



GTE Operations Support Incorporated
One Verizon Way (VC34W443)
Basking Ridge, NJ 07920-1097
908-559-3691

June 2, 2017

Mr. Christopher Magee
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, NY 12233-7017

Re: *March 2017 Semi-Annual Groundwater Sampling Event*

Dear Mr. Magee:

Attached are the March 2017 semi-annual groundwater sampling results for the Former Philips Display Components Facility in Seneca Falls, New York. Chlorinated volatile organic compounds, primarily trichloroethene and cis-1,2-dichloroethene, were reported in select groundwater samples at concentrations greater than New York State Department of Environmental Conservation (NYSDEC) Class GA Standards.

The next semi-annual groundwater sampling event is tentatively scheduled for the week of September 11, 2017. Please call me at (908) 559-3691 if you have any questions.

Sincerely,

Matthew T. Walsh
Manager – Corporate Environmental, Health, Safety, and Compliance

Attachments

- A – March 2017 Groundwater Sampling Event Summary
- B – Figures
- C – Tables
- D – Groundwater VOC Concentration Graphs
- E – Data Validation Report

ec:

Mr. Bart Putzig (NYSDEC)

Mr. Eamonn O'Neil (NYSDOH)

Mr. Nidal Azzam (USEPA)

Mr. Ernst Jabouin (USEPA)

Ms. Kelly Kline (Seneca County Industrial Development Agency)

Mr. Stephen Bregande (Seneca Falls Specialties & Logistics Company, Inc.)

Mr. J. Christopher Woods (Seneca Falls Specialties & Logistics Company, Inc.)

Ms. Anna Kunkel (Environmental Consultant)

Ms. Pam Cox (GTE Operations Support Incorporated)

Mr. Daniel Lang (Arcadis U.S., Inc.)

Mr. Mark Flusche (Arcadis U.S., Inc.)

ATTACHMENT A

March 2017 Groundwater Sampling Event Summary



March 2017 Semi-Annual Groundwater Sampling

On March 27, 2017, Arcadis U.S., Inc. measured depth to groundwater in 17 monitoring wells and retrieved passive diffusion bags (PDBs) from 8 monitoring wells where PDBs were deployed on September 14, 2016 (Attachment B Figure 1). Nine groundwater samples, including one duplicate sample, were collected for analysis of volatile organic compounds (VOC) from PDBs retrieved from six shallow monitoring wells (MW-22 through MW-26, and MW-29), one weathered bedrock monitoring well (MW-BR-06), and one bedrock monitoring well (MW-BR-05).

The samples were shipped overnight with a trip blank to Test America Laboratories, Inc., of Buffalo, New York. The samples were analyzed for VOCs using United States Environmental Protection Agency Method 8260C. A table summarizing the analytical results is in Attachment C and graphs of groundwater VOC analytical results are in Attachment D. Data Validation Services, Inc., of North Creek, New York, performed third-party data validation. Sample results are usable as reported or with minor qualification (Attachment E).

Table 1 provides depth to water measurements and groundwater elevations (Attachment C). Groundwater potentiometric surface contours for March 2017 (Figure 2) show groundwater flow through the overburden is toward the south and east. Table 2 provides analytical results for the March 2017 groundwater and quality assurance and quality control samples (Attachment C). VOC concentrations in the March 2017 samples were compared to the New York State Department of Environmental Conservation (NYSDEC) Class GA Standards.

- Trichloroethene was reported at concentrations greater than the NYSDEC Class GA Standard of 5 micrograms per liter ($\mu\text{g/l}$) in samples from monitoring wells MW-22, MW-23, MW-25 (at an estimated concentration), MW-26, and in the duplicate sample from monitoring well MW-25 (at an estimated concentration).
- *cis*-1,2-Dichloroethene was reported at concentrations greater than the NYSDEC Class GA Standard of 5 $\mu\text{g/l}$ in samples from monitoring wells MW-22 through MW-26, MW-29, and in the duplicate sample from monitoring well MW-25.
- 1,1-Dichloroethane was reported at estimated concentrations greater than the NYSDEC Class GA Standard of 5 $\mu\text{g/l}$ in the sample from monitoring well MW-25 and in the duplicate sample from monitoring well MW-25.
- Acetone was reported at concentrations greater than the NYSDEC Class GA Standard of 50 $\mu\text{g/l}$ in samples from monitoring wells MW-23 (at an estimated concentration), MW-25, MW-26, MW-29, MW-BR-06, and in the duplicate sample from monitoring well MW-25. Acetone is not a constituent of potential concern and is a common laboratory contaminant.

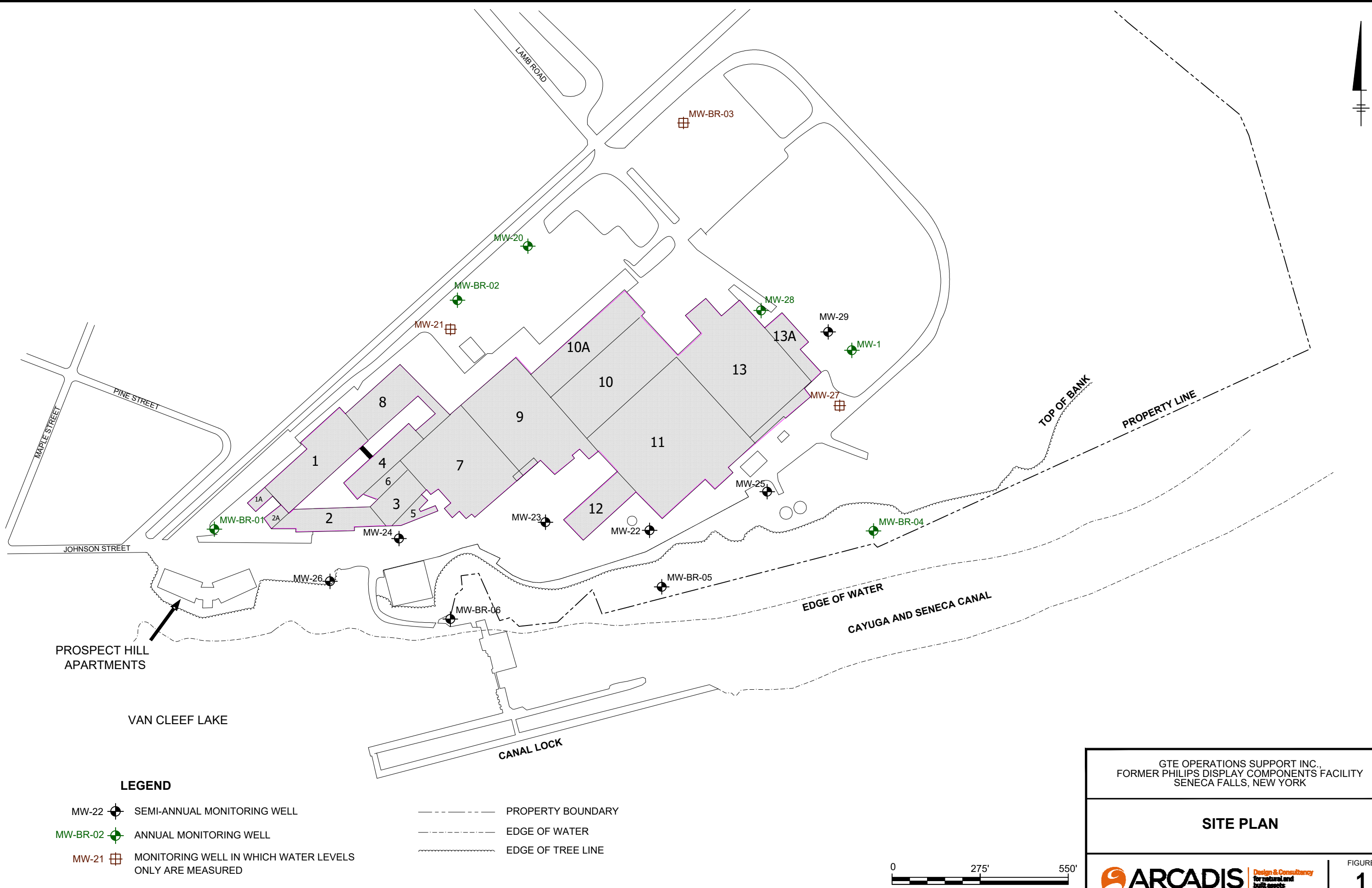
On March 27, 2017, after groundwater samples were collected, new PDBs were deployed in the fourteen monitoring wells scheduled for groundwater sampling in September 2017. The PDBs were installed in the middle of the well screen, consistent with previous sampling procedures.

ATTACHMENT B

Figures



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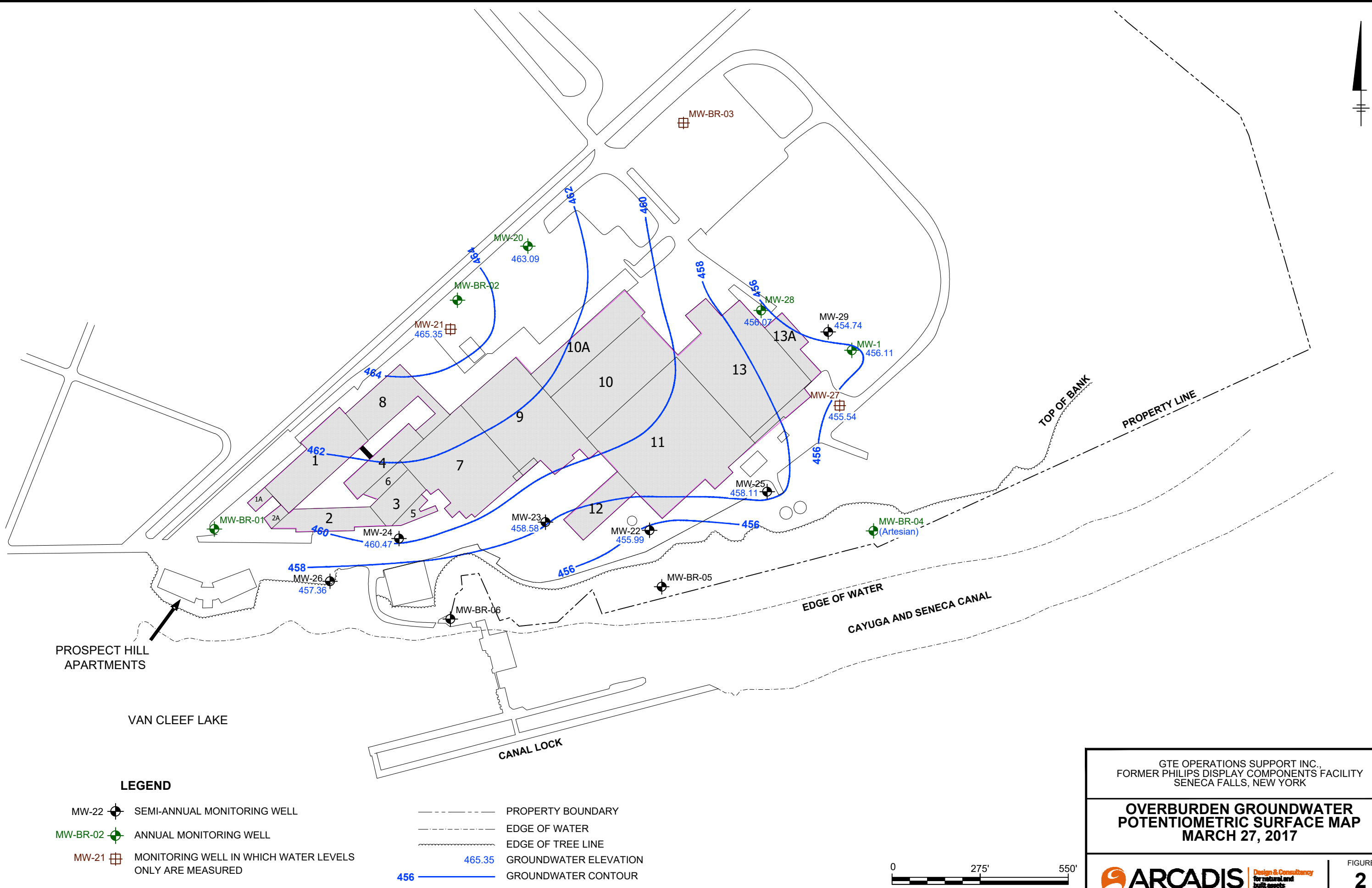
LEGEND

- | | | | | |
|----------|--|---|---------|-------------------|
| MW-22 | | SEMI-ANNUAL MONITORING WELL | --- | PROPERTY BOUNDARY |
| MW-BR-02 | | ANNUAL MONITORING WELL | - - - - | EDGE OF WATER |
| MW-21 | | MONITORING WELL IN WHICH WATER LEVELS ONLY ARE MEASURED | ~~~~~ | EDGE OF TREE LINE |



GTE OPERATIONS SUPPORT INC., FORMER PHILIPS DISPLAY COMPONENTS FACILITY SENECA FALLS, NEW YORK	
SITE PLAN	
ARCADIS Design & Consultancy for natural and built assets	FIGURE 1

CITY: CITY DIV\GROUP\ENVCAD DE\ENVCAD G:\ENVCAD\line\ACT\046300\3000100023\0463003.0001_Philips-Seneca Falls 1017.dwg LAYOUT: 2 SAVED: 5/16/2017 3:37 PM PAGESETUP: --- PLOTSTYLETABLE: --- PLOTTED: 5/17/2017 9:57 AM BY: LOVING, JEFF



ATTACHMENT C

Tables



Table 1
Depth to Water Measurements
Former Philips Display Components Facility
Seneca Falls, New York

Well Number	Datum Elevation	Depth to Water (feet)	Water Level Elevation (feet AMSL)
MW-1	460.83	4.72	456.11
MW-20	463.42	0.33	463.09
MW-21	467.39	2.04	465.35
MW-22	460.77	4.78	455.99
MW-23	460.59	2.01	458.58
MW-24	462.76	2.29	460.47
MW-25	460.74	2.63	458.11
MW-26	458.80	1.44	457.36
MW-27	460.45	4.91	455.54
MW-28	461.26	5.19	456.07
MW-29	459.89	5.15	454.74
MW-BR-01	462.64	34.06	428.58
MW-BR-02	467.87	29.63	438.24
MW-BR-03	457.06	12.43	444.63
MW-BR-04	396.39	--	Artesian
MW-BR-05	401.34	18.98	382.36
MW-BR-06	436.30	37.13	399.17

Notes:

AMSL - Above mean sea level

-- - Not Measured

Depth to water measurements were recorded March 27, 2017.

Table 2
Groundwater Analytical Results (March 2017)
Former Philips Display Components Facility
Seneca Falls, New York

VOCs	CAS #	NYS Class GA Standard	MW-22	MW-23	MW-24	MW-25	MW-25 Dup	MW-26	MW-29	MW-BR-05	MW-BR-06	TRIP BLANK
1,1,1-Trichloroethane	71-55-6	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
1,1,2-Trichloroethane	79-00-5	1	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
1,1-Dichloroethane	75-34-3	5	5 U	100 U	2000 U	11 J	13 J	0.85 J	10 U	5 U	5 U	5 U
1,1-Dichloroethene	75-35-4	5	5 U	100 U	2000 U	1.6 J	1.9 J	0.54 J	10 U	5 U	5 U	5 U
1,2-Dichloroethane	107-06-2	0.6	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
1,2-Dichloropropane	78-87-5	1	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
2-Hexanone	591-78-6	50	10 U	200 U	4000 U	50 U	40 U	10 U	20 U	10 U	10 U	10 U
Acetone	67-64-1	50	44	65 J	4000 U	56	53	58	59	10	77	10 U
Benzene	71-43-2	1	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Bromodichloromethane	75-27-4	50	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Bromoform	75-25-2	50	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Bromomethane	74-83-9	5	5 UJ	100 UJ	2000 UJ	25 UJ	20 U	5 UJ	10 UJ	5 UJ	5 UJ	5 UJ
Carbon Disulfide	75-15-0	60	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Carbon Tetrachloride	56-23-5	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Chlorobenzene	108-90-7	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Chloroethane	75-00-3	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Chloroform	67-66-3	7	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Chloromethane	74-87-3	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	156-59-2	5	14	170	16000	160	170	85	150	5 U	2.9 J	5 U
cis-1,3-Dichloropropene	10061-01-5	0.4	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Dibromochloromethane	124-48-1	50	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Dichlorodifluoromethane	75-71-8	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Ethylbenzene	100-41-4	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
2-Butanone (MEK)	78-93-3	50	10 U	200 U	4000 U	50 U	40 U	10 U	20 U	10 U	10 U	10 U
4-Methyl-2-Pentanone (MIBK)	108-10-1	5	10 U	200 U	4000 U	50 U	40 U	10 U	20 U	10 U	10 U	10 U
Methylene Chloride	75-09-2	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Styrene	100-42-5	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Tetrachloroethene	127-18-4	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Toluene	108-88-3	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	156-60-5	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	10061-02-6	0.4	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Trichloroethene	79-01-6	5	9.3	1200	2000 U	7.7 J	7.5 J	61	10 U	5 U	3.0 J	5 U
Trichlorofluoromethane	75-69-4	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Vinyl chloride	75-01-4	2	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U
Total Xylenes	1330-20-7	5	5 U	100 U	2000 U	25 U	20 U	5 U	10 U	5 U	5 U	5 U

NOTES:

Bolded results were greater than the NYSDEC Class GA Standards
All values are shown in units of micrograms per liter (ug/L).

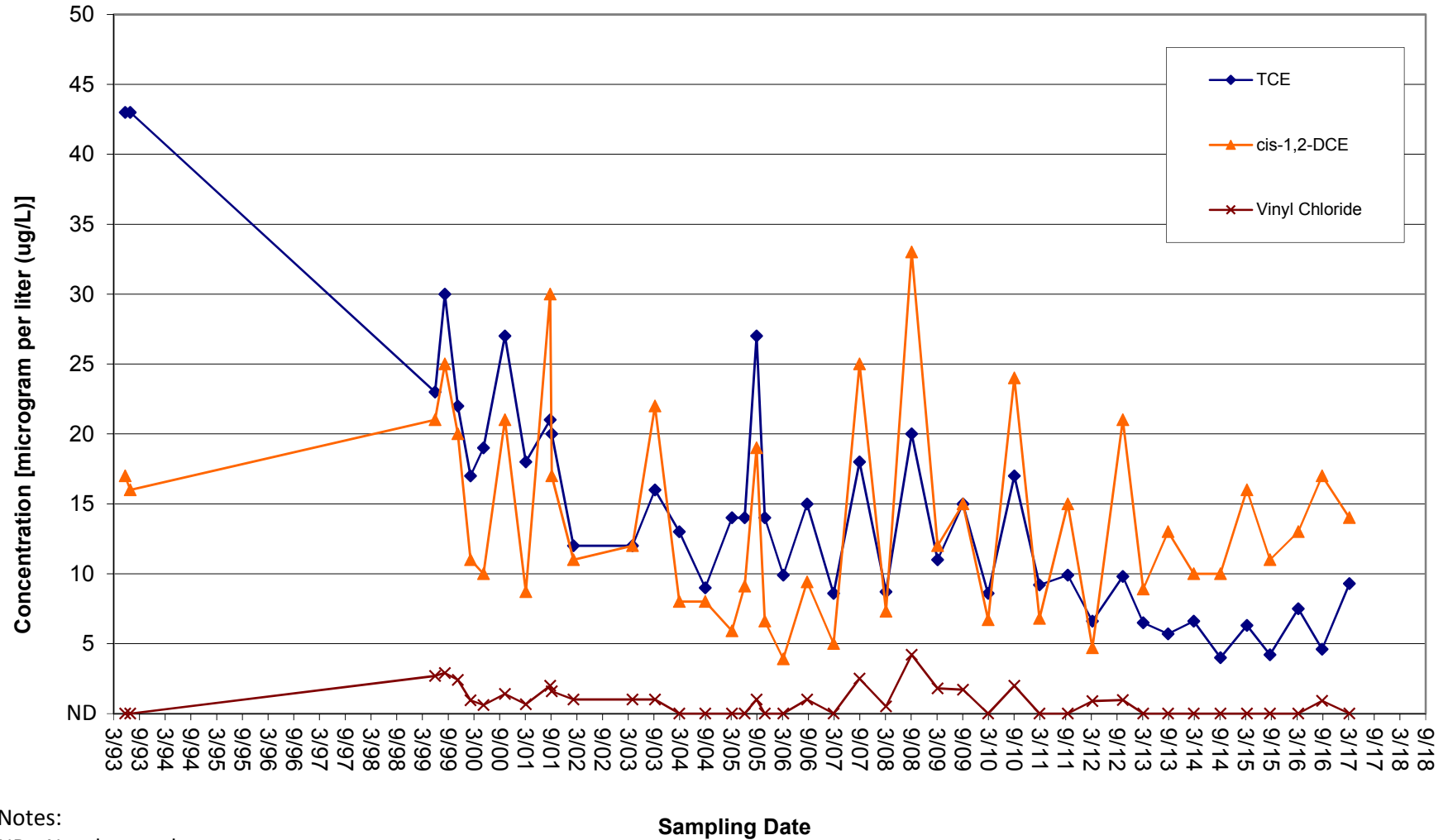
U - Not detected. Reporting limit shown.
J - Estimated

ATTACHMENT D

Groundwater VOC Concentration Graphs



MW-22



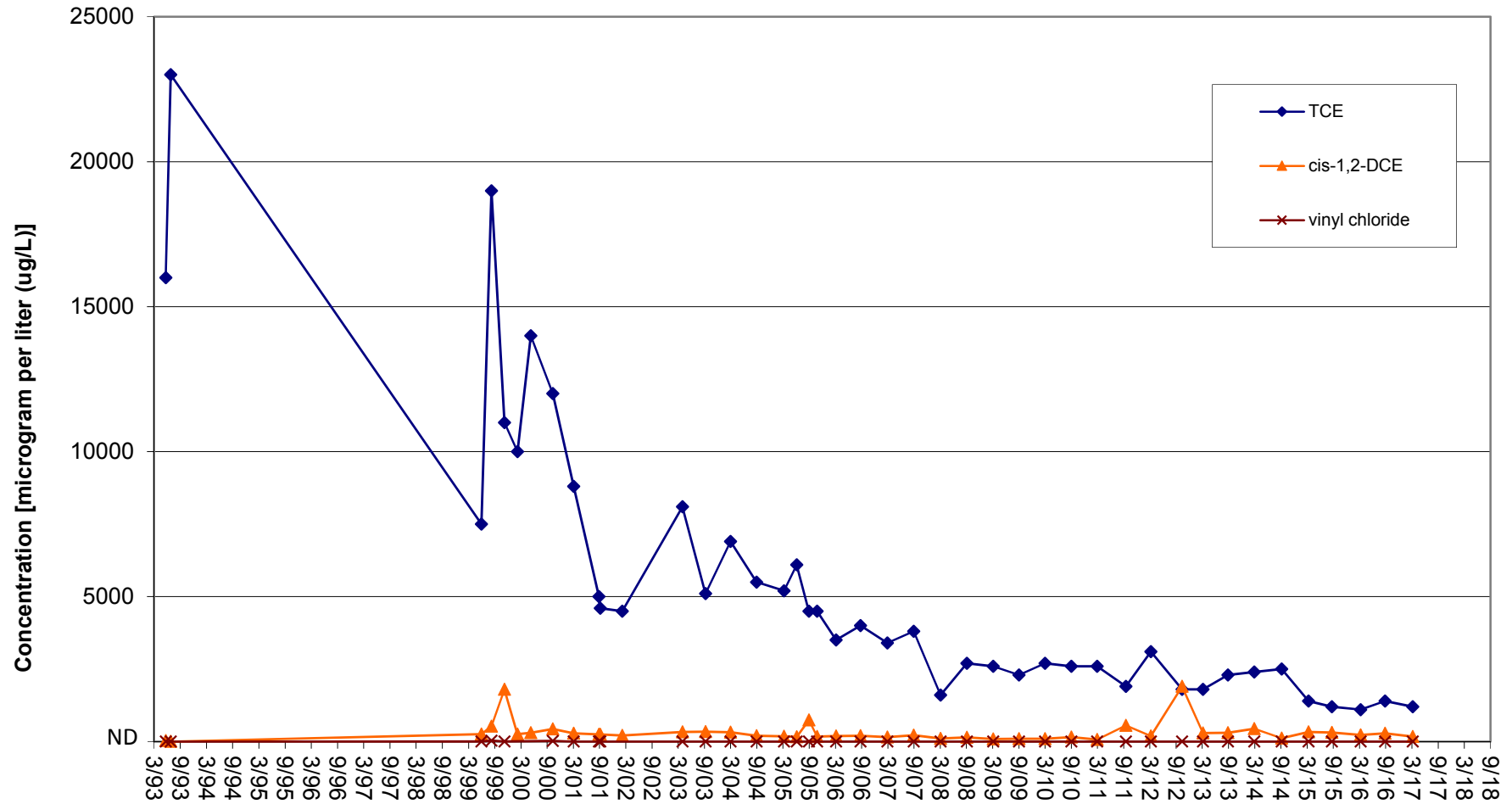
Notes:

ND - Not detected.

Reporting limit is 5 ug/L.

Results less than the reporting limit are estimated.

MW-23



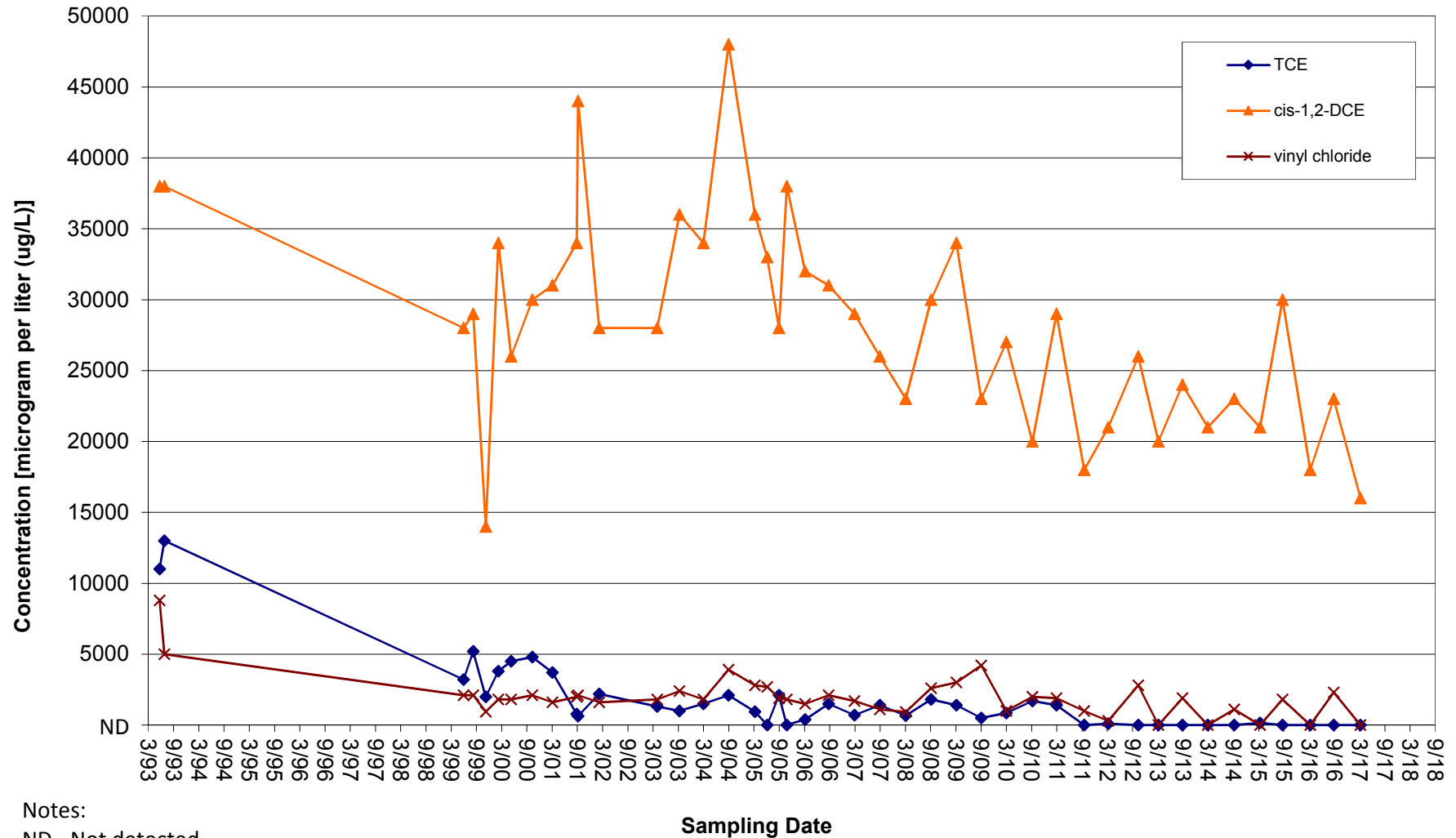
Notes:

ND - Not detected.

Reporting limit is 5 ug/L.

Results less than the reporting limit are estimated.

MW-24



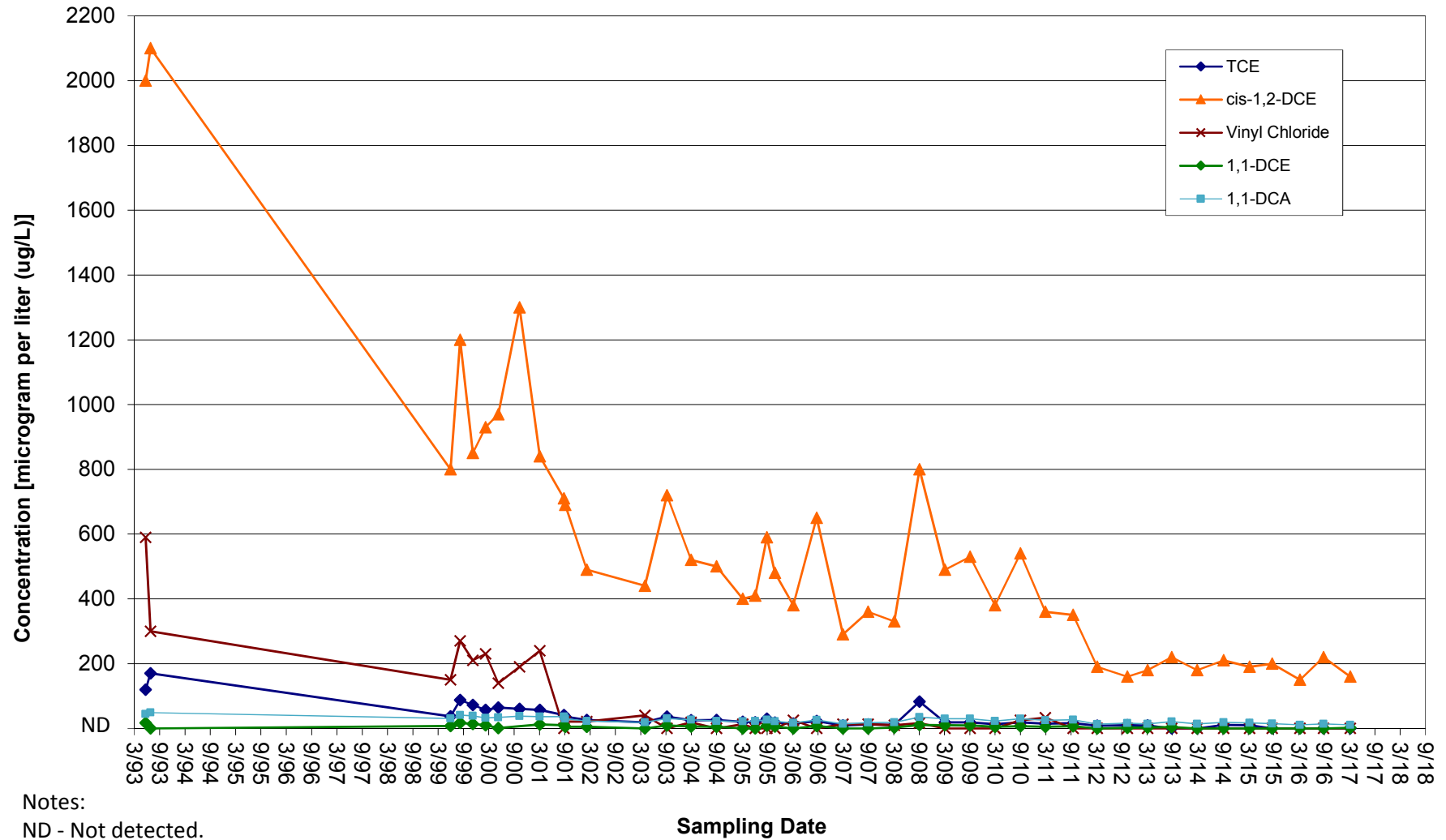
Notes:

ND - Not detected.

Reporting limit is 5 ug/L.

Results less than the reporting limit are estimated.

MW-25



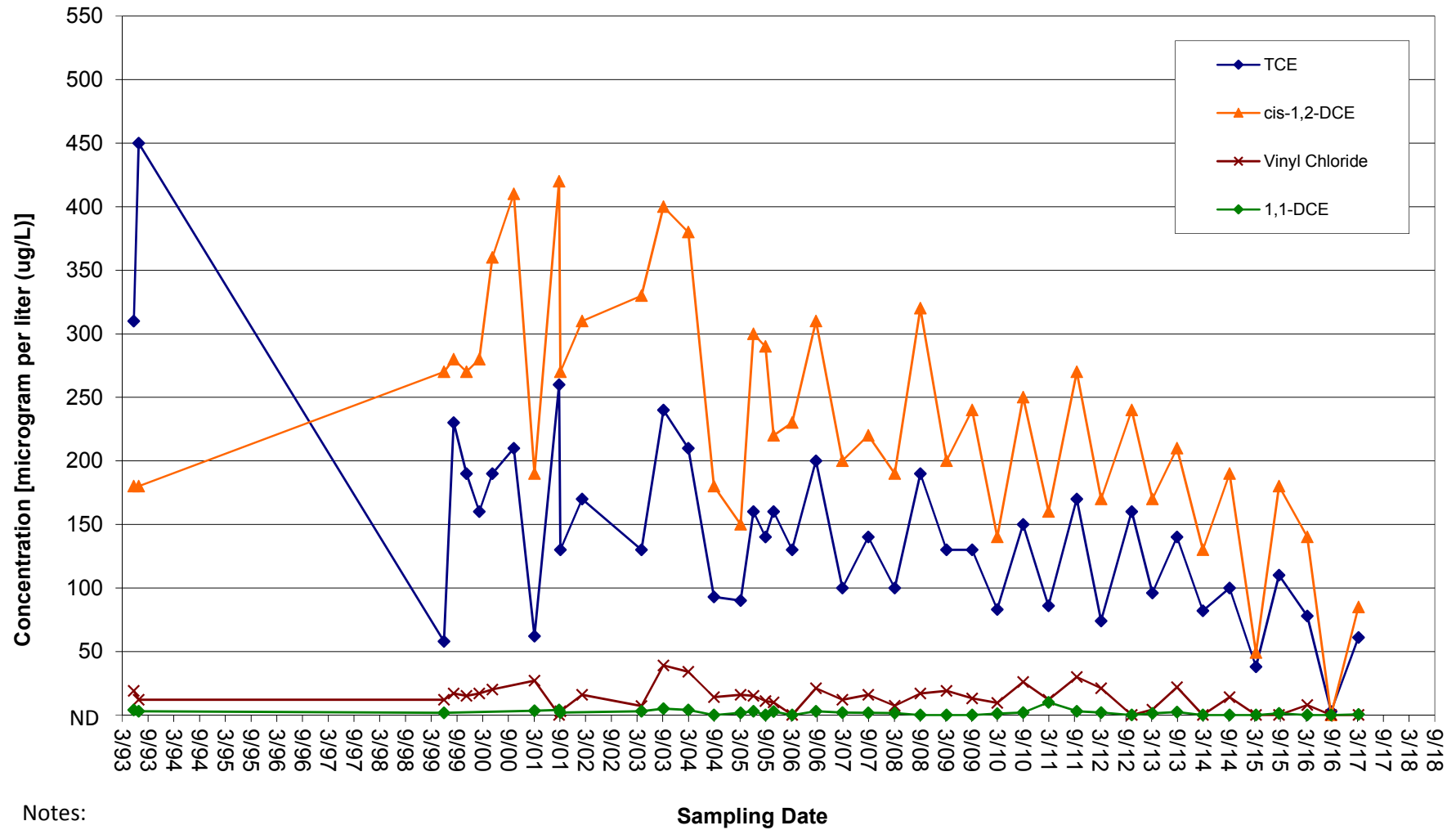
Notes:

ND - Not detected.

Reporting limit is 5 ug/L.

Results less than the reporting limit are estimated.

MW-26



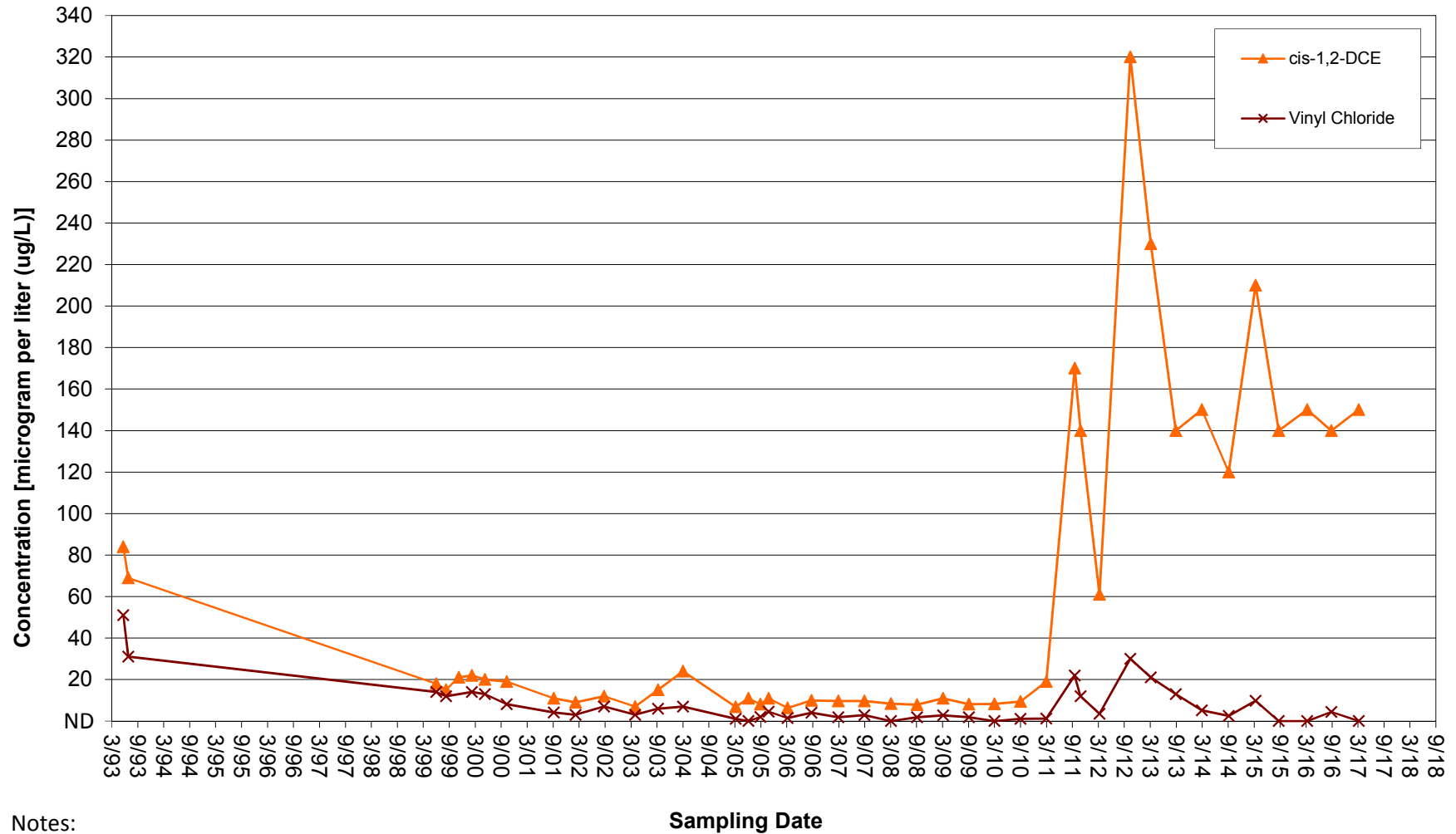
Notes:

ND - Not detected.

Reporting limit is 5 ug/L.

Results less than the reporting limit are estimated.

MW-29



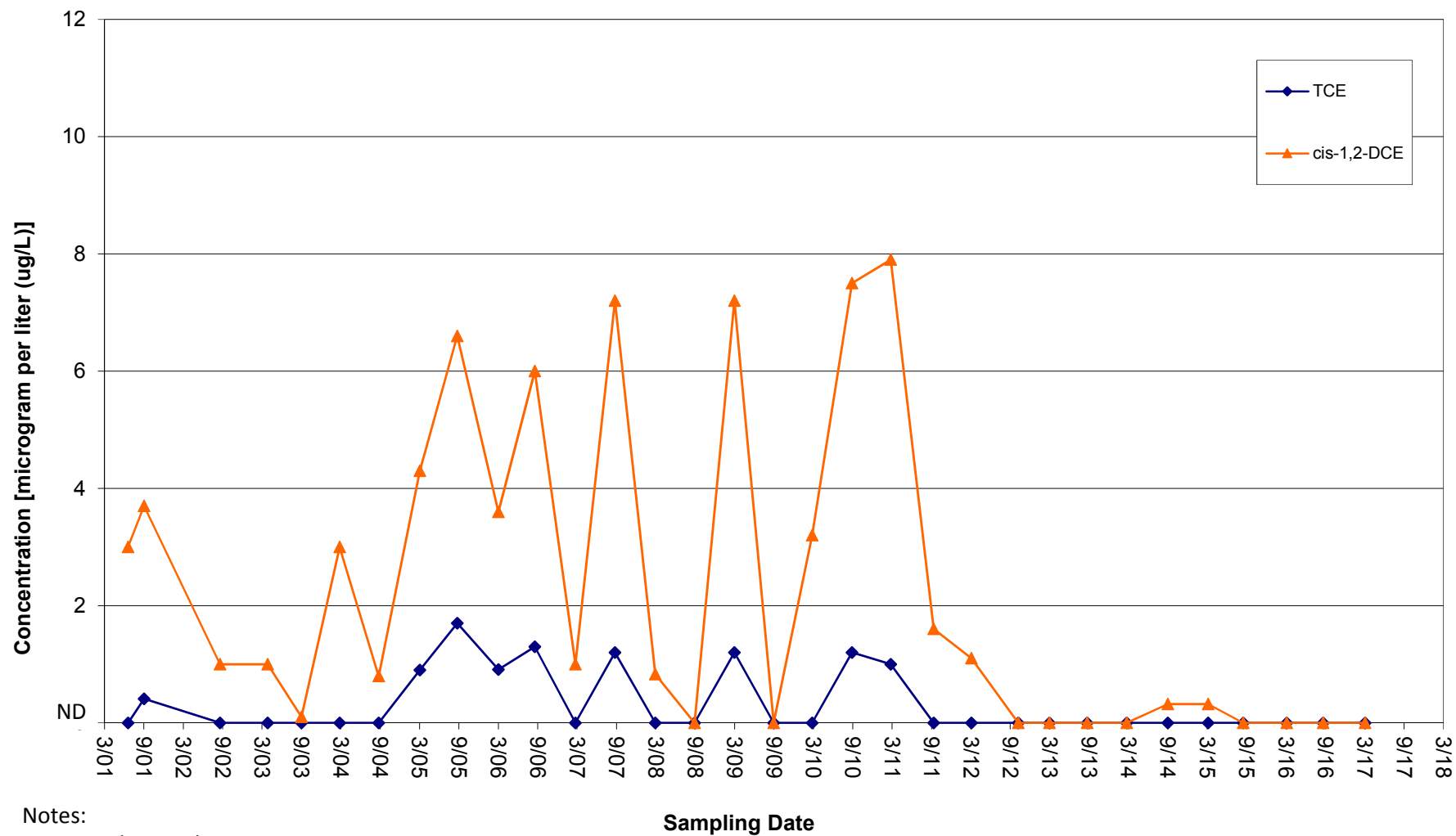
Notes:

ND - Not detected.

Reporting limit is 5 ug/L.

Results less than the reporting limit are estimated.

MW-BR-05



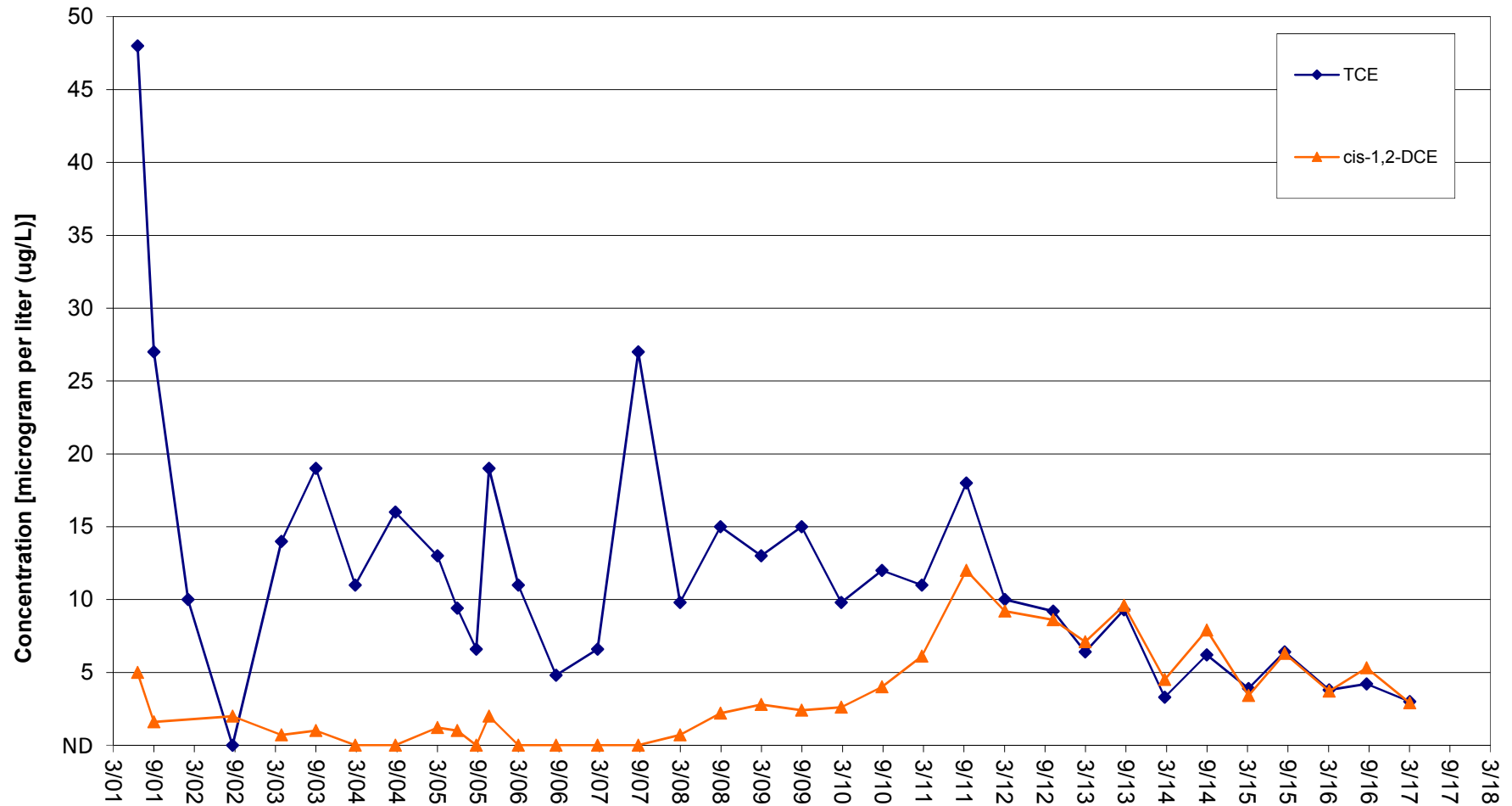
Notes:

ND - Not detected.

Reporting limit is 5 ug/L.

Results less than the reporting limit are estimated.

MW-BR-06



Notes:

ND - Not detected.

Reporting limit is 5 ug/L.

Results less than the reporting limit are estimated.

ATTACHMENT E

Data Validation Report



Data Validation Services

120 Cobble Creek Road P.O. Box 208
North Creek, NY 12853

Phone 518-251-4429
harry@frontiernet.net

April 8, 2017; Revised May 26, 2017

Mark Flusche
ARCADIS Malcolm Pirnie, Inc.
855 Route 146 Suite 210
Clifton Park, NY 12065

RE: Validation of the Former Philips Display Components Facility--Seneca Falls Site Data
Package-Groundwater
TAL-Buffalo SDG No. 480-115167-1

Dear Mr. Flusche:

Review has been completed for the data package generated by TestAmerica Laboratories that pertains to samples collected 03/27/17 at Seneca Falls, NY. Eight aqueous samples, a field duplicate, and a trip blank were analyzed for volatiles by USEPA SW846 method 8260C.

Data validation was performed with guidance from the USEPA Region II validation SOP HW-6, the USEPA CLP National Functional Guidelines for Organic Data Review, and the specific requirements of the analytical methodologies. The data packages were reviewed for the following items:

- * Data Completeness
- * Case Narrative
- * Custody Documentation
- * Holding Times
- * Surrogate Standard Recoveries
- * Matrix Spike Evaluations
- * Blind Field Duplicate Correlations
- * Blank Contamination
- * Laboratory Control Samples (LCSs)
- * Calibration Standard Responses
- * Internal Standard Responses
- * Method Compliance
- * Sample Results Verification

Those items showing deficiencies are discussed in the following sections of this report. All others were found to be acceptable as outlined in the above-mentioned validation procedures, and as applicable for the methodology. Unless noted specifically in the following text, reported results of validated sample analytes are substantiated by the raw data, and generated in compliance with project requirements.

In summary, samples were generally processed in compliance with stated protocols. Field sample results are usable either as reported or with minor qualification.

Copies of the sample identifications and laboratory case narrative are attached to this text, and should be reviewed in conjunction with this report. Also included are laboratory results forms with recommended qualifications applied in red ink.

VOA Analyses by EPA 8260C

Matrix spikes (MSs) of MW-24 show recoveries and correlations for the eleven evaluated analytes that are within validation guidelines. All target analytes should have been evaluated in the LCSs and MSs. Historically, accuracy and precision for this parent sample has been acceptable for all target analytes.

The blind field duplicate correlations of MW-25 are acceptable.

Surrogate and internal standard responses are within required range, and holding times were met. Blanks show no contamination.

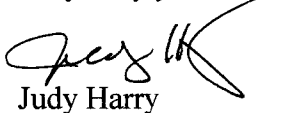
Calibration standards show acceptable responses, with the exception of the following, results for which are qualified as estimated in the indicated samples:

- bromomethane (24%D) in all samples/trip blank except DUP-0312717

Some of the samples were processed only at initial dilution due to high concentrations of target analytes. Reporting limits for non-detected analytes in those samples are therefore proportionally elevated.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,



Judy Harry

**CLIENT and LABORATORY SAMPLE IDs
and CASE NARRATIVE**

SAMPLE SUMMARY

Client: ARCADIS U.S. Inc

Job Number: 480-115167-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-115167-1	MW-22	Water	03/27/2017 1125	03/28/2017 0900
480-115167-2	MW-23	Water	03/27/2017 0940	03/28/2017 0900
480-115167-3	MW-24	Water	03/27/2017 1005	03/28/2017 0900
480-115167-3MS	MW-24	Water	03/27/2017 1005	03/28/2017 0900
480-115167-3MSD	MW-24	Water	03/27/2017 1005	03/28/2017 0900
480-115167-4	MW-25	Water	03/27/2017 1135	03/28/2017 0900
480-115167-5	MW-26	Water	03/27/2017 1030	03/28/2017 0900
480-115167-6	MW-29	Water	03/27/2017 1205	03/28/2017 0900
480-115167-7	MW-BR-05	Water	03/27/2017 1420	03/28/2017 0900
480-115167-8	MW-BR-06	Water	03/27/2017 1045	03/28/2017 0900
480-115167-9	DUP-032717	Water	03/27/2017 0000	03/28/2017 0900
480-115167-10	TRIP BLANK	Water	03/27/2017 0000	03/28/2017 0900

QUALIFIED SAMPLE RESULTS FORMS

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 480-115167-1

Client Sample ID: MW-22

Lab Sample ID: 480-115167-1

Client Matrix: Water

Date Sampled: 03/27/2017 1125

Date Received: 03/28/2017 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C	Analysis Batch: 480-349371	Instrument ID: HP5973N
Prep Method: 5030C	Prep Batch: N/A	Lab File ID: N4773.D
Dilution: 1.0		Initial Weight/Volume: 5 mL
Analysis Date: 03/30/2017 0249		Final Weight/Volume: 5 mL
Prep Date: 03/30/2017 0249		

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		0.82	5.0
1,1,2,2-Tetrachloroethane	ND		0.21	5.0
1,1,2-Trichloroethane	ND		0.23	5.0
1,1-Dichloroethane	ND		0.38	5.0
1,1-Dichloroethene	ND		0.29	5.0
1,2-Dichloroethane	ND		0.21	5.0
1,2-Dichloropropane	ND		0.72	5.0
2-Hexanone	ND		1.2	10
Acetone	44		3.0	10
Benzene	ND		0.41	5.0
Bromodichloromethane	ND		0.39	5.0
Bromoform	ND		0.26	5.0
Bromomethane	ND	UJ	0.69	5.0
Carbon disulfide	ND		0.19	5.0
Carbon tetrachloride	ND		0.27	5.0
Chlorobenzene	ND		0.75	5.0
Chloroethane	ND		0.32	5.0
Chloroform	ND		0.34	5.0
Chloromethane	ND		0.35	5.0
cis-1,2-Dichloroethene	14		0.81	5.0
cis-1,3-Dichloropropene	ND		0.36	5.0
Dibromochloromethane	ND		0.32	5.0
Dichlorodifluoromethane	ND		0.68	5.0
Ethylbenzene	ND		0.74	5.0
Methyl ethyl ketone (MEK)	ND		1.3	10
Methyl isobutyl ketone (MIBK)	ND		2.1	10
Methylene Chloride	ND		0.44	5.0
Styrene	ND		0.73	5.0
Tetrachloroethene	ND		0.36	5.0
Toluene	ND		0.51	5.0
trans-1,2-Dichloroethene	ND		0.90	5.0
trans-1,3-Dichloropropene	ND		0.37	5.0
Trichloroethene	9.3		0.46	5.0
Trichlorofluoromethane	ND		0.88	5.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	5.0
Xylenes, Total	ND		0.66	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	106		77 - 120
4-Bromofluorobenzene (Surr)	104		73 - 120
Toluene-d8 (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	105		75 - 123

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 480-115167-1

Client Sample ID: MW-23

Lab Sample ID: 480-115167-2

Client Matrix: Water

Date Sampled: 03/27/2017 0940

Date Received: 03/28/2017 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C	Analysis Batch: 480-349371	Instrument ID: HP5973N
Prep Method: 5030C	Prep Batch: N/A	Lab File ID: N4774.D
Dilution: 20		Initial Weight/Volume: 5 mL
Analysis Date: 03/30/2017 0316		Final Weight/Volume: 5 mL
Prep Date: 03/30/2017 0316		

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		16	100
1,1,2,2-Tetrachloroethane	ND		4.2	100
1,1,2-Trichloroethane	ND		4.6	100
1,1-Dichloroethane	ND		7.6	100
1,1-Dichloroethene	ND		5.8	100
1,2-Dichloroethane	ND		4.2	100
1,2-Dichloropropane	ND		14	100
2-Hexanone	ND		25	200
Acetone	65	J	60	200
Benzene	ND		8.2	100
Bromodichloromethane	ND		7.8	100
Bromoform	ND		5.2	100
Bromomethane	ND	UJ	14	100
Carbon disulfide	ND		3.8	100
Carbon tetrachloride	ND		5.4	100
Chlorobenzene	ND		15	100
Chloroethane	ND		6.4	100
Chloroform	ND		6.8	100
Chloromethane	ND		7.0	100
cis-1,2-Dichloroethene	170		16	100
cis-1,3-Dichloropropene	ND		7.2	100
Dibromochloromethane	ND		6.4	100
Dichlorodifluoromethane	ND		14	100
Ethylbenzene	ND		15	100
Methyl ethyl ketone (MEK)	ND		26	200
Methyl isobutyl ketone (MIBK)	ND		42	200
Methylene Chloride	ND		8.8	100
Styrene	ND		15	100
Tetrachloroethene	ND		7.2	100
Toluene	ND		10	100
trans-1,2-Dichloroethene	ND		18	100
trans-1,3-Dichloropropene	ND		7.4	100
Trichloroethene	1200		9.2	100
Trichlorofluoromethane	ND		18	100
Vinyl acetate	ND		17	100
Vinyl chloride	ND		18	100
Xylenes, Total	ND		13	100

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	101		77 - 120
4-Bromofluorobenzene (Surr)	102		73 - 120
Toluene-d8 (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	97		75 - 123

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 480-115167-1

Client Sample ID: MW-24

Lab Sample ID: 480-115167-3

Client Matrix: Water

Date Sampled: 03/27/2017 1005

Date Received: 03/28/2017 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-349371	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N4775.D
Dilution:	400			Initial Weight/Volume:	5 mL
Analysis Date:	03/30/2017 0342			Final Weight/Volume:	5 mL
Prep Date:	03/30/2017 0342				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		330	2000
1,1,2,2-Tetrachloroethane	ND		84	2000
1,1,2-Trichloroethane	ND		92	2000
1,1-Dichloroethane	ND		150	2000
1,1-Dichloroethene	ND		120	2000
1,2-Dichloroethane	ND		84	2000
1,2-Dichloropropane	ND		290	2000
2-Hexanone	ND		500	4000
Acetone	ND		1200	4000
Benzene	ND		160	2000
Bromodichloromethane	ND		160	2000
Bromoform	ND		100	2000
Bromomethane	ND	UJ	280	2000
Carbon disulfide	ND		76	2000
Carbon tetrachloride	ND		110	2000
Chlorobenzene	ND		300	2000
Chloroethane	ND		130	2000
Chloroform	ND		140	2000
Chloromethane	ND		140	2000
cis-1,2-Dichloroethene	16000		320	2000
cis-1,3-Dichloropropene	ND		140	2000
Dibromochloromethane	ND		130	2000
Dichlorodifluoromethane	ND	F1	270	2000
Ethylbenzene	ND		300	2000
Methyl ethyl ketone (MEK)	ND		530	4000
Methyl isobutyl ketone (MIBK)	ND		840	4000
Methylene Chloride	ND		180	2000
Styrene	ND		290	2000
Tetrachloroethene	ND		140	2000
Toluene	ND		200	2000
trans-1,2-Dichloroethene	ND		360	2000
trans-1,3-Dichloropropene	ND		150	2000
Trichloroethene	ND		180	2000
Trichlorofluoromethane	ND		350	2000
Vinyl acetate	ND		340	2000
Vinyl chloride	ND		360	2000
Xylenes, Total	ND		260	2000

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	104		77 - 120
4-Bromofluorobenzene (Surr)	102		73 - 120
Toluene-d8 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	106		75 - 123

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 480-115167-1

Client Sample ID: MW-25

Lab Sample ID: 480-115167-4

Client Matrix: Water

Date Sampled: 03/27/2017 1135

Date Received: 03/28/2017 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-349371	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N4776.D
Dilution:	5.0			Initial Weight/Volume:	5 mL
Analysis Date:	03/30/2017 0409			Final Weight/Volume:	5 mL
Prep Date:	03/30/2017 0409				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		4.1	25
1,1,2,2-Tetrachloroethane	ND		1.1	25
1,1,2-Trichloroethane	ND		1.2	25
1,1-Dichloroethane	11	J	1.9	25
1,1-Dichloroethene	1.6	J	1.5	25
1,2-Dichloroethane	ND		1.1	25
1,2-Dichloropropane	ND		3.6	25
2-Hexanone	ND		6.2	50
Acetone	56		15	50
Benzene	ND		2.1	25
Bromodichloromethane	ND		2.0	25
Bromoform	ND		1.3	25
Bromomethane	ND	UJ	3.5	25
Carbon disulfide	ND		0.95	25
Carbon tetrachloride	ND		1.4	25
Chlorobenzene	ND		3.8	25
Chloroethane	ND		1.6	25
Chloroform	ND		1.7	25
Chloromethane	ND		1.8	25
cis-1,2-Dichloroethene	160		4.1	25
cis-1,3-Dichloropropene	ND		1.8	25
Dibromochloromethane	ND		1.6	25
Dichlorodifluoromethane	ND		3.4	25
Ethylbenzene	ND		3.7	25
Methyl ethyl ketone (MEK)	ND		6.6	50
Methyl isobutyl ketone (MIBK)	ND		11	50
Methylene Chloride	ND		2.2	25
Styrene	ND		3.7	25
Tetrachloroethene	ND		1.8	25
Toluene	ND		2.6	25
trans-1,2-Dichloroethene	ND		4.5	25
trans-1,3-Dichloropropene	ND		1.9	25
Trichloroethene	7.7	J	2.3	25
Trichlorofluoromethane	ND		4.4	25
Vinyl acetate	ND		4.3	25
Vinyl chloride	ND		4.5	25
Xylenes, Total	ND		3.3	25

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	102		77 - 120
4-Bromofluorobenzene (Surr)	98		73 - 120
Toluene-d8 (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	99		75 - 123

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 480-115167-1

Client Sample ID: MW-26

Lab Sample ID: 480-115167-5

Client Matrix: Water

Date Sampled: 03/27/2017 1030

Date Received: 03/28/2017 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C	Analysis Batch: 480-349371	Instrument ID: HP5973N
Prep Method: 5030C	Prep Batch: N/A	Lab File ID: N4777.D
Dilution: 1.0		Initial Weight/Volume: 5 mL
Analysis Date: 03/30/2017 0435		Final Weight/Volume: 5 mL
Prep Date: 03/30/2017 0435		

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		0.82	5.0
1,1,2,2-Tetrachloroethane	ND		0.21	5.0
1,1,2-Trichloroethane	ND		0.23	5.0
1,1-Dichloroethane	0.85	J	0.38	5.0
1,1-Dichloroethene	0.54	J	0.29	5.0
1,2-Dichloroethane	ND		0.21	5.0
1,2-Dichloropropane	ND		0.72	5.0
2-Hexanone	ND		1.2	10
Acetone	58		3.0	10
Benzene	ND		0.41	5.0
Bromodichloromethane	ND		0.39	5.0
Bromoform	ND		0.26	5.0
Bromomethane	ND	UJ	0.69	5.0
Carbon disulfide	ND		0.19	5.0
Carbon tetrachloride	ND		0.27	5.0
Chlorobenzene	ND		0.75	5.0
Chloroethane	ND		0.32	5.0
Chloroform	ND		0.34	5.0
Chloromethane	ND		0.35	5.0
cis-1,2-Dichloroethene	85		0.81	5.0
cis-1,3-Dichloropropene	ND		0.36	5.0
Dibromochloromethane	ND		0.32	5.0
Dichlorodifluoromethane	ND		0.68	5.0
Ethylbenzene	ND		0.74	5.0
Methyl ethyl ketone (MEK)	ND		1.3	10
Methyl isobutyl ketone (MIBK)	ND		2.1	10
Methylene Chloride	ND		0.44	5.0
Styrene	ND		0.73	5.0
Tetrachloroethene	ND		0.36	5.0
Toluene	ND		0.51	5.0
trans-1,2-Dichloroethene	ND		0.90	5.0
trans-1,3-Dichloropropene	ND		0.37	5.0
Trichloroethene	61		0.46	5.0
Trichlorofluoromethane	ND		0.88	5.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	5.0
Xylenes, Total	ND		0.66	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	100		77 - 120
4-Bromofluorobenzene (Surr)	101		73 - 120
Toluene-d8 (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	102		75 - 123

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 480-115167-1

Client Sample ID: MW-29

Lab Sample ID: 480-115167-6

Client Matrix: Water

Date Sampled: 03/27/2017 1205

Date Received: 03/28/2017 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C	Analysis Batch: 480-349371	Instrument ID: HP5973N
Prep Method: 5030C	Prep Batch: N/A	Lab File ID: N4778.D
Dilution: 2.0		Initial Weight/Volume: 5 mL
Analysis Date: 03/30/2017 0502		Final Weight/Volume: 5 mL
Prep Date: 03/30/2017 0502		

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		1.6	10
1,1,2,2-Tetrachloroethane	ND		0.42	10
1,1,2-Trichloroethane	ND		0.46	10
1,1-Dichloroethane	ND		0.76	10
1,1-Dichloroethene	ND		0.58	10
1,2-Dichloroethane	ND		0.42	10
1,2-Dichloropropane	ND		1.4	10
2-Hexanone	ND		2.5	20
Acetone	59		6.0	20
Benzene	ND		0.82	10
Bromodichloromethane	ND		0.78	10
Bromoform	ND		0.52	10
Bromomethane	ND	UJ	1.4	10
Carbon disulfide	ND		0.38	10
Carbon tetrachloride	ND		0.54	10
Chlorobenzene	ND		1.5	10
Chloroethane	ND		0.64	10
Chloroform	ND		0.68	10
Chloromethane	ND		0.70	10
cis-1,2-Dichloroethene	150		1.6	10
cis-1,3-Dichloropropene	ND		0.72	10
Dibromochloromethane	ND		0.64	10
Dichlorodifluoromethane	ND		1.4	10
Ethylbenzene	ND		1.5	10
Methyl ethyl ketone (MEK)	ND		2.6	20
Methyl isobutyl ketone (MIBK)	ND		4.2	20
Methylene Chloride	ND		0.88	10
Styrene	ND		1.5	10
Tetrachloroethene	ND		0.72	10
Toluene	ND		1.0	10
trans-1,2-Dichloroethene	ND		1.8	10
trans-1,3-Dichloropropene	ND		0.74	10
Trichloroethene	ND		0.92	10
Trichlorofluoromethane	ND		1.8	10
Vinyl acetate	ND		1.7	10
Vinyl chloride	ND		1.8	10
Xylenes, Total	ND		1.3	10

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	104		77 - 120
4-Bromofluorobenzene (Surr)	98		73 - 120
Toluene-d8 (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	107		75 - 123

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 480-115167-1

Client Sample ID: MW-BR-05

Lab Sample ID: 480-115167-7

Client Matrix: Water

Date Sampled: 03/27/2017 1420

Date Received: 03/28/2017 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-349371	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N4779.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	03/30/2017 0529			Final Weight/Volume:	5 mL
Prep Date:	03/30/2017 0529				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		0.82	5.0
1,1,2,2-Tetrachloroethane	ND		0.21	5.0
1,1,2-Trichloroethane	ND		0.23	5.0
1,1-Dichloroethane	ND		0.38	5.0
1,1-Dichloroethene	ND		0.29	5.0
1,2-Dichloroethane	ND		0.21	5.0
1,2-Dichloropropane	ND		0.72	5.0
2-Hexanone	ND		1.2	10
Acetone	10		3.0	10
Benzene	ND		0.41	5.0
Bromodichloromethane	ND		0.39	5.0
Bromoform	ND		0.26	5.0
Bromomethane	ND	UJ	0.69	5.0
Carbon disulfide	ND		0.19	5.0
Carbon tetrachloride	ND		0.27	5.0
Chlorobenzene	ND		0.75	5.0
Chloroethane	ND		0.32	5.0
Chloroform	ND		0.34	5.0
Chloromethane	ND		0.35	5.0
cis-1,2-Dichloroethene	ND		0.81	5.0
cis-1,3-Dichloropropene	ND		0.36	5.0
Dibromochloromethane	ND		0.32	5.0
Dichlorodifluoromethane	ND		0.68	5.0
Ethylbenzene	ND		0.74	5.0
Methyl ethyl ketone (MEK)	ND		1.3	10
Methyl isobutyl ketone (MIBK)	ND		2.1	10
Methylene Chloride	ND		0.44	5.0
Styrene	ND		0.73	5.0
Tetrachloroethene	ND		0.36	5.0
Toluene	ND		0.51	5.0
trans-1,2-Dichloroethene	ND		0.90	5.0
trans-1,3-Dichloropropene	ND		0.37	5.0
Trichloroethene	ND		0.46	5.0
Trichlorofluoromethane	ND		0.88	5.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	5.0
Xylenes, Total	ND		0.66	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	101		77 - 120
4-Bromofluorobenzene (Surr)	98		73 - 120
Toluene-d8 (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	101		75 - 123

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 480-115167-1

Client Sample ID: MW-BR-06

Lab Sample ID: 480-115167-8

Client Matrix: Water

Date Sampled: 03/27/2017 1045

Date Received: 03/28/2017 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method: 8260C	Analysis Batch: 480-349371	Instrument ID: HP5973N
Prep Method: 5030C	Prep Batch: N/A	Lab File ID: N4780.D
Dilution: 1.0		Initial Weight/Volume: 5 mL
Analysis Date: 03/30/2017 0556		Final Weight/Volume: 5 mL
Prep Date: 03/30/2017 0556		

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		0.82	5.0
1,1,2,2-Tetrachloroethane	ND		0.21	5.0
1,1,2-Trichloroethane	ND		0.23	5.0
1,1-Dichloroethane	ND		0.38	5.0
1,1-Dichloroethene	ND		0.29	5.0
1,2-Dichloroethane	ND		0.21	5.0
1,2-Dichloropropane	ND		0.72	5.0
2-Hexanone	ND		1.2	10
Acetone	77		3.0	10
Benzene	ND		0.41	5.0
Bromodichloromethane	ND		0.39	5.0
Bromoform	ND		0.26	5.0
Bromomethane	ND	UJ	0.69	5.0
Carbon disulfide	ND		0.19	5.0
Carbon tetrachloride	ND		0.27	5.0
Chlorobenzene	ND		0.75	5.0
Chloroethane	ND		0.32	5.0
Chloroform	ND		0.34	5.0
Chloromethane	ND		0.35	5.0
cis-1,2-Dichloroethene	2.9	J	0.81	5.0
cis-1,3-Dichloropropene	ND		0.36	5.0
Dibromochloromethane	ND		0.32	5.0
Dichlorodifluoromethane	ND		0.68	5.0
Ethylbenzene	ND		0.74	5.0
Methyl ethyl ketone (MEK)	ND		1.3	10
Methyl isobutyl ketone (MIBK)	ND		2.1	10
Methylene Chloride	ND		0.44	5.0
Styrene	ND		0.73	5.0
Tetrachloroethene	ND		0.36	5.0
Toluene	ND		0.51	5.0
trans-1,2-Dichloroethene	ND		0.90	5.0
trans-1,3-Dichloropropene	ND		0.37	5.0
Trichloroethene	3.0	J	0.46	5.0
Trichlorofluoromethane	ND		0.88	5.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	5.0
Xylenes, Total	ND		0.66	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	104		77 - 120
4-Bromofluorobenzene (Surr)	102		73 - 120
Toluene-d8 (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	101		75 - 123

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 480-115167-1

Client Sample ID: DUP-032717

Lab Sample ID: 480-115167-9

Client Matrix: Water

Date Sampled: 03/27/2017 0000

Date Received: 03/28/2017 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-349819	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N4874.D
Dilution:	4.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/01/2017 0017			Final Weight/Volume:	5 mL
Prep Date:	04/01/2017 0017				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		3.3	20
1,1,2,2-Tetrachloroethane	ND		0.84	20
1,1,2-Trichloroethane	ND		0.92	20
1,1-Dichloroethane	13	J	1.5	20
1,1-Dichloroethene	1.9	J	1.2	20
1,2-Dichloroethane	ND		0.84	20
1,2-Dichloropropane	ND		2.9	20
2-Hexanone	ND		5.0	40
Acetone	53		12	40
Benzene	ND		1.6	20
Bromodichloromethane	ND		1.6	20
Bromoform	ND		1.0	20
Bromomethane	ND		2.8	20
Carbon disulfide	ND		0.76	20
Carbon tetrachloride	ND		1.1	20
Chlorobenzene	ND		3.0	20
Chloroethane	ND		1.3	20
Chloroform	ND		1.4	20
Chloromethane	ND		1.4	20
cis-1,2-Dichloroethene	170		3.2	20
cis-1,3-Dichloropropene	ND		1.4	20
Dibromochloromethane	ND		1.3	20
Dichlorodifluoromethane	ND		2.7	20
Ethylbenzene	ND		3.0	20
Methyl ethyl ketone (MEK)	ND		5.3	40
Methyl isobutyl ketone (MIBK)	ND		8.4	40
Methylene Chloride	ND		1.8	20
Styrene	ND		2.9	20
Tetrachloroethene	ND		1.4	20
Toluene	ND		2.0	20
trans-1,2-Dichloroethene	ND		3.6	20
trans-1,3-Dichloropropene	ND		1.5	20
Trichloroethene	7.5	J	1.8	20
Trichlorofluoromethane	ND		3.5	20
Vinyl acetate	ND		3.4	20
Vinyl chloride	ND		3.6	20
Xylenes, Total	ND		2.6	20

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	99		77 - 120
4-Bromofluorobenzene (Surr)	100		73 - 120
Toluene-d8 (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	104		75 - 123

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 480-115167-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-115167-10

Client Matrix: Water

Date Sampled: 03/27/2017 0000

Date Received: 03/28/2017 0900

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-349371	Instrument ID:	HP5973N
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	N4782.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	03/30/2017 0650			Final Weight/Volume:	5 mL
Prep Date:	03/30/2017 0650				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		0.82	5.0
1,1,2,2-Tetrachloroethane	ND		0.21	5.0
1,1,2-Trichloroethane	ND		0.23	5.0
1,1-Dichloroethane	ND		0.38	5.0
1,1-Dichloroethene	ND		0.29	5.0
1,2-Dichloroethane	ND		0.21	5.0
1,2-Dichloropropane	ND		0.72	5.0
2-Hexanone	ND		1.2	10
Acetone	ND		3.0	10
Benzene	ND		0.41	5.0
Bromodichloromethane	ND		0.39	5.0
Bromoform	ND		0.26	5.0
Bromomethane	ND	UJ	0.69	5.0
Carbon disulfide	ND		0.19	5.0
Carbon tetrachloride	ND		0.27	5.0
Chlorobenzene	ND		0.75	5.0
Chloroethane	ND		0.32	5.0
Chloroform	ND		0.34	5.0
Chloromethane	ND		0.35	5.0
cis-1,2-Dichloroethene	ND		0.81	5.0
cis-1,3-Dichloropropene	ND		0.36	5.0
Dibromochloromethane	ND		0.32	5.0
Dichlorodifluoromethane	ND		0.68	5.0
Ethylbenzene	ND		0.74	5.0
Methyl ethyl ketone (MEK)	ND		1.3	10
Methyl isobutyl ketone (MIBK)	ND		2.1	10
Methylene Chloride	ND		0.44	5.0
Styrene	ND		0.73	5.0
Tetrachloroethene	ND		0.36	5.0
Toluene	ND		0.51	5.0
trans-1,2-Dichloroethene	ND		0.90	5.0
trans-1,3-Dichloropropene	ND		0.37	5.0
Trichloroethene	ND		0.46	5.0
Trichlorofluoromethane	ND		0.88	5.0
Vinyl acetate	ND		0.85	5.0
Vinyl chloride	ND		0.90	5.0
Xylenes, Total	ND		0.66	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	100		77 - 120
4-Bromofluorobenzene (Surr)	101		73 - 120
Toluene-d8 (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	100		75 - 123