	1	30	80-120	
Methylene Chloride	20.0	21.1	105	1	30	77-123	
Styrene	20.0	20.3	101	1	30	80-120	
Tetrachloroethene	20.0	19.8	99	1	30	78-122	
Toluene	20.0	20.2	101	1	30	80-120	
trans-1,2-Dichloroethene	20.0	21.2	106	2	30	79-120	
trans-1,3-Dichloropropene	20.0	21.8	109	2	30	76-120	
Trichloroethene	20.0	19.8	99	2	30	77-120	
Vinyl chloride	20.0	22.7	113	2	30	62-138	
Xylenes, Total	40.0	40.7	102	0	30	80-120	

FYI LCS Recoveries outside of the laboratory control limits, associated batched sample includes EB-01-121819. All samples results non-detect.

Column to be used to flag recovery and RPD values

FORM III 8260C

02/04/2020

VOLATILES DATA VALIDATION SUMMARY

Site Name: Marathon
Project Number: NY95-219
Sampling Date(s): 12/17/2019

Laboratory: TestAmerica - Edison
Case/Order No.: 460-199520

Compound List: Volatiles

Method: 8260C

The following table indicates the data validation criteria examined, any problems identified, and the QA action applied.

Data Validation Criteria:	Accept	FYI	Qualify	Comments
Holding Times	X			
GC/MS Tuning	X			
Initial Calibrations/ICV		X		ICV not provided
Continuing Calibrations			X	%D > 20%
Blank Analysis	X			
System Monitoring/Surrogate	X			
Field Duplicate Analysis	X			OSMW-01 & OSMW-01D
Matrix Spike Analysis (MS/MSD)		X		MS/MSD Recoveries
Laboratory Control Sample Analysis (LCS)	X			
Internal Standard Areas/RT	X			
Target Compound Identification	X			
TIC Identification				NA
Overall Assessment of Data	X			
Other:				

General Comments: Cooler temp: 5.5°C

EB-01-121819 and the tripblank were reported under 460-199519.

Accept - No qualification required.
FYI - For your information only, no qualification necessary.
Qualify - Qualify as rejected, estimated or biased.
NR - Not Reviewed
NA - Not Applicable

QA Scientist 

Date 2/4/2020

Client Sample ID: OSMW-01

Date Collected: 12/17/19 13:38
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199520-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**0.55**	**J**	1.0	0.24	ug/L			12/24/19 12:57	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 12:57	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 12:57	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 12:57	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 12:57	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 12:57	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 12:57	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 12:57	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 12:57	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 12:57	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 12:57	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 12:57	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 12:57	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 12:57	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 12:57	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 12:57	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 12:57	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 12:57	1
Chloroethane	0.32	U	1.0	0.32	ug/L			12/24/19 12:57	1
Chloroform	0.33	U	1.0	0.33	ug/L			12/24/19 12:57	1
Chloromethane	0.40	U	1.0	0.40	ug/L			12/24/19 12:57	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 12:57	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 12:57	1
Dibromochloromethane	0.28	UJ	1.0	0.28	ug/L			12/24/19 12:57	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 12:57	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 12:57	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 12:57	1
Tetrachloroethene	0.25	U	1.0	0.25	ug/L			12/24/19 12:57	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 12:57	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 12:57	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 12:57	1
Trichloroethene	0.31	U	1.0	0.31	ug/L			12/24/19 12:57	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 12:57	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 12:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*74 - 132*		*12/24/19 12:57*	*1*
Bromofluorobenzene	*101*		*77 - 124*		*12/24/19 12:57*	*1*
Dibromofluoromethane (Surr)	*105*		*72 - 131*		*12/24/19 12:57*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*12/24/19 12:57*	*1*

Client Sample ID: OSMW-01-D

Date Collected: 12/17/19 14:08
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199520-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**0.56**	**J**	1.0	0.24	ug/L			12/24/19 13:20	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 13:20	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 13:20	1

Client Sample ID: OSMW-01-D

Date Collected: 12/17/19 14:08
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199520-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 13:20	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 13:20	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 13:20	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 13:20	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 13:20	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 13:20	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 13:20	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 13:20	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 13:20	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 13:20	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 13:20	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 13:20	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 13:20	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 13:20	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 13:20	1
Chloroethane	0.32	U	1.0	0.32	ug/L			12/24/19 13:20	1
Chloroform	0.33	U	1.0	0.33	ug/L			12/24/19 13:20	1
Chloromethane	0.40	U	1.0	0.40	ug/L			12/24/19 13:20	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 13:20	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 13:20	1
Dibromochloromethane	0.28	UJ	1.0	0.28	ug/L			12/24/19 13:20	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 13:20	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 13:20	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 13:20	1
Tetrachloroethene	0.25	U	1.0	0.25	ug/L			12/24/19 13:20	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 13:20	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 13:20	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 13:20	1
Trichloroethene	0.31	U	1.0	0.31	ug/L			12/24/19 13:20	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 13:20	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 13:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*120*		*74 - 132*		*12/24/19 13:20*	*1*
Bromofluorobenzene	*109*		*77 - 124*		*12/24/19 13:20*	*1*
Dibromofluoromethane (Surr)	*111*		*72 - 131*		*12/24/19 13:20*	*1*
Toluene-d8 (Surr)	*109*		*80 - 120*		*12/24/19 13:20*	*1*

Client Sample ID: OSMW-02

Date Collected: 12/17/19 15:06
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199520-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**0.45**	**J**	1.0	0.24	ug/L			12/24/19 13:43	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 13:43	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 13:43	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 13:43	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 13:43	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 13:43	1

Client Sample ID: OSMW-02

Date Collected: 12/17/19 15:06
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199520-3

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 13:43	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 13:43	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 13:43	1
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 13:43	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 13:43	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 13:43	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 13:43	1
Bromoform	0.54	U	1.0	0.54	ug/L			12/24/19 13:43	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 13:43	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 13:43	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 13:43	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 13:43	1
Chloroethane	0.32	U	1.0	0.32	ug/L			12/24/19 13:43	1
Chloroform	0.33	U	1.0	0.33	ug/L			12/24/19 13:43	1
Chloromethane	0.40	U	1.0	0.40	ug/L			12/24/19 13:43	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 13:43	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 13:43	1
Dibromochloromethane	0.28	UJ	1.0	0.28	ug/L			12/24/19 13:43	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 13:43	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 13:43	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 13:43	1
Tetrachloroethene	0.25	U	1.0	0.25	ug/L			12/24/19 13:43	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 13:43	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 13:43	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 13:43	1
Trichloroethene	0.31	U	1.0	0.31	ug/L			12/24/19 13:43	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 13:43	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 13:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*118*		*74 - 132*		*12/24/19 13:43*	*1*
Bromofluorobenzene	*108*		*77 - 124*		*12/24/19 13:43*	*1*
Dibromofluoromethane (Surr)	*107*		*72 - 131*		*12/24/19 13:43*	*1*
Toluene-d8 (Surr)	*109*		*80 - 120*		*12/24/19 13:43*	*1*

Client Sample ID: OSMW-03

Date Collected: 12/17/19 16:30
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199520-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	**0.64**	**J**	1.0	0.24	ug/L			12/24/19 21:48	1
1,1,2,2-Tetrachloroethane	0.37	U	1.0	0.37	ug/L			12/24/19 21:48	1
1,1,2-Trichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 21:48	1
1,1-Dichloroethane	0.26	U	1.0	0.26	ug/L			12/24/19 21:48	1
1,1-Dichloroethene	0.26	U	1.0	0.26	ug/L			12/24/19 21:48	1
1,2-Dichloroethane	0.43	U	1.0	0.43	ug/L			12/24/19 21:48	1
1,2-Dichloropropane	0.35	U	1.0	0.35	ug/L			12/24/19 21:48	1
2-Butanone	1.9	U	5.0	1.9	ug/L			12/24/19 21:48	1
2-Hexanone	1.1	U	5.0	1.1	ug/L			12/24/19 21:48	1

Client Sample ID: OSMW-03

Date Collected: 12/17/19 16:30
Date Received: 12/19/19 13:00

Lab Sample ID: 460-199520-4

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	1.3	U	5.0	1.3	ug/L			12/24/19 21:48	1
Acetone	4.4	U	5.0	4.4	ug/L			12/24/19 21:48	1
Benzene	0.20	U	1.0	0.20	ug/L			12/24/19 21:48	1
Bromodichloromethane	0.34	U	1.0	0.34	ug/L			12/24/19 21:48	1
Bromoform	0.54	UJ	1.0	0.54	ug/L			12/24/19 21:48	1
Bromomethane	0.55	U	1.0	0.55	ug/L			12/24/19 21:48	1
Carbon disulfide	0.82	U	1.0	0.82	ug/L			12/24/19 21:48	1
Carbon tetrachloride	0.21	U	1.0	0.21	ug/L			12/24/19 21:48	1
Chlorobenzene	0.38	U	1.0	0.38	ug/L			12/24/19 21:48	1
Chloroethane	0.32	U	1.0	0.32	ug/L			12/24/19 21:48	1
Chloroform	**0.80**	**J**	1.0	0.33	ug/L			12/24/19 21:48	1
Chloromethane	0.40	U	1.0	0.40	ug/L			12/24/19 21:48	1
cis-1,2-Dichloroethene	0.22	U	1.0	0.22	ug/L			12/24/19 21:48	1
cis-1,3-Dichloropropene	0.22	U	1.0	0.22	ug/L			12/24/19 21:48	1
Dibromochloromethane	0.28	UJ	1.0	0.28	ug/L			12/24/19 21:48	1
Ethylbenzene	0.30	U	1.0	0.30	ug/L			12/24/19 21:48	1
Methylene Chloride	0.32	U	1.0	0.32	ug/L			12/24/19 21:48	1
Styrene	0.42	U	1.0	0.42	ug/L			12/24/19 21:48	1
Tetrachloroethene	**0.48**	**J**	1.0	0.25	ug/L			12/24/19 21:48	1
Toluene	0.38	U	1.0	0.38	ug/L			12/24/19 21:48	1
trans-1,2-Dichloroethene	0.24	U	1.0	0.24	ug/L			12/24/19 21:48	1
trans-1,3-Dichloropropene	0.49	U	1.0	0.49	ug/L			12/24/19 21:48	1
Trichloroethene	**12**		1.0	0.31	ug/L			12/24/19 21:48	1
Vinyl chloride	0.17	U	1.0	0.17	ug/L			12/24/19 21:48	1
Xylenes, Total	0.65	U	2.0	0.65	ug/L			12/24/19 21:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*74 - 132*		*12/24/19 21:48*	*1*
Bromofluorobenzene	*101*		*77 - 124*		*12/24/19 21:48*	*1*
Dibromofluoromethane (Surr)	*105*		*72 - 131*		*12/24/19 21:48*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*12/24/19 21:48*	*1*

HOLDING TIMES
Volatiles

Site Name: **Marathon** **Volatiles**

Lab ID	Sample ID	Matrix	Analyte	Sample Date	Date Analyzed	Analysis Hold Time (days)	Days to Analysis	Qualify
460-199520-01	OSMW-01	Groundwater	Volatiles	12/17/2019	12/24/2019	14	7	
460-199520-02	OSMW-01D	Groundwater	Volatiles	12/17/2019	12/24/2019	14	7	
460-199520-03	OSMW-02	Groundwater	Volatiles	12/17/2019	12/24/2019	14	7	
460-199520-04	OSMW-03	Groundwater	Volatiles	12/17/2019	12/24/2019	14	7	

02/04/2020

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199520-1

SDG No.:

Lab Sample ID: CCVIS 460-664780/2 Calibration Date: 12/24/2019 06:32

Instrument ID: CVOAMS11 Calib Start Date: 12/20/2019 04:20

GC Column: Rtx-624 ID: 0.25(mm) Calib End Date: 12/20/2019 12:00

Lab File ID: N99513.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Tetrachloroethene	Ave	0.2654	0.2571	0.2000	19.4	20.0	-3.1	20.0
1,3-Dichloropropane	Ave	0.5003	0.4731		18.9	20.0	-5.4	20.0
2-Hexanone	Ave	0.7044	0.6048	0.0500	85.9	100	-14.1	50.0
n-Butyl acetate	Ave	0.5802	0.5417		18.7	20.0	-6.6	20.0
Dibromochloromethane	Ave	0.2564	0.1958	0.1000	15.3	20.0	-23.6 *	50.0
Ethylene Dibromide	Ave	0.2884	0.2566	0.1000	17.8	20.0	-11.0	20.0
Chlorobenzene	Ave	0.8087	0.7341	0.5000	18.2	20.0	-9.2	20.0
Ethylbenzene	Ave	0.4266	0.4212	0.1000	19.7	20.0	-1.3	20.0
1,1,1,2-Tetrachloroethane	Ave	0.2871	0.2376		16.5	20.0	-17.3	20.0
m-Xylene & p-Xylene	Ave	0.5417	0.5378	0.1000	19.9	20.0	-0.7	20.0
n-Butyl acrylate	Ave	0.2900	0.2545		17.6	20.0	-12.2	20.0
o-Xylene	Ave	0.5456	0.5208	0.3000	19.1	20.0	-4.5	20.0
Styrene	Ave	0.8881	0.8440	0.3000	19.0	20.0	-5.0 **	20.0
Bromoform	Ave	0.3200	0.2280	0.1000	14.3	20.0	-28.7 *	20.0
Amyl acetate (mixed isomers)	Ave	1.341	1.275		19.0	20.0	-4.9	20.0
Isopropylbenzene	Ave	1.361	1.277	0.1000	18.8	20.0	-6.1	20.0
Bromobenzene	Ave	0.6438	0.5897		18.3	20.0	-8.4	20.0
1,1,2,2-Tetrachloroethane	Ave	0.8176	0.7579	0.3000	18.5	20.0	-7.3	20.0
N-Propylbenzene	Ave	3.096	2.994		19.3	20.0	-3.3	20.0
1,2,3-Trichloropropane	Ave	0.2276	0.2083		18.3	20.0	-8.5	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2429	0.2108		17.4	20.0	-13.2	20.0
2-Chlorotoluene	Ave	2.215	2.140		19.3	20.0	-3.4	20.0
4-Ethyltoluene	Ave	2.526	2.425		19.2	20.0	-4.0	20.0
1,3,5-Trimethylbenzene	Ave	2.205	2.058		18.7	20.0	-6.7	20.0
4-Chlorotoluene	Ave	1.991	1.887		19.0	20.0	-5.2	20.0
Butyl Methacrylate	Ave	0.9320	0.8263		17.7	20.0	-11.3	20.0
tert-Butylbenzene	Ave	1.594	1.484		18.6	20.0	-6.9	20.0
1,2,4-Trimethylbenzene	Ave	2.300	2.198		19.1	20.0	-4.4	20.0
sec-Butylbenzene	Ave	2.319	2.212		19.1	20.0	-4.6	20.0
1,3-Dichlorobenzene	Ave	1.210	1.108	0.6000	18.3	20.0	-8.4	20.0
4-Isopropyltoluene	Ave	2.018	1.917		19.0	20.0	-5.0	20.0
1,4-Dichlorobenzene	Ave	1.255	1.142	0.5000	18.2	20.0	-9.0	20.0
1,2,3-Trimethylbenzene	Ave	2.476	2.297		18.6	20.0	-7.2	20.0
Benzyl chloride	Ave	0.3173	0.1903		12.0	20.0	-40.0	50.0
Indan	Ave	2.459	2.296		18.7	20.0	-6.6	20.0
p-Diethylbenzene	Ave	1.102	1.059		19.2	20.0	-3.8	20.0
n-Butylbenzene	Ave	1.020	1.010		19.8	20.0	-1.0	20.0
1,2-Dichlorobenzene	Ave	1.247	1.188	0.4000	19.1	20.0	-4.7	20.0
1,2,4,5-Tetramethylbenzene	Ave	2.127	1.943		18.3	20.0	-8.7	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1672	0.1334	0.0500	16.0	20.0	-20.2	50.0
1,3,5-Trichlorobenzene	Ave	0.8180	0.7776		19.0	20.0	-4.9	20.0

* %D > 20%, associated samples include OSMW-03, OSMW-01, OSWM-01D and OSMW-02. All sample results non-detect, therefore reporting limits qualified as estiamated (UJ).

** FYI %D > 20% but < 30%, associated samples include OSMW-03, OSMW-01, OSWM-01D and OSMW-02.

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199520-1

SDG No.:

Lab Sample ID: CCVIS 460-664918/2 Calibration Date: 12/24/2019 17:38

Instrument ID: CVOAMS11 Calib Start Date: 12/20/2019 04:20

GC Column: Rtx-624 ID: 0.25(mm) Calib End Date: 12/20/2019 12:00

Lab File ID: N99542.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Tetrahydrofuran	Ave	0.2621	0.2259		34.5	40.0	-13.8	20.0
Chlorobromomethane	Ave	0.1168	0.1180		20.2	20.0	1.0	20.0
Methacrylonitrile	Ave	0.1057	0.1040		197	200	-1.6	20.0
Chloroform	Ave	0.3899	0.4041	0.2000	20.7	20.0	3.6	20.0
Cyclohexane	Ave	0.3099	0.3146	0.1000	20.3	20.0	1.5	50.0
1,1,1-Trichloroethane	Ave	0.3316	0.3128	0.1000	18.9	20.0	-5.7	20.0
Carbon tetrachloride	Ave	0.2526	0.2213	0.1000	17.5	20.0	-12.4	20.0
1,1-Dichloropropene	Ave	0.2985	0.3022		20.2	20.0	1.2	20.0
Isobutyl alcohol	Ave	2.999	2.575		429	500	-14.1	50.0
2,2,4-Trimethylpentane	Ave	0.4272	0.4617		21.6	20.0	8.1	20.0
Benzene	Ave	1.334	1.341	0.5000	20.1	20.0	0.5	20.0
Isopropyl acetate	Ave	0.7515	0.7587		20.2	20.0	1.0	20.0
Tert-amyl methyl ether	Ave	0.7211	0.7216		20.0	20.0	0.0	20.0
1,2-Dichloroethane	Ave	0.3110	0.3173	0.1000	20.4	20.0	2.0	20.0
n-Heptane	Ave	0.0881	0.0976		22.2	20.0	10.9	20.0
n-Butanol	Ave	1.651	1.120		339	500	-32.1	50.0
Trichloroethene	Ave	0.2178	0.2113	0.2000	19.4	20.0	-3.0	20.0
Ethyl acrylate	Lin2		0.0288		17.6	20.0	-11.9	20.0
Methylcyclohexane	Ave	0.2816	0.2768	0.1000	19.7	20.0	-1.7	50.0
1,2-Dichloropropane	Ave	0.2411	0.2461	0.1000	20.4	20.0	2.0	20.0
Methyl methacrylate	Ave	0.0658	0.0531		32.3	40.0	-19.3	20.0
1,4-Dioxane	Ave	1.093	1.056		387	400	-3.4	50.0
Dibromomethane	Ave	0.1466	0.1450		19.8	20.0	-1.1	20.0
n-Propyl acetate	Ave	0.3843	0.3613		18.8	20.0	-6.0	20.0
Bromodichloromethane	Ave	0.2814	0.2445	0.2000	17.4	20.0	-13.1	20.0
2-Nitropropane	Ave	14.06	8.798		25.0	40.0	-37.4*	20.0
2-Chloroethyl vinyl ether	Ave	0.1636	0.1543		18.9	20.0	-5.7	20.0
Epichlorohydrin	Ave	0.2092	0.1763		337	400	-15.7	20.0
cis-1,3-Dichloropropene	Ave	0.5332	0.4633	0.2000	17.4	20.0	-13.1	50.0
4-Methyl-2-pentanone	Ave	2.012	1.889	0.0500	93.9	100	-6.1	50.0
Toluene	Ave	1.334	1.278	0.4000	19.2	20.0	-4.2	20.0
trans-1,3-Dichloropropene	Ave	0.4839	0.3976	0.1000	16.4	20.0	-17.8	50.0
Ethyl methacrylate	Ave	0.3169	0.2839		17.9	20.0	-10.4	20.0
1,1,2-Trichloroethane	Ave	0.2541	0.2320	0.1000	18.3	20.0	-8.7	20.0
Tetrachloroethene	Ave	0.2654	0.2565	0.2000	19.3	20.0	-3.4	20.0
1,3-Dichloropropane	Ave	0.5003	0.4729		18.9	20.0	-5.5	20.0
2-Hexanone	Ave	0.7044	0.6119	0.0500	86.9	100	-13.1	50.0
n-Butyl acetate	Ave	0.5802	0.5431		18.7	20.0	-6.4	20.0
Dibromochloromethane	Ave	0.2564	0.2025	0.1000	15.8	20.0	-21.0	50.0
Ethylene Dibromide	Ave	0.2884	0.2653	0.1000	18.4	20.0	-8.0	20.0
Chlorobenzene	Ave	0.8087	0.7414	0.5000	18.3	20.0	-8.3	20.0

%D > 20%, associated samples include OSMW-04. All sample results non-detect, therefore reporting limits qualified as estimated (UJ).

FORM VII 8260C

AK 02/04/2020

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199520-1

SDG No.:

Lab Sample ID: CCVIS 460-664918/2 Calibration Date: 12/24/2019 17:38

Instrument ID: CVOAMS11 Calib Start Date: 12/20/2019 04:20

GC Column: Rtx-624 ID: 0.25(mm) Calib End Date: 12/20/2019 12:00

Lab File ID: N99542.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylbenzene	Ave	0.4266	0.4169	0.1000	19.5	20.0	-2.3	20.0
1,1,1,2-Tetrachloroethane	Ave	0.2871	0.2340		16.3	20.0	-18.5	20.0
m-Xylene & p-Xylene	Ave	0.5417	0.5104	0.1000	18.8	20.0	-5.8	20.0
n-Butyl acrylate	Ave	0.2900	0.2443		16.8	20.0	-15.8	20.0
o-Xylene	Ave	0.5456	0.5109	0.3000	18.7	20.0	-6.4	20.0
Styrene	Ave	0.8881	0.8431	0.3000	19.0	20.0	-5.1	20.0
Amyl acetate (mixed isomers)	Ave	1.341	1.209		18.0	20.0	-9.8	20.0
Bromoform	Ave	0.3200	0.2133	0.1000	13.3	20.0	-33.3*	20.0
Isopropylbenzene	Ave	1.361	1.274	0.1000	18.7	20.0	-6.4	20.0
Bromobenzene	Ave	0.6438	0.5787		18.0	20.0	-10.1	20.0
1,1,2,2-Tetrachloroethane	Ave	0.8176	0.7439	0.3000	18.2	20.0	-9.0	20.0
N-Propylbenzene	Ave	3.096	2.875		18.6	20.0	-7.1	20.0
1,2,3-Trichloropropane	Ave	0.2276	0.1959		17.2	20.0	-13.9	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2429	0.1934		15.9	20.0	-20.4*	20.0
2-Chlorotoluene	Ave	2.215	2.097		18.9	20.0	-5.3	20.0
4-Ethyltoluene	Ave	2.526	2.390		18.9	20.0	-5.4	20.0
1,3,5-Trimethylbenzene	Ave	2.205	1.961		17.8	20.0	-11.1	20.0
4-Chlorotoluene	Ave	1.991	1.879		18.9	20.0	-5.6	20.0
Butyl Methacrylate	Ave	0.9320	0.7837		16.8	20.0	-15.9	20.0
tert-Butylbenzene	Ave	1.594	1.418		17.8	20.0	-11.0	20.0
1,2,4-Trimethylbenzene	Ave	2.300	2.100		18.3	20.0	-8.7	20.0
sec-Butylbenzene	Ave	2.319	2.215		19.1	20.0	-4.5	20.0
1,3-Dichlorobenzene	Ave	1.210	1.123	0.6000	18.6	20.0	-7.2	20.0
4-Isopropyltoluene	Ave	2.018	1.816		18.0	20.0	-10.0	20.0
1,4-Dichlorobenzene	Ave	1.255	1.147	0.5000	18.3	20.0	-8.5	20.0
1,2,3-Trimethylbenzene	Ave	2.476	2.219		17.9	20.0	-10.4	20.0
Benzyl chloride	Ave	0.3173	0.1644		10.4	20.0	-48.2	50.0
Indan	Ave	2.459	2.262		18.4	20.0	-8.0	20.0
p-Diethylbenzene	Ave	1.102	1.027		18.6	20.0	-6.8	20.0
n-Butylbenzene	Ave	1.020	0.9639		18.9	20.0	-5.5	20.0
1,2-Dichlorobenzene	Ave	1.247	1.155	0.4000	18.5	20.0	-7.4	20.0
1,2,4,5-Tetramethylbenzene	Ave	2.127	1.946		18.3	20.0	-8.5	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1672	0.1254	0.0500	15.0	20.0	-25.0	50.0
1,3,5-Trichlorobenzene	Ave	0.8180	0.7352		18.0	20.0	-10.1	20.0
1,2,4-Trichlorobenzene	Ave	0.8647	0.7701	0.2000	17.8	20.0	-10.9	20.0
Hexachlorobutadiene	Ave	0.2074	0.1933		18.6	20.0	-6.8	20.0
Naphthalene	Ave	2.892	2.389		16.5	20.0	-17.4	50.0
1,2,3-Trichlorobenzene	Ave	0.8593	0.7352		17.1	20.0	-14.4	20.0
1,1,1-Trifluoro-2,2-dichloro ethane	Ave	0.3264			0.620	20.0		
1,1-Difluoroethane	Ave	0.2572	0.0054		0.760	20.0	-97.9*	20.0

%D > 30%, associated samples include OSMW-04. All sample results non-detect, therefore reporting limits qualified as estimated (UJ).

FORM VII 8260C

02/04/2020

460-199520_Field Duplicate.xls
VOCs

Site Name:	**Marathon**	**Laboratory:**	**Test America - Edison**
Project Number:	**NY95-219**	**Matrix:**	**Groundwater**

Sample ID	Analyte	Units	Result	Q	RL	Difference	Qualify
OSMW-01	1,1,1-Trichloroethane	ug/L	0.55	J	1		
OSMW-01D	1,1,1-Trichloroethane	ug/L	0.56	J	1	0.01	no

Duplicate Criteria: Aqueous matrices <30 % RPD or < ± 1*RL, Soil/Solid matrices <40 %RPD or < ± 2*RL.

*** - Denotes %RPD or difference outside criteria.**

NA - Duplicate relative percent difference or difference cannot be calculated.

U / ND - Not detected.

02/04/2020

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 460-199520-1

SDG No.:

Matrix: Water Level: Low Lab File ID: N99560.D

Lab ID: 460-199165-B-1 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	20.0	0.24 U	20.7	104	75-125	
1,1,2,2-Tetrachloroethane	20.0	0.37 U	19.3	97	74-120	
1,1,2-Trichloroethane	20.0	0.43 U	18.8	94	78-120	
1,1-Dichloroethane	20.0	0.26 U	20.2	101	77-123	
1,1-Dichloroethene	20.0	0.26 U	20.7	104	74-123	
1,2-Dichloroethane	20.0	0.43 U	20.8	104	76-121	
1,2-Dichloropropane	20.0	0.35 U	19.9	99	77-123	
2-Butanone	100	1.9 U	85.2	85	64-120	
2-Hexanone	100	1.1 U	86.0	86	71-125	
4-Methyl-2-pentanone	100	1.3 U	91.6	92	78-124	
Acetone	100	4.4 U	88.1	88	39-150	
Benzene	20.0	0.20 U	19.8	99	77-121	
Bromodichloromethane	20.0	0.34 U	17.6	88	76-120	
Bromoform	20.0	0.54 U	14.4	72	53-120	
Bromomethane	20.0	0.55 U	17.3	87	10-150	
Carbon disulfide	20.0	0.82 U	19.9	99	69-133	
Carbon tetrachloride	20.0	0.21 U	18.3	92	70-132	
Chlorobenzene	20.0	22	35.5	68	80-120	F1
Chloroethane	20.0	0.32 U	18.3	91	52-150	
Chloroform	20.0	0.33 U	20.2	101	80-120	
Chloromethane	20.0	0.40 U	11.3	56	56-131	
cis-1,2-Dichloroethene	20.0	0.22 U	18.5	93	80-120	
cis-1,3-Dichloropropene	20.0	0.22 U	17.3	87	77-120	
Dibromochloromethane	20.0	0.28 U	16.2	81	73-120	
Ethylbenzene	20.0	0.30 U	19.5	98	80-120	
Methylene Chloride	20.0	0.32 U	19.2	96	77-123	
Styrene	20.0	0.42 U	18.8	94	80-120	
Tetrachloroethene	20.0	0.25 U	20.0	100	78-122	
Toluene	20.0	0.38 U	19.1	96	80-120	
trans-1,2-Dichloroethene	20.0	0.24 U	19.4	97	79-120	
trans-1,3-Dichloropropene	20.0	0.49 U	16.9	85	76-120	
Trichloroethene	20.0	0.31 U	19.5	98	77-120	
Vinyl chloride	20.0	0.17 U	17.8	89	62-138	
Xylenes, Total	40.0	0.65 U	37.9	95	80-120	

FYI MS recovery outside of the laboratory control limits (low), associated batched sample includes OSMW-03. OSMW-03 was a parent sample for a seperate MS/MSD analyzed on the previous day with passing MS recoveries. This MS is not a project specific sample.

Column to be used to flag recovery and RPD values

FORM III 8260C

02/04/2020