PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

25 YEARS 1991 - 2016

October 26, 2021

Mr. Kyle Forster
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233

Re: September 2021 Groundwater Monitoring Report
Former Loudon Kem Cleaners
350 Northern Blvd, Albany (Albany County), NY
NYSDEC Site No. 401060

Mr. Forster:

This letter serves as summary of ground water monitoring activities completed on September 14, 2021, for the Former Loudon Kem Cleaners site (the site). The site is located at 350 Northern Blvd., Albany (Albany County). However, for the purpose of this report, all activities were performed and completed off site at the Albany Memorial Hospital property, located at 600 Northern Blvd, Albany (Albany County). An aerial image and site map of the property are attached as Figure 1 and Figure 2, respectively.

Background – REGENESIS Injection:

During the period of October 2, 2017 through October 19, 2018 The New York State Department of Environmental Conservation (NYSDEC) coordinated with Precision Environmental Services (PES) and REGENESIS to perform a grid injection of Plume Stop into the subsurface of the parking lot located at Albany Memorial Hospital near groundwater monitoring wells MW-18 and MW-18D. The summary of injection activities can be reviewed in the *Application Summary Report for Remedial Services at the Former Loudon and Kem Cleaners Site* dated December 6, 2017 as prepared by REGENESIS (PES 2017). Routine monitoring well sampling has been performed since this injection event.

September 2021 Groundwater Monitoring Event:

The groundwater monitoring event was completed on September 14, 2021, by PES. Eight groundwater-monitoring wells (MW-11, MW-15, MW-16, MW-17, MW-18D, MW-23, MW-24, and MW-29) were gauged to determine depth to water at each location. The observed depth to water measurements ranged from 18.49 feet (MW-

23) to 30.03 feet (MW-29) below top of casing during the monitoring event. Groundwater elevations were determined based on surveyed datum by subtracting the depth to groundwater within each monitoring well from its respective top of casing elevation. Groundwater elevations ranged from a high of 209.65-feet (MW-11) to a low of MW-186.91-feet (MW-24). Non aqueous phase liquid (NAPL) was not documented during this monitoring event in any of the monitored wells. The well gauging data for all monitoring wells is summarized on the attached Table 1.

Monitoring wells with enough water were purged a minimum of three well volumes and allowed to recharge to equilibrium. Water samples were then collected and submitted for analysis of VOCs by EPA Method 8260, dissolved iron, and manganese (Method 6010C), nitrate (Method 353.2), sulfate (Method 300.0), total organic carbon (Method 9060A) and alkalinity (Method 310.2). Refer to Table 3 and Table 4 for analysis specific to each monitoring well. Groundwater parameters were recorded for ORP, DO, pH, specific conductivity, turbidity, and temperature at all eight well locations, with results shown on Table 2.

All groundwater samples were obtained by aseptic techniques, placed into clean glassware provided by the analytical laboratory, labeled, and placed on iced storage for subsequent submission under chain of custody to Eurofins in Amherst, NY. The resulting analytical data was tabulated as shown on Table 3 and Table 4.

Groundwater samples collected from monitoring wells MW-15, MW-18D, MW-24, and MW-29 reported concentrations of PCE exceeding the *GW Standard*. Cis-1,2-DCE concentrations exceeded the GW Standard in MW-18D and MW-29. TCE exceeded the GW Standard in MW-18D and MW-29. No other compounds exceeded the GW Standards. The laboratory data package and data usability summary report (DUSR) are attached.

Water samples were collected for dissolved metals (iron and manganese), sulfate, alkalinity, nitrate, and total organic carbon (see Table 4).

Should you have any questions regarding this correspondence, please contact the undersigned at (518) 885-4399.

Sincerely,
PRECISION ENVIRONMENTAL SERVICES, INC.

Brian Neumann
Project Manager

Figures 1 – 3
Tables 1 – 4
Laboratory Data Packages & DUSR

Figures

PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67,LOT 38
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

SITE AERIAL

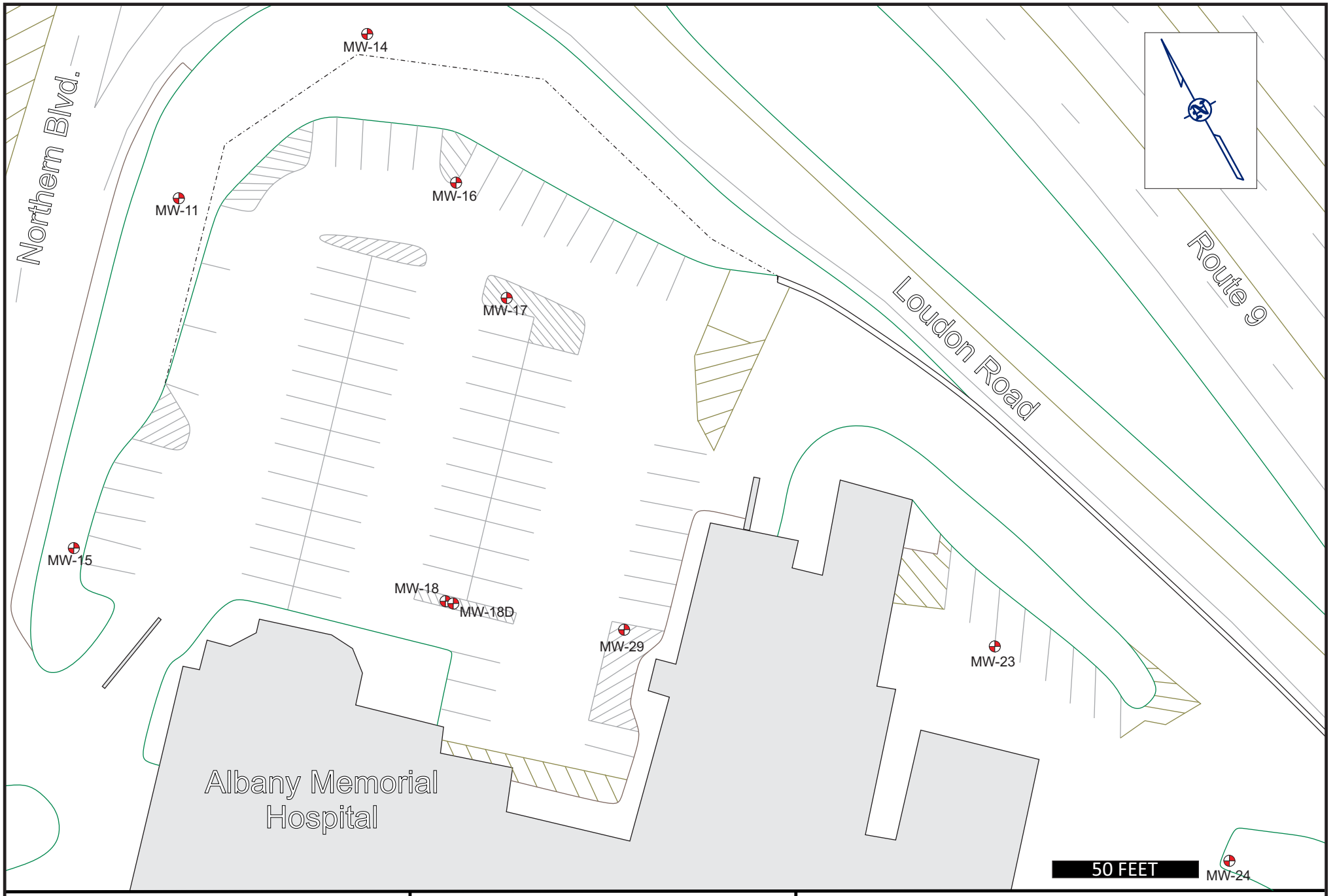
Location: Former Louden Kem Cleaners

Project No.: NYSDEC Spill No. 401060

Image Courtesy: Google Earth

Date: February, 2021

Figure: 1



PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67,LOT 38
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

SITE PLAN

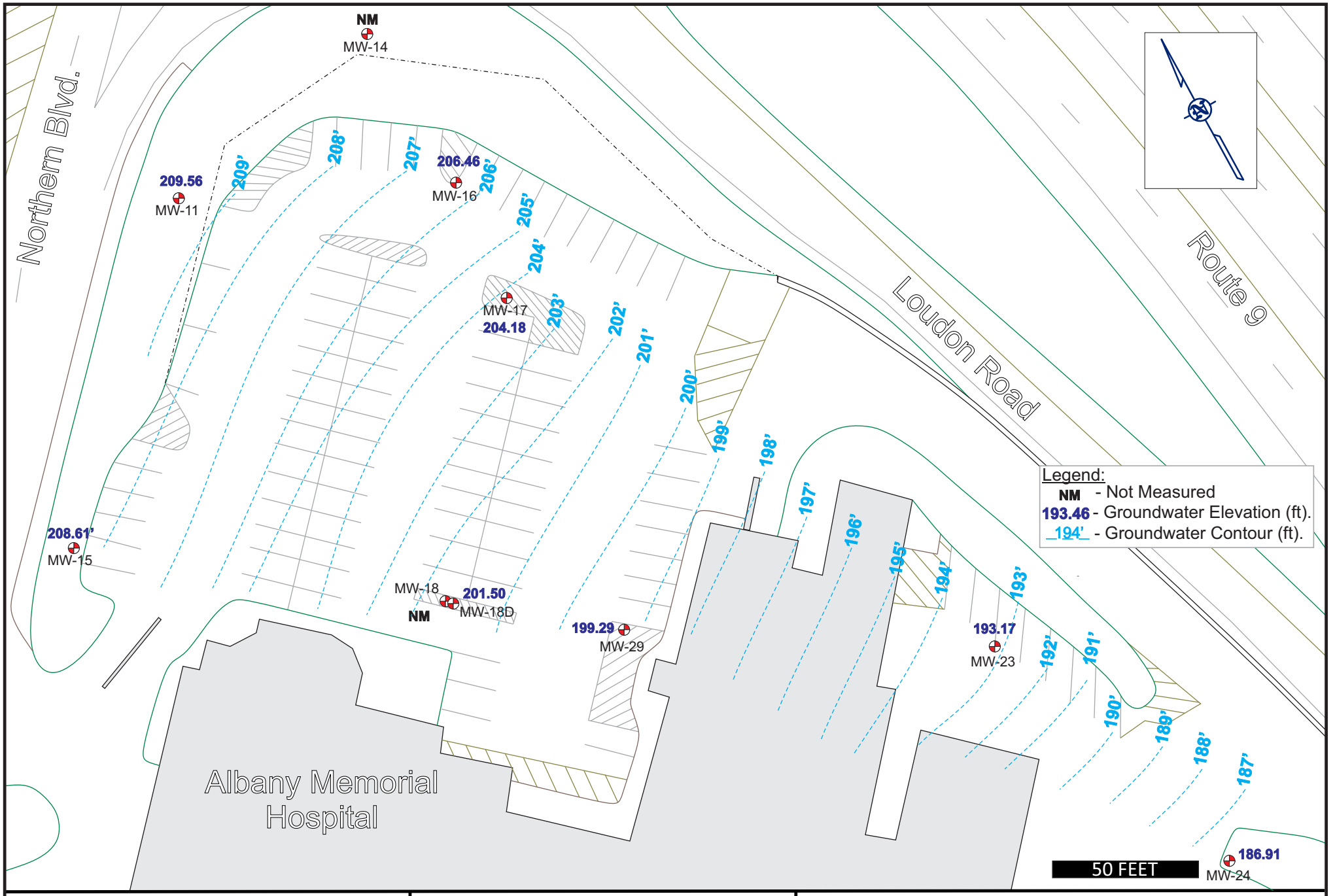
Location: Former Louden Kem Cleaners

Project No.: NYSDEC Spill No. 401060

Drawn By: JJJ

Date: September 2019

Figure: 2



PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67,LOT 38
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

GROUNDWATER ELEVATION
September 14, 2021

Location: Former Louden Kem Cleaners

Project No.: NYSDEC Spill No. 401060

Drawn By: BN

Date: September 14, 2021

Figure: 3

Tables

Table 1
Ground Water Gauging and Elevation Data
September 14, 2021

Well Identification	Well Diameter (Inches)	Top of Casing Elevation (feet)	Depth to Water (feet)	Depth to Bottom (feet)	Water Table Elevation (feet)
MW-11	1"	230.26	20.61	24.18	209.65
MW-15	1"	231.67	23.06	32.40	208.61
MW-16	1"	225.93	19.47	22.67	206.46
MW-17	1"	226.52	22.34	23.54	204.18
MW-18	1"	229.00	NM	NM	NM
MW-18D	2"	229.20	27.70	45.00	201.50
MW-23	2"	211.66	18.49	27.92	193.17
MW-24	2"	210.79	23.88	26.70	186.91
MW-29	2"	229.32	30.03	38.15	199.29

Note

* Montioring well has not been surveyed.

NM = Not measured or found in the field.

Table 2
Ground Water Quality

Date	Well Identification				
	MW-15*	MW-18D	MW-23	MW-24	MW-29
ORP (mV)					
January 30, 2020	-50	-32	-164	NS	-165
April 1, 2020	105.20	97.40	-47.2	NS	-58.4
August 8, 2020	73.70	84.50	75.1	73.90	104.80
November 19, 2020	0.658	158	2.25	5.39	3.11
March 25, 2021	89	122	-74	87	-12
September 14, 2021	196.8	193.4	62.3	170.9	174.3
Dissolved Oxygen (mg/L)					
January 30, 2020	12.73	11.39	7.69	NS	9.17
April 1, 2020	18.25	7.18	3.5	NS	3.11
August 8, 2020	7.06	6.80	1.6	3.26	3.27
November 19, 2020	7.42	10.75	10.01	2.6	10.59
March 25, 2021	7.21	9.25	3.22	6.28	3.35
September 14, 2021	9.3	9.41	5.19	6.82	7.07
pH					
January 30, 2020	7.59	7.23	7.66	NS	7.62
April 1, 2020	7.65	9.15	8.2	NS	7.58
August 8, 2020	6.79	6.77	6.6	6.50	6.45
November 19, 2020	7.32	7.52	7.05	6.84	7.11
March 25, 2021	6.92	6.82	7.27	6.48	7.19
September 14, 2021	7.5	7.37	7.2	6.5	7.23
Specific Conductivity (mS/cm)					
January 30, 2020	0.913	1.89	3.75	NS	6.19
April 1, 2020	710.00	1658.00	3606.0	NS	5156.00
August 8, 2020	0.63	0.59	2.3	6.15	2.89
November 19, 2020	0.658	0.649	2.25	5.39	3.11
March 25, 2021	0.845	0.863	2.34	6.56	2.85
September 14, 2021	0.646	0.687	1.796	5.85	3.478
Turbidity (NTU)					
January 30, 2020	429	150.00	>1000	NS	75.10
April 1, 2020	73.40	62.70	32.1	NS	30.40
August 8, 2020	NS	NS	NS	NS	NS
November 19, 2020	400	228	300	>1000	60
March 25, 2021	500	166	>1000	>1000	185
September 14, 2021	190.94	15.78	106.83	795.25	28.66
Temperature (°C)					
January 30, 2020	10.38	11.17	12.45	NS	12.58
April 1, 2020	12.70	14.20	13.8	NS	14.20
August 8, 2020	15.30	15.20	16.0	17.00	16.10
November 19, 2020	10.8	13.3	13.68	14.4	12.02
March 25, 2021	12.54	15.96	14.58	15.07	15.38
September 14, 2021	16.6	16.2	17	16.6	18.2

Notes:

NS = Not Sampled

Table 3
Groundwater VOC Results
2020/2021 Sample Events

	Monitoring Well Identification																														NYS DEC Groundwater Standards
	MW-15						MW-18D						MW-23						MW-24						MW-29						
Sample Date	1/30/2020	4/1/2020	8/7/2020	11/19/2020	3/25/2021	9/14/2021	1/30/2020	4/1/2020	8/7/2020	11/19/2020	3/25/2021	9/14/2021	1/30/2020	4/1/2020	8/7/2020	11/19/2020	3/25/2021	9/14/2021	1/30/2020	4/1/2020	8/7/2020	11/19/2020	3/25/2021	9/14/2021	1/30/2020	4/1/2020	8/7/2020	11/19/2020	3/25/2021	9/14/2021	
Volatile Organic Compounds (Method 8260)																															
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	8.9 J	ND	ND/ND	ND/ND	ND/ND	ND/ND	50
Cis-1,2-Dichloroethylene	ND	ND	ND	ND	ND	ND	21	43	28	27	18	8	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	13	19	14/14	21/20	24/23	12/10	5
Methylene Chloride	2.1 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	2.0 J	ND/ND	ND/ND	ND/ND	ND/ND	5
Tetrachloroethylene (PCE)	3.4 J	3.4	3.5	12	19	30	20	30	74	210	200 J	160	ND	0.38 J	1.3	0.72J	0.56 J	0.42 J	--	--	28	28	26	29	180	260	310/320	290/270	180/200	150/150	5
Trichloroethylene (TCE)	ND	ND	ND	ND	0.46 J	0.54 J	0.71 J	0.96 J	1.8	4	7	7	ND	ND	ND	ND	ND	ND	--	--	1.7	1.8	1.8	1.9 J	25	76	57/58	67/73	81/85	66/65	5
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	1.7	3.7 J	ND/ND	ND/ND	ND/ND	ND/ND	2

Notes:

Concentrations reported in micrograms per liter or ug/L.

Only compounds detected at one or more locations presented.

ND - Not Detected above the laboratory method detection limit

J - Result is less than the RL but greater than or equal to the MDL. Concentration is an approximate value.

B- Analyte is found in the associated blank, as well as in the sample. Analyte detection is suspect.

- Analyte concentration/Duplicate concentration

Analytical Facility - Test America - Amherst, NY

Highlighted values equal or exceed NYSDEC groundwater standards.

Table 4
Groundwater General Chemisty, Dissolved Gases, and Metals Results
2020/2021 Sample Events

	Units	Monitor Well Location																												NYS DEC Groundwater Standards
		MW-15						MW-18D						MW-23						MW-24						MW-29						
Sample Date		1/30/2020	4/1/2020	8/7/2020	11/19/2020	3/25/2021	9/14/2021	1/30/2020	4/1/2020	8/7/2020	11/19/2020	3/25/2021	9/14/2021	1/30/2020	4/1/2020	8/7/2020	11/19/2020	3/25/2021	9/14/2021	1/30/2020	4/1/2020	8/7/2020	11/19/2020	3/25/2021	9/14/2021	1/30/2020	4/1/2020	8/7/2020	11/19/2020	3/25/2021	9/14/2021	
General Chemistry																															
Sulfate	mg/L	NS	NS	NS	NS	50.5	47.6	NS	NS	NS	NS	48.7	47.1	NS	NS	NS	NS	54	52.9	NS	NS	NS	NS	67	69.6	NS	NS	NS	NS	95.8/97.4	103/102	------
Alkalinity, Total (As CaCO3)	mg/L	NS	NS	NS	NS	214	242 B	NS	NS	NS	NS	237	245 B	NS	NS	NS	NS	244	261	NS	NS	NS	NS	442	449	NS	NS	NS	NS	252/274	237/221	------
Nitrate (As N)	mg/L	NS	NS	NS	NS	2.3	2.5	NS	NS	NS	NS	2.5	2.2	NS	NS	NS	NS	0.038 J	0.093	NS	NS	NS	NS	0.23	2.1	NS	NS	NS	NS	0.068J/0.22J	0.064/0.074	
Total Organic Carbon	mg/L	NS	NS	NS	NS	2.0	0.51 J	NS	NS	NS	NS	0.64 J	ND	NS	NS	NS	NS	ND	ND	NS	NS	NS	NS	1.7	3	NS	NS	NS	NS	0.85J/1.0	1.6/1.6	------
Dissolved Gases																															
Ethane	ug/L	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	NS	NS	ND/ND	NS/NS	NS/NS	------
Ethene	ug/L	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	NS	NS	ND/ND	NS/NS	NS/NS	------
Methane	ug/L	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.7 J	NS	NS	NS	NS	NS	ND/ND	NS/NS	NS/NS	------
Metals																															
Total Iron	mg/L	NS	NS	NS	81.3	NS	NS	NS	NS	NS	10	10	10	NS	NS	NS	215	NS	NS	NS	NS	NS	98.9	NS	NS	NS	NS	NS	12.8/9.3	NS/NS	NS/NS	------
Dissolved Iron	mg/L	NS	NS	NS	NS	ND	ND	NS	NS	NS	NS	0.042 J	ND	NS	NS	NS	NS	ND	ND	NS	NS	NS	NS	ND	ND	NS	NS	NS	NS	ND/ND	ND/ND	------
Total Manganese	mg/L	NS	NS	NS	3.5	NS	NS	NS	NS	NS	0.38	0.38	0.38	NS	NS	NS	11.3	NS	NS	NS	NS	NS	11.9	NS	NS	NS	NS	NS	2.6/1.6	NS/NS	NS/NS	------
Dissolved Manganese	mg/L	NS	NS	NS	NS	0.00074 J	ND	NS	NS	NS	NS	0.030 BJ	0.096	NS	NS	NS	NS	0.70 BJ	0.42	NS	NS	NS	NS	0.022 BJ	0.018	NS	NS	NS	NS	0.065BJ/0.057BJ	0.025 J/0.039 J	------

Notes:

NS - Not Sampled

ND - Not Detected above the laboratory method detection limit

J - Result is less than the RL but greater than or equal to the MDL. Concentration is an approximate value.

B- Analyte is found in the associated blank, as well as in the sample. Analyte detection is suspect.

#/# - Analyte concentration/Duplicate concentration

Analytical Facility - Test America - Amherst, NY

Attachment – Laboratory Data Package & DUSR

ALPHA GEOSCIENCE

Geology
Hydrology
Remediation
Water Supply

Data Usability Summary Report (DUSR) for
TestAmerica Buffalo, Job Number: 480-189543-1

5 Ground Water Samples, 1 Field Duplicate,
and 1 Trip Blank
Collected September 14, 2021

Prepared by: Donald Anné
October 18, 2021

The data package contains the documentation required by NYSDEC ASP. The proper chain of custody procedures were followed by the samplers. All information appears legible and complete. The data pack contained the results for 5 ground water samples and 1 field duplicate analyzed for volatiles, alkalinity, sulfate, nitrate, total organic carbon, iron, and manganese, and 1 trip blank analyzed for volatiles only.

The overall performances of the analyses are acceptable. Eurofins TestAmerica-Buffalo did fulfill the requirements of the laboratory referenced analytical method.

The data are acceptable with some minor issues that are identified in the accompanying data validation review. The following data were qualified:

- The positive metal results for manganese were qualified as "estimated" (J) in samples MW-29 and DUP A because the relative percent difference for manganese was above the allowable maximum in aqueous field duplicate pair MW-29/DUP A.

All data are considered usable with estimated (J, J-, or UJ) data associated with a higher level of quantitative uncertainty. Detailed information on data quality is included in the data validation reviews.

679 Plank Road ● Clifton Park, New York 12065 ● (518) 348-6995 ● Fax (518) 348-6966
www.alphageoscience.com

Qualified Data Section

Client Sample ID: MW-1S
Date Collected: 09/14/21 14:15
Date Received: 09/15/21 08:00

Lab Sample ID: 480-189543-1
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	ND		1.0	0.82	ug/L			09/22/21 13:54	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			09/22/21 13:54	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			09/22/21 13:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			09/22/21 13:54	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			09/22/21 13:54	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			09/22/21 13:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			09/22/21 13:54	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			09/22/21 13:54	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			09/22/21 13:54	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			09/22/21 13:54	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			09/22/21 13:54	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			09/22/21 13:54	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			09/22/21 13:54	1
2-Butanone (MEK)	ND		10	1.3	ug/L			09/22/21 13:54	1
2-Hexanone	ND		5.0	1.2	ug/L			09/22/21 13:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			09/22/21 13:54	1
Acetone	ND		10	3.0	ug/L			09/22/21 13:54	1
Benzene	ND		1.0	0.41	ug/L			09/22/21 13:54	1
Bromodichloromethane	ND		1.0	0.39	ug/L			09/22/21 13:54	1
Bromoform	ND		1.0	0.26	ug/L			09/22/21 13:54	1
Bromomethane	ND		1.0	0.69	ug/L			09/22/21 13:54	1
Carbon disulfide	ND		1.0	0.19	ug/L			09/22/21 13:54	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			09/22/21 13:54	1
Chlorobenzene	ND		1.0	0.75	ug/L			09/22/21 13:54	1
Dibromochloromethane	ND		1.0	0.32	ug/L			09/22/21 13:54	1
Chloroethane	ND		1.0	0.32	ug/L			09/22/21 13:54	1
Chloroform	ND		1.0	0.34	ug/L			09/22/21 13:54	1
Chloromethane	ND		1.0	0.35	ug/L			09/22/21 13:54	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			09/22/21 13:54	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			09/22/21 13:54	1
Cyclohexane	ND		1.0	0.18	ug/L			09/22/21 13:54	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			09/22/21 13:54	1
Ethylbenzene	ND		1.0	0.74	ug/L			09/22/21 13:54	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			09/22/21 13:54	1
Isopropylbenzene	ND		1.0	0.79	ug/L			09/22/21 13:54	1
Methyl acetate	ND		2.5	1.3	ug/L			09/22/21 13:54	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			09/22/21 13:54	1
Methylcyclohexane	ND		1.0	0.16	ug/L			09/22/21 13:54	1
Methylene Chloride	ND		1.0	0.44	ug/L			09/22/21 13:54	1
Styrene	ND		1.0	0.73	ug/L			09/22/21 13:54	1
Tetrachloroethene	**30**		1.0	0.36	ug/L			09/22/21 13:54	1
Toluene	ND		1.0	0.51	ug/L			09/22/21 13:54	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			09/22/21 13:54	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			09/22/21 13:54	1
Trichloroethene	**0.54**	**J**	1.0	0.46	ug/L			09/22/21 13:54	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			09/22/21 13:54	1
Vinyl chloride	ND		1.0	0.90	ug/L			09/22/21 13:54	1
Xylenes, Total	ND		2.0	0.66	ug/L			09/22/21 13:54	1

Client Sample ID: MW-1S
Date Collected: 09/14/21 14:15
Date Received: 09/15/21 08:00

Lab Sample ID: 480-189543-1
Matrix: Water

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/22/21 13:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 120		09/22/21 13:54	1
1,2-Dichloroethane-d4 (Surr)	101		77 - 120		09/22/21 13:54	1
4-Bromofluorobenzene (Surr)	104		73 - 120		09/22/21 13:54	1
Dibromofluoromethane (Surr)	99		75 - 123		09/22/21 13:54	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		09/22/21 09:19	09/22/21 17:32	1
Manganese	ND		0.0030	0.00040	mg/L		09/22/21 09:19	09/22/21 17:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**47.6**		4.0	0.70	mg/L			09/17/21 04:04	2
Alkalinity, Total	**242**	**B**	50.0	20.0	mg/L			09/21/21 00:08	5
Total Organic Carbon	**0.51**	**J**	1.0	0.43	mg/L			09/22/21 06:44	1
Nitrate as N	**2.5**		0.050	0.020	mg/L			09/15/21 20:55	1

Client Sample ID: MW-18D
Date Collected: 09/14/21 14:20
Date Received: 09/15/21 08:00

Lab Sample ID: 480-189543-2
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	ND		4.0	3.3	ug/L			09/22/21 14:17	4
1,1,2,2-Tetrachloroethane	ND		4.0	0.84	ug/L			09/22/21 14:17	4
1,1,2-Trichloroethane	ND		4.0	0.92	ug/L			09/22/21 14:17	4
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.0	1.2	ug/L			09/22/21 14:17	4
1,1-Dichloroethane	ND		4.0	1.5	ug/L			09/22/21 14:17	4
1,1-Dichloroethene	ND		4.0	1.2	ug/L			09/22/21 14:17	4
1,2,4-Trichlorobenzene	ND		4.0	1.6	ug/L			09/22/21 14:17	4
1,2-Dibromo-3-Chloropropane	ND		4.0	1.6	ug/L			09/22/21 14:17	4
1,2-Dichlorobenzene	ND		4.0	3.2	ug/L			09/22/21 14:17	4
1,2-Dichloroethane	ND		4.0	0.84	ug/L			09/22/21 14:17	4
1,2-Dichloropropane	ND		4.0	2.9	ug/L			09/22/21 14:17	4
1,3-Dichlorobenzene	ND		4.0	3.1	ug/L			09/22/21 14:17	4
1,4-Dichlorobenzene	ND		4.0	3.4	ug/L			09/22/21 14:17	4
2-Butanone (MEK)	ND		40	5.3	ug/L			09/22/21 14:17	4
2-Hexanone	ND		20	5.0	ug/L			09/22/21 14:17	4
4-Methyl-2-pentanone (MIBK)	ND		20	8.4	ug/L			09/22/21 14:17	4
Acetone	ND		40	12	ug/L			09/22/21 14:17	4
Benzene	ND		4.0	1.6	ug/L			09/22/21 14:17	4
Bromodichloromethane	ND		4.0	1.6	ug/L			09/22/21 14:17	4
Bromoform	ND		4.0	1.0	ug/L			09/22/21 14:17	4
Bromomethane	ND		4.0	2.8	ug/L			09/22/21 14:17	4
Carbon disulfide	ND		4.0	0.76	ug/L			09/22/21 14:17	4
Carbon tetrachloride	ND		4.0	1.1	ug/L			09/22/21 14:17	4
Chlorobenzene	ND		4.0	3.0	ug/L			09/22/21 14:17	4
Dibromochloromethane	ND		4.0	1.3	ug/L			09/22/21 14:17	4

Client Sample ID: MW-18D
Date Collected: 09/14/21 14:20
Date Received: 09/15/21 08:00

Lab Sample ID: 480-189543-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		4.0	1.3	ug/L			09/22/21 14:17	4
Chloroform	ND		4.0	1.4	ug/L			09/22/21 14:17	4
Chloromethane	ND		4.0	1.4	ug/L			09/22/21 14:17	4
cis-1,2-Dichloroethene	**8.0**		4.0	3.2	ug/L			09/22/21 14:17	4
cis-1,3-Dichloropropene	ND	F2	4.0	1.4	ug/L			09/22/21 14:17	4
Cyclohexane	ND		4.0	0.72	ug/L			09/22/21 14:17	4
Dichlorodifluoromethane	ND		4.0	2.7	ug/L			09/22/21 14:17	4
Ethylbenzene	ND		4.0	3.0	ug/L			09/22/21 14:17	4
1,2-Dibromoethane	ND		4.0	2.9	ug/L			09/22/21 14:17	4
Isopropylbenzene	ND		4.0	3.2	ug/L			09/22/21 14:17	4
Methyl acetate	ND		10	5.2	ug/L			09/22/21 14:17	4
Methyl tert-butyl ether	ND		4.0	0.64	ug/L			09/22/21 14:17	4
Methylcyclohexane	ND		4.0	0.64	ug/L			09/22/21 14:17	4
Methylene Chloride	ND		4.0	1.8	ug/L			09/22/21 14:17	4
Styrene	ND		4.0	2.9	ug/L			09/22/21 14:17	4
Tetrachloroethene	**160**		4.0	1.4	ug/L			09/22/21 14:17	4
Toluene	ND		4.0	2.0	ug/L			09/22/21 14:17	4
trans-1,2-Dichloroethene	ND		4.0	3.6	ug/L			09/22/21 14:17	4
trans-1,3-Dichloropropene	ND		4.0	1.5	ug/L			09/22/21 14:17	4
Trichloroethene	**7.0**		4.0	1.8	ug/L			09/22/21 14:17	4
Trichlorofluoromethane	ND		4.0	3.5	ug/L			09/22/21 14:17	4
Vinyl chloride	ND		4.0	3.6	ug/L			09/22/21 14:17	4
Xylenes, Total	ND		8.0	2.6	ug/L			09/22/21 14:17	4

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*09/22/21 14:17*	*4*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*80 - 120*		*09/22/21 14:17*	*4*
1,2-Dichloroethane-d4 (Surr)	*102*		*77 - 120*		*09/22/21 14:17*	*4*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*09/22/21 14:17*	*4*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*09/22/21 14:17*	*4*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		09/22/21 09:19	09/22/21 17:36	1
Manganese	**0.096**		0.0030	0.00040	mg/L		09/22/21 09:19	09/22/21 17:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**47.1**		10.0	1.7	mg/L			09/17/21 01:54	5
Alkalinity, Total	**245**	**B F1**	50.0	20.0	mg/L			09/21/21 00:09	5
Total Organic Carbon	ND		1.0	0.43	mg/L			09/22/21 08:40	1
Nitrate as N	**2.2**		0.050	0.020	mg/L			09/15/21 20:49	1

Client Sample ID: MW-23
Date Collected: 09/14/21 14:30
Date Received: 09/15/21 08:00

Lab Sample ID: 480-189543-3
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	ND		1.0	0.82	ug/L			09/22/21 14:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			09/22/21 14:40	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			09/22/21 14:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			09/22/21 14:40	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			09/22/21 14:40	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			09/22/21 14:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			09/22/21 14:40	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			09/22/21 14:40	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			09/22/21 14:40	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			09/22/21 14:40	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			09/22/21 14:40	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			09/22/21 14:40	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			09/22/21 14:40	1
2-Butanone (MEK)	ND		10	1.3	ug/L			09/22/21 14:40	1
2-Hexanone	ND		5.0	1.2	ug/L			09/22/21 14:40	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			09/22/21 14:40	1
Acetone	ND		10	3.0	ug/L			09/22/21 14:40	1
Benzene	ND		1.0	0.41	ug/L			09/22/21 14:40	1
Bromodichloromethane	ND		1.0	0.39	ug/L			09/22/21 14:40	1
Bromoform	ND		1.0	0.26	ug/L			09/22/21 14:40	1
Bromomethane	ND		1.0	0.69	ug/L			09/22/21 14:40	1
Carbon disulfide	ND		1.0	0.19	ug/L			09/22/21 14:40	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			09/22/21 14:40	1
Chlorobenzene	ND		1.0	0.75	ug/L			09/22/21 14:40	1
Dibromochloromethane	ND		1.0	0.32	ug/L			09/22/21 14:40	1
Chloroethane	ND		1.0	0.32	ug/L			09/22/21 14:40	1
Chloroform	ND		1.0	0.34	ug/L			09/22/21 14:40	1
Chloromethane	ND		1.0	0.35	ug/L			09/22/21 14:40	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			09/22/21 14:40	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			09/22/21 14:40	1
Cyclohexane	ND		1.0	0.18	ug/L			09/22/21 14:40	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			09/22/21 14:40	1
Ethylbenzene	ND		1.0	0.74	ug/L			09/22/21 14:40	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			09/22/21 14:40	1
Isopropylbenzene	ND		1.0	0.79	ug/L			09/22/21 14:40	1
Methyl acetate	ND		2.5	1.3	ug/L			09/22/21 14:40	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			09/22/21 14:40	1
Methylcyclohexane	ND		1.0	0.16	ug/L			09/22/21 14:40	1
Methylene Chloride	ND		1.0	0.44	ug/L			09/22/21 14:40	1
Styrene	ND		1.0	0.73	ug/L			09/22/21 14:40	1
Tetrachloroethene	**0.42**	**J**	1.0	0.36	ug/L			09/22/21 14:40	1
Toluene	ND		1.0	0.51	ug/L			09/22/21 14:40	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			09/22/21 14:40	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			09/22/21 14:40	1
Trichloroethene	ND		1.0	0.46	ug/L			09/22/21 14:40	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			09/22/21 14:40	1
Vinyl chloride	ND		1.0	0.90	ug/L			09/22/21 14:40	1
Xylenes, Total	ND		2.0	0.66	ug/L			09/22/21 14:40	1

Client Sample ID: MW-23 — Lab Sample ID: 480-189543-3

Date Collected: 09/14/21 14:30 — **Matrix: Water**
Date Received: 09/15/21 08:00

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/22/21 14:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 120		09/22/21 14:40	1
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		09/22/21 14:40	1
4-Bromofluorobenzene (Surr)	100		73 - 120		09/22/21 14:40	1
Dibromofluoromethane (Surr)	101		75 - 123		09/22/21 14:40	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		09/22/21 09:19	09/22/21 18:05	1
Manganese	**0.42**		0.0030	0.00040	mg/L		09/22/21 09:19	09/22/21 18:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**52.9**		10.0	1.7	mg/L			09/17/21 04:22	5
Alkalinity, Total	**261**		50.0	20.0	mg/L			09/21/21 00:10	5
Total Organic Carbon	ND		1.0	0.43	mg/L			09/22/21 07:12	1
Nitrate as N	**0.093**		0.050	0.020	mg/L			09/15/21 20:56	1

Client Sample ID: MW-24 — Lab Sample ID: 480-189543-4

Date Collected: 09/14/21 14:35 — **Matrix: Water**
Date Received: 09/15/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	1.6	ug/L			09/22/21 15:03	2
1,1,2,2-Tetrachloroethane	ND		2.0	0.42	ug/L			09/22/21 15:03	2
1,1,2-Trichloroethane	ND		2.0	0.46	ug/L			09/22/21 15:03	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.62	ug/L			09/22/21 15:03	2
1,1-Dichloroethane	ND		2.0	0.76	ug/L			09/22/21 15:03	2
1,1-Dichloroethene	ND		2.0	0.58	ug/L			09/22/21 15:03	2
1,2,4-Trichlorobenzene	ND		2.0	0.82	ug/L			09/22/21 15:03	2
1,2-Dibromo-3-Chloropropane	ND		2.0	0.78	ug/L			09/22/21 15:03	2
1,2-Dichlorobenzene	ND		2.0	1.6	ug/L			09/22/21 15:03	2
1,2-Dichloroethane	ND		2.0	0.42	ug/L			09/22/21 15:03	2
1,2-Dichloropropane	ND		2.0	1.4	ug/L			09/22/21 15:03	2
1,3-Dichlorobenzene	ND		2.0	1.6	ug/L			09/22/21 15:03	2
1,4-Dichlorobenzene	ND		2.0	1.7	ug/L			09/22/21 15:03	2
2-Butanone (MEK)	ND		20	2.6	ug/L			09/22/21 15:03	2
2-Hexanone	ND		10	2.5	ug/L			09/22/21 15:03	2
4-Methyl-2-pentanone (MIBK)	ND		10	4.2	ug/L			09/22/21 15:03	2
Acetone	ND		20	6.0	ug/L			09/22/21 15:03	2
Benzene	ND		2.0	0.82	ug/L			09/22/21 15:03	2
Bromodichloromethane	ND		2.0	0.78	ug/L			09/22/21 15:03	2
Bromoform	ND		2.0	0.52	ug/L			09/22/21 15:03	2
Bromomethane	ND		2.0	1.4	ug/L			09/22/21 15:03	2
Carbon disulfide	ND		2.0	0.38	ug/L			09/22/21 15:03	2
Carbon tetrachloride	ND		2.0	0.54	ug/L			09/22/21 15:03	2
Chlorobenzene	ND		2.0	1.5	ug/L			09/22/21 15:03	2
Dibromochloromethane	ND		2.0	0.64	ug/L			09/22/21 15:03	2

Client Sample ID: MW-24
Date Collected: 09/14/21 14:35
Date Received: 09/15/21 08:00

Lab Sample ID: 480-189543-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		2.0	0.64	ug/L			09/22/21 15:03	2
Chloroform	ND		2.0	0.68	ug/L			09/22/21 15:03	2
Chloromethane	ND		2.0	0.70	ug/L			09/22/21 15:03	2
cis-1,2-Dichloroethene	ND		2.0	1.6	ug/L			09/22/21 15:03	2
cis-1,3-Dichloropropene	ND		2.0	0.72	ug/L			09/22/21 15:03	2
Cyclohexane	ND		2.0	0.36	ug/L			09/22/21 15:03	2
Dichlorodifluoromethane	ND		2.0	1.4	ug/L			09/22/21 15:03	2
Ethylbenzene	ND		2.0	1.5	ug/L			09/22/21 15:03	2
1,2-Dibromoethane	ND		2.0	1.5	ug/L			09/22/21 15:03	2
Isopropylbenzene	ND		2.0	1.6	ug/L			09/22/21 15:03	2
Methyl acetate	ND		5.0	2.6	ug/L			09/22/21 15:03	2
Methyl tert-butyl ether	ND		2.0	0.32	ug/L			09/22/21 15:03	2
Methylcyclohexane	ND		2.0	0.32	ug/L			09/22/21 15:03	2
Methylene Chloride	ND		2.0	0.88	ug/L			09/22/21 15:03	2
Styrene	ND		2.0	1.5	ug/L			09/22/21 15:03	2
Tetrachloroethene	**29**		2.0	0.72	ug/L			09/22/21 15:03	2
Toluene	ND		2.0	1.0	ug/L			09/22/21 15:03	2
trans-1,2-Dichloroethene	ND		2.0	1.8	ug/L			09/22/21 15:03	2
trans-1,3-Dichloropropene	ND		2.0	0.74	ug/L			09/22/21 15:03	2
Trichloroethene	**1.9**	**J**	2.0	0.92	ug/L			09/22/21 15:03	2
Trichlorofluoromethane	ND		2.0	1.8	ug/L			09/22/21 15:03	2
Vinyl chloride	ND		2.0	1.8	ug/L			09/22/21 15:03	2
Xylenes, Total	ND		4.0	1.3	ug/L			09/22/21 15:03	2

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*09/22/21 15:03*	*2*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*09/22/21 15:03*	*2*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*09/22/21 15:03*	*2*
4-Bromofluorobenzene (Surr)	*98*		*73 - 120*		*09/22/21 15:03*	*2*
Dibromofluoromethane (Surr)	*100*		*75 - 123*		*09/22/21 15:03*	*2*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		09/22/21 09:19	09/22/21 18:09	1
Manganese	**0.018**		0.0030	0.00040	mg/L		09/22/21 09:19	09/22/21 18:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**69.6**		40.0	7.0	mg/L			09/17/21 04:41	20
Alkalinity, Total	**449**		50.0	20.0	mg/L			09/21/21 00:11	5
Total Organic Carbon	**3.0**		1.0	0.43	mg/L			09/22/21 10:05	1
Nitrate as N	**2.1**		0.050	0.020	mg/L			09/15/21 20:58	1

Client Sample ID: MW-29
Date Collected: 09/14/21 14:40
Date Received: 09/15/21 08:00

Lab Sample ID: 480-189543-5
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	ND		4.0	3.3	ug/L			09/22/21 15:26	4
1,1,2,2-Tetrachloroethane	ND		4.0	0.84	ug/L			09/22/21 15:26	4
1,1,2-Trichloroethane	ND		4.0	0.92	ug/L			09/22/21 15:26	4
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.0	1.2	ug/L			09/22/21 15:26	4
1,1-Dichloroethane	ND		4.0	1.5	ug/L			09/22/21 15:26	4
1,1-Dichloroethene	ND		4.0	1.2	ug/L			09/22/21 15:26	4
1,2,4-Trichlorobenzene	ND		4.0	1.6	ug/L			09/22/21 15:26	4
1,2-Dibromo-3-Chloropropane	ND		4.0	1.6	ug/L			09/22/21 15:26	4
1,2-Dichlorobenzene	ND		4.0	3.2	ug/L			09/22/21 15:26	4
1,2-Dichloroethane	ND		4.0	0.84	ug/L			09/22/21 15:26	4
1,2-Dichloropropane	ND		4.0	2.9	ug/L			09/22/21 15:26	4
1,3-Dichlorobenzene	ND		4.0	3.1	ug/L			09/22/21 15:26	4
1,4-Dichlorobenzene	ND		4.0	3.4	ug/L			09/22/21 15:26	4
2-Butanone (MEK)	ND		40	5.3	ug/L			09/22/21 15:26	4
2-Hexanone	ND		20	5.0	ug/L			09/22/21 15:26	4
4-Methyl-2-pentanone (MIBK)	ND		20	8.4	ug/L			09/22/21 15:26	4
Acetone	ND		40	12	ug/L			09/22/21 15:26	4
Benzene	ND		4.0	1.6	ug/L			09/22/21 15:26	4
Bromodichloromethane	ND		4.0	1.6	ug/L			09/22/21 15:26	4
Bromoform	ND		4.0	1.0	ug/L			09/22/21 15:26	4
Bromomethane	ND		4.0	2.8	ug/L			09/22/21 15:26	4
Carbon disulfide	ND		4.0	0.76	ug/L			09/22/21 15:26	4
Carbon tetrachloride	ND		4.0	1.1	ug/L			09/22/21 15:26	4
Chlorobenzene	ND		4.0	3.0	ug/L			09/22/21 15:26	4
Dibromochloromethane	ND		4.0	1.3	ug/L			09/22/21 15:26	4
Chloroethane	ND		4.0	1.3	ug/L			09/22/21 15:26	4
Chloroform	ND		4.0	1.4	ug/L			09/22/21 15:26	4
Chloromethane	ND		4.0	1.4	ug/L			09/22/21 15:26	4
cis-1,2-Dichloroethene	**12**		4.0	3.2	ug/L			09/22/21 15:26	4
cis-1,3-Dichloropropene	ND		4.0	1.4	ug/L			09/22/21 15:26	4
Cyclohexane	ND		4.0	0.72	ug/L			09/22/21 15:26	4
Dichlorodifluoromethane	ND		4.0	2.7	ug/L			09/22/21 15:26	4
Ethylbenzene	ND		4.0	3.0	ug/L			09/22/21 15:26	4
1,2-Dibromoethane	ND		4.0	2.9	ug/L			09/22/21 15:26	4
Isopropylbenzene	ND		4.0	3.2	ug/L			09/22/21 15:26	4
Methyl acetate	ND		10	5.2	ug/L			09/22/21 15:26	4
Methyl tert-butyl ether	ND		4.0	0.64	ug/L			09/22/21 15:26	4
Methylcyclohexane	ND		4.0	0.64	ug/L			09/22/21 15:26	4
Methylene Chloride	ND		4.0	1.8	ug/L			09/22/21 15:26	4
Styrene	ND		4.0	2.9	ug/L			09/22/21 15:26	4
Tetrachloroethene	**150**		4.0	1.4	ug/L			09/22/21 15:26	4
Toluene	ND		4.0	2.0	ug/L			09/22/21 15:26	4
trans-1,2-Dichloroethene	ND		4.0	3.6	ug/L			09/22/21 15:26	4
trans-1,3-Dichloropropene	ND		4.0	1.5	ug/L			09/22/21 15:26	4
Trichloroethene	**66**		4.0	1.8	ug/L			09/22/21 15:26	4
Trichlorofluoromethane	ND		4.0	3.5	ug/L			09/22/21 15:26	4
Vinyl chloride	ND		4.0	3.6	ug/L			09/22/21 15:26	4
Xylenes, Total	ND		8.0	2.6	ug/L			09/22/21 15:26	4

Client Sample ID: MW-29
Lab Sample ID: 480-189543-5

Date Collected: 09/14/21 14:40
Matrix: Water
Date Received: 09/15/21 08:00

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/22/21 15:26	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 120		09/22/21 15:26	4
1,2-Dichloroethane-d4 (Surr)	104		77 - 120		09/22/21 15:26	4
4-Bromofluorobenzene (Surr)	101		73 - 120		09/22/21 15:26	4
Dibromofluoromethane (Surr)	105		75 - 123		09/22/21 15:26	4

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		09/22/21 09:19	09/22/21 18:12	1
Manganese	**0.025**	**J**	0.0030	0.00040	mg/L		09/22/21 09:19	09/22/21 18:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**103**		20.0	3.5	mg/L			09/17/21 04:59	10
Alkalinity, Total	**237**		50.0	20.0	mg/L			09/21/21 00:11	5
Total Organic Carbon	**1.6**		1.0	0.43	mg/L			09/22/21 10:34	1
Nitrate as N	**0.064**		0.050	0.020	mg/L			09/15/21 20:59	1

Client Sample ID: DUP A
Lab Sample ID: 480-189543-6

Date Collected: 09/14/21 14:10
Matrix: Water
Date Received: 09/15/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		4.0	3.3	ug/L			09/22/21 15:49	4
1,1,2,2-Tetrachloroethane	ND		4.0	0.84	ug/L			09/22/21 15:49	4
1,1,2-Trichloroethane	ND		4.0	0.92	ug/L			09/22/21 15:49	4
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.0	1.2	ug/L			09/22/21 15:49	4
1,1-Dichloroethane	ND		4.0	1.5	ug/L			09/22/21 15:49	4
1,1-Dichloroethene	ND		4.0	1.2	ug/L			09/22/21 15:49	4
1,2,4-Trichlorobenzene	ND		4.0	1.6	ug/L			09/22/21 15:49	4
1,2-Dibromo-3-Chloropropane	ND		4.0	1.6	ug/L			09/22/21 15:49	4
1,2-Dichlorobenzene	ND		4.0	3.2	ug/L			09/22/21 15:49	4
1,2-Dichloroethane	ND		4.0	0.84	ug/L			09/22/21 15:49	4
1,2-Dichloropropane	ND		4.0	2.9	ug/L			09/22/21 15:49	4
1,3-Dichlorobenzene	ND		4.0	3.1	ug/L			09/22/21 15:49	4
1,4-Dichlorobenzene	ND		4.0	3.4	ug/L			09/22/21 15:49	4
2-Butanone (MEK)	ND		40	5.3	ug/L			09/22/21 15:49	4
2-Hexanone	ND		20	5.0	ug/L			09/22/21 15:49	4
4-Methyl-2-pentanone (MIBK)	ND		20	8.4	ug/L			09/22/21 15:49	4
Acetone	ND		40	12	ug/L			09/22/21 15:49	4
Benzene	ND		4.0	1.6	ug/L			09/22/21 15:49	4
Bromodichloromethane	ND		4.0	1.6	ug/L			09/22/21 15:49	4
Bromoform	ND		4.0	1.0	ug/L			09/22/21 15:49	4
Bromomethane	ND		4.0	2.8	ug/L			09/22/21 15:49	4
Carbon disulfide	ND		4.0	0.76	ug/L			09/22/21 15:49	4
Carbon tetrachloride	ND		4.0	1.1	ug/L			09/22/21 15:49	4
Chlorobenzene	ND		4.0	3.0	ug/L			09/22/21 15:49	4
Dibromochloromethane	ND		4.0	1.3	ug/L			09/22/21 15:49	4

Client Sample ID: DUP A
Date Collected: 09/14/21 14:10
Date Received: 09/15/21 08:00

Lab Sample ID: 480-189543-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		4.0	1.3	ug/L			09/22/21 15:49	4
Chloroform	ND		4.0	1.4	ug/L			09/22/21 15:49	4
Chloromethane	ND		4.0	1.4	ug/L			09/22/21 15:49	4
cis-1,2-Dichloroethene	**10**		4.0	3.2	ug/L			09/22/21 15:49	4
cis-1,3-Dichloropropene	ND		4.0	1.4	ug/L			09/22/21 15:49	4
Cyclohexane	ND		4.0	0.72	ug/L			09/22/21 15:49	4
Dichlorodifluoromethane	ND		4.0	2.7	ug/L			09/22/21 15:49	4
Ethylbenzene	ND		4.0	3.0	ug/L			09/22/21 15:49	4
1,2-Dibromoethane	ND		4.0	2.9	ug/L			09/22/21 15:49	4
Isopropylbenzene	ND		4.0	3.2	ug/L			09/22/21 15:49	4
Methyl acetate	ND		10	5.2	ug/L			09/22/21 15:49	4
Methyl tert-butyl ether	ND		4.0	0.64	ug/L			09/22/21 15:49	4
Methylcyclohexane	ND		4.0	0.64	ug/L			09/22/21 15:49	4
Methylene Chloride	ND		4.0	1.8	ug/L			09/22/21 15:49	4
Styrene	ND		4.0	2.9	ug/L			09/22/21 15:49	4
Tetrachloroethene	**150**		4.0	1.4	ug/L			09/22/21 15:49	4
Toluene	ND		4.0	2.0	ug/L			09/22/21 15:49	4
trans-1,2-Dichloroethene	ND		4.0	3.6	ug/L			09/22/21 15:49	4
trans-1,3-Dichloropropene	ND		4.0	1.5	ug/L			09/22/21 15:49	4
Trichloroethene	**65**		4.0	1.8	ug/L			09/22/21 15:49	4
Trichlorofluoromethane	ND		4.0	3.5	ug/L			09/22/21 15:49	4
Vinyl chloride	ND		4.0	3.6	ug/L			09/22/21 15:49	4
Xylenes, Total	ND		8.0	2.6	ug/L			09/22/21 15:49	4

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*09/22/21 15:49*	*4*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*09/22/21 15:49*	*4*
1,2-Dichloroethane-d4 (Surr)	*106*		*77 - 120*		*09/22/21 15:49*	*4*
4-Bromofluorobenzene (Surr)	*99*		*73 - 120*		*09/22/21 15:49*	*4*
Dibromofluoromethane (Surr)	*102*		*75 - 123*		*09/22/21 15:49*	*4*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		09/22/21 09:19	09/22/21 18:16	1
Manganese	**0.039**	J	0.0030	0.00040	mg/L		09/22/21 09:19	09/22/21 18:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**102**		20.0	3.5	mg/L			09/17/21 05:18	10
Alkalinity, Total	**221**		50.0	20.0	mg/L			09/21/21 00:12	5
Total Organic Carbon	**1.6**		1.0	0.43	mg/L			09/22/21 11:03	1
Nitrate as N	**0.074**		0.050	0.020	mg/L			09/15/21 21:04	1

Client Sample ID: TRIP BLANK
Lab Sample ID: 480-189543-7

Date Collected: 09/14/21 00:00
Matrix: Water
Date Received: 09/15/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			09/22/21 16:13	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			09/22/21 16:13	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			09/22/21 16:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			09/22/21 16:13	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			09/22/21 16:13	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			09/22/21 16:13	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			09/22/21 16:13	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			09/22/21 16:13	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			09/22/21 16:13	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			09/22/21 16:13	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			09/22/21 16:13	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			09/22/21 16:13	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			09/22/21 16:13	1
2-Butanone (MEK)	ND		10	1.3	ug/L			09/22/21 16:13	1
2-Hexanone	ND		5.0	1.2	ug/L			09/22/21 16:13	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			09/22/21 16:13	1
Acetone	ND		10	3.0	ug/L			09/22/21 16:13	1
Benzene	ND		1.0	0.41	ug/L			09/22/21 16:13	1
Bromodichloromethane	ND		1.0	0.39	ug/L			09/22/21 16:13	1
Bromoform	ND		1.0	0.26	ug/L			09/22/21 16:13	1
Bromomethane	ND		1.0	0.69	ug/L			09/22/21 16:13	1
Carbon disulfide	ND		1.0	0.19	ug/L			09/22/21 16:13	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			09/22/21 16:13	1
Chlorobenzene	ND		1.0	0.75	ug/L			09/22/21 16:13	1
Dibromochloromethane	ND		1.0	0.32	ug/L			09/22/21 16:13	1
Chloroethane	ND		1.0	0.32	ug/L			09/22/21 16:13	1
Chloroform	ND		1.0	0.34	ug/L			09/22/21 16:13	1
Chloromethane	ND		1.0	0.35	ug/L			09/22/21 16:13	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			09/22/21 16:13	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			09/22/21 16:13	1
Cyclohexane	ND		1.0	0.18	ug/L			09/22/21 16:13	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			09/22/21 16:13	1
Ethylbenzene	ND		1.0	0.74	ug/L			09/22/21 16:13	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			09/22/21 16:13	1
Isopropylbenzene	ND		1.0	0.79	ug/L			09/22/21 16:13	1
Methyl acetate	ND		2.5	1.3	ug/L			09/22/21 16:13	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			09/22/21 16:13	1
Methylcyclohexane	ND		1.0	0.16	ug/L			09/22/21 16:13	1
Methylene Chloride	ND		1.0	0.44	ug/L			09/22/21 16:13	1
Styrene	ND		1.0	0.73	ug/L			09/22/21 16:13	1
Tetrachloroethene	ND		1.0	0.36	ug/L			09/22/21 16:13	1
Toluene	ND		1.0	0.51	ug/L			09/22/21 16:13	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			09/22/21 16:13	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			09/22/21 16:13	1
Trichloroethene	ND		1.0	0.46	ug/L			09/22/21 16:13	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			09/22/21 16:13	1
Vinyl chloride	ND		1.0	0.90	ug/L			09/22/21 16:13	1
Xylenes, Total	ND		2.0	0.66	ug/L			09/22/21 16:13	1

Client: New York State D.E.C.
Job ID: 480-189543-1
Project/Site: Frmr. Loudon & Kem Cleaners #401060

Client Sample ID: TRIP BLANK
Lab Sample ID: 480-189543-7
Date Collected: 09/14/21 00:00
Matrix: Water
Date Received: 09/15/21 08:00

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					09/22/21 16:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		80 - 120		09/22/21 16:13	1
1,2-Dichloroethane-d4 (Surr)	105		77 - 120		09/22/21 16:13	1
4-Bromofluorobenzene (Surr)	101		73 - 120		09/22/21 16:13	1
Dibromofluoromethane (Surr)	109		75 - 123		09/22/21 16:13	1

VOC Data Section

ALPHA GEOSCIENCE

Geology
Hydrology
Remediation
Water Supply

QA/QC Review of Method 8260C Volatiles Data for
Eurofins TestAmerica-Buffalo, Job No: 480-189543-1

5 Ground Water Samples, 1 Field Duplicate,
and 1 Trip Blank
Collected September 14, 2021

Prepared by: Donald Anné
October 18, 2021

Holding Times: Samples were analyzed within USEPA SW-846 holding times.

GC/MS Tuning and Mass Calibration: The BFB tuning criteria were within control limits.

Initial Calibration: The average RRFs for applicable compounds were above the method minimums and the %RSDs were below the method maximum, as required.

The average RRFs for target compounds were above the allowable minimum (0.010) and the %RSDs were below the allowable maximum (30%), as required.

Continuing Calibration: The RRFs for applicable compounds were above the method minimums and the %Ds were below the method maximum, as required.

The associated RRFs for target compounds were above the allowable minimum (0.050) and the %Ds were below the allowable maximum (20%), as required.

Blanks: The analyses of the method and trip blanks reported target compounds as not detected.

Internal Standard Area Summary: The internal standard areas and retention times were within control limits.

Surrogate Recovery: The surrogate recoveries were with control limits for the ground water samples and the equipment blank.

Matrix Spike/Matrix Spike Duplicate: The percent recoveries for target compounds were within QC limits, but relative percent difference for cis-1,3-dichloropropene was above the allowable maximum not below 30% for aqueous MS/MSD sample MW-18D. Sample MW-18D reported cis-1,3-dichloropropene as "not detected"; therefore, no action is taken.

679 Plank Road ● Clifton Park, New York 12065 ● (518) 348-6995 ● Fax (518) 348-6966
www.alphageoscience.com

Laboratory Control Sample: The percent recoveries for target compounds were within QC limits for aqueous sample LCS 480-597341/5.

Field Duplicates: The relative percent differences for applicable compounds were below the allowable maximum (20%) for aqueous field duplicate pair MW-29/DUP A (attached table), as required.

Compound ID: Checked surrogate and compound results were within quantitation limits. The mass spectra for detected compounds contained the primary and secondary ions, as outlined in the method.

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-189543-1

SDG No.:

Matrix: Water Level: Low Lab File ID: S3880.D

Lab ID: 480-189543-2 MS Client ID: MW-18D MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	100	ND	106	106	73-126	
1,1,2,2-Tetrachloroethane	100	ND	108	108	76-120	
1,1,2-Trichloroethane	100	ND	98.3	98	76-122	
1,1,2-Trichloro-1,2,2-trifluoroethane	100	ND	117	117	61-148	
1,1-Dichloroethane	100	ND	111	111	77-120	
1,1-Dichloroethene	100	ND	105	105	66-127	
1,2,4-Trichlorobenzene	100	ND	115	115	79-122	
1,2-Dibromo-3-Chloropropane	100	ND	101	101	56-134	
1,2-Dichlorobenzene	100	ND	107	107	80-124	
1,2-Dichloroethane	100	ND	102	102	75-120	
1,2-Dichloropropane	100	ND	99.6	100	76-120	
1,3-Dichlorobenzene	100	ND	105	105	77-120	
1,4-Dichlorobenzene	100	ND	103	103	78-124	
2-Butanone (MEK)	500	ND	545	109	57-140	
2-Hexanone	500	ND	547	109	65-127	
4-Methyl-2-pentanone (MIBK)	500	ND	589	118	71-125	
Acetone	500	ND	645	129	56-142	
Benzene	100	ND	108	108	71-124	
Bromodichloromethane	100	ND	90.4	90	80-122	
Bromoform	100	ND	76.3	76	61-132	
Bromomethane	100	ND	93.5	93	55-144	
Carbon disulfide	100	ND	102	102	59-134	
Carbon tetrachloride	100	ND	98.3	98	72-134	
Chlorobenzene	100	ND	107	107	80-120	
Dibromochloromethane	100	ND	85.7	86	75-125	
Chloroethane	100	ND	103	103	69-136	
Chloroform	100	ND	102	102	73-127	
Chloromethane	100	ND	109	109	68-124	
cis-1,2-Dichloroethene	100	8.0	114	106	74-124	
cis-1,3-Dichloropropene	100	ND	78.7	79	74-124	
Cyclohexane	100	ND	118	118	59-135	
Dichlorodifluoromethane	100	ND	99.5	99	59-135	
Ethylbenzene	100	ND	111	111	77-123	
1,2-Dibromoethane	100	ND	101	101	77-120	
Isopropylbenzene	100	ND	113	113	77-122	
Methyl acetate	200	ND	203	102	74-133	
Methyl tert-butyl ether	100	ND	106	106	77-120	
Methylcyclohexane	100	ND	113	113	68-134	
Methylene Chloride	100	ND	112	112	75-124	
Styrene	100	ND	106	106	80-120	
Tetrachloroethene	100	160	248	87	74-122	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-189543-1

SDG No.:

Matrix: Water Level: Low Lab File ID: S3880.D

Lab ID: 480-189543-2 MS Client ID: MW-18D MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Toluene	100	ND	108	108	80-122	
trans-1,2-Dichloroethene	100	ND	111	111	73-127	
trans-1,3-Dichloropropene	100	ND	84.4	84	80-120	
Trichloroethene	100	7.0	109	102	74-123	
Trichlorofluoromethane	100	ND	103	103	62-150	
Vinyl chloride	100	ND	116	116	65-133	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-189543-1

SDG No.:

Matrix: Water Level: Low Lab File ID: S3881.D

Lab ID: 480-189543-2 MSD Client ID: MW-18D MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1-Trichloroethane	100	115	115	8	15	73-126	
1,1,2,2-Tetrachloroethane	100	104	104	3	15	76-120	
1,1,2-Trichloroethane	100	99.9	100	2	15	76-122	
1,1,2-Trichloro-1,2,2-trifluoroethane	100	126	126	8	20	61-148	
1,1-Dichloroethane	100	119	119	7	20	77-120	
1,1-Dichloroethene	100	113	113	8	16	66-127	
1,2,4-Trichlorobenzene	100	113	113	2	20	79-122	
1,2-Dibromo-3-Chloropropane	100	101	101	0	15	56-134	
1,2-Dichlorobenzene	100	109	109	2	20	80-124	
1,2-Dichloroethane	100	108	108	6	20	75-120	
1,2-Dichloropropane	100	106	106	7	20	76-120	
1,3-Dichlorobenzene	100	108	108	2	20	77-120	
1,4-Dichlorobenzene	100	106	106	3	20	78-124	
2-Butanone (MEK)	500	564	113	3	20	57-140	
2-Hexanone	500	529	106	3	15	65-127	
4-Methyl-2-pentanone (MIBK)	500	541	108	8	35	71-125	
Acetone	500	666	133	3	15	56-142	
Benzene	100	116	116	7	13	71-124	
Bromodichloromethane	100	101	101	11	15	80-122	
Bromoform	100	81.0	81	6	15	61-132	
Bromomethane	100	105	105	11	15	55-144	
Carbon disulfide	100	109	109	7	15	59-134	
Carbon tetrachloride	100	109	109	10	15	72-134	
Chlorobenzene	100	108	108	1	25	80-120	
Dibromochloromethane	100	89.1	89	4	15	75-125	
Chloroethane	100	109	109	6	15	69-136	
Chloroform	100	108	108	6	20	73-127	
Chloromethane	100	116	116	7	15	68-124	
cis-1,2-Dichloroethene	100	125	117	9	15	74-124	
cis-1,3-Dichloropropene	100	93.2	93	17	15	74-124	F2
Cyclohexane	100	128	128	8	20	59-135	
Dichlorodifluoromethane	100	102	102	3	20	59-135	
Ethylbenzene	100	112	112	1	15	77-123	
1,2-Dibromoethane	100	104	104	3	15	77-120	
Isopropylbenzene	100	115	115	1	20	77-122	
Methyl acetate	200	204	102	0	20	74-133	
Methyl tert-butyl ether	100	110	110	4	37	77-120	
Methylcyclohexane	100	122	122	8	20	68-134	
Methylene Chloride	100	116	116	3	15	75-124	
Styrene	100	110	110	4	20	80-120	
Tetrachloroethene	100	260	98	5	20	74-122	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 480-189543-1

SDG No.:

Matrix: Water Level: Low Lab File ID: S3881.D

Lab ID: 480-189543-2 MSD Client ID: MW-18D MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Toluene	100	111	111	3	15	80-122	
trans-1,2-Dichloroethene	100	117	117	5	20	73-127	
trans-1,3-Dichloropropene	100	90.3	90	7	15	80-120	
Trichloroethene	100	123	116	12	16	74-123	
Trichlorofluoromethane	100	111	111	8	20	62-150	
Vinyl chloride	100	123	123	6	15	65-133	

Column to be used to flag recovery and RPD values

FORM III 8260C

Metals Data Section

ALPHA GEOSCIENCE

Geology
Hydrology
Remediation
Water Supply

QA/QC Review of Iron and Manganese Data for
Eurofins TestAmerica-Buffalo, Job No: 480-189543-1

5 Ground Water Samples and 1 Field Duplicate
Collected September 14, 2021

Prepared by: Donald Anné
October 18, 2021

Holding Times: Samples were analyzed within the USEPA SW-846 holding times.

Initial and Continuing Calibration Verification: The percent recoveries for iron and manganese were within control limits (90-110%).

Low Level Initial and Continuing Calibration Verification: The percent recoveries for iron and manganese were within laboratory QC limits (70-130%).

Blanks: The analyses for initial and continuing calibration, method, and field blanks reported arsenic as not detected.

ICP Interference Check Sample: The percent recovery for iron and manganese was within control limits (80-120%).

Spike Sample Recovery: The percent recoveries for iron and manganese were within control limits (75-125%) for aqueous MS/MSD sample MW-18D.

Laboratory Duplicates: The relative percent differences for iron and manganese were below the allowable maximum (20%) for aqueous MS/MSD sample MW-18D, as required.

Field Duplicates: The relative percent difference for manganese was above the allowable maximum (20%) for aqueous field duplicate pair MW-29/DUP A (attached table). Positive results for manganese should be considered estimated (J) in sample MW-29 and DUP A.

Laboratory Control Sample: The percent recoveries for iron and manganese were within control limits (80-120%) for aqueous sample LCS 480-596670/2-B.

Serial Dilution: The %D for manganese was below the allowable maximum (10%) in aqueous serial dilution sample MW-18D, as required.

Instrument Detection Limits: The IDLs were at or below the MRLs, as required.

679 Plank Road ● Clifton Park, New York 12065 ● (518) 348-6995 ● Fax (518) 348-6966
www.alphageoscience.com

General Chemistry
Data Section

ALPHA GEOSCIENCE

Geology

Hydrology

Remediation

Water Supply

QA/QC Review of Total Alkalinity Data for Eurofins TestAmerica-Buffalo, Job No: 480-189543-1

5 Ground Water samples and 1 Field Duplicate Collected September 14, 2021

Prepared by: Donald Anné
October 18, 2021

Holding Times: Samples were analyzed within USEPA holding times.

Initial and Continuing Calibration Verification: The percent recoveries for total alkalinity were within control limits (90-110%).

Blanks: The analyses of initial calibration and continuing calibration and method blanks reported total alkalinity as not detected.

Spike Sample Recovery: The concentration of total alkalinity in the sample (245 mg/L) was greater than 4 times the spiking level (20.0 mg/L) for aqueous MS/MSD sample MW-18D; therefore, the calculated %Rs are not applicable.

Laboratory Duplicates: The relative percent difference for total alkalinity was below the allowable maximum (20%) for aqueous MS/MSD sample MW-18D.

Field Duplicates: The relative percent difference for total alkalinity was below the allowable maximum (20%) for aqueous field duplicate pair MW-29/DUP A (attached table), as required.

Laboratory Control Sample: The percent recoveries for total alkalinity were within QC limits (90-110%) for aqueous samples LCS 480-597123/12, LCS 480-597123/137, and LCS 480-597123/158.

679 Plank Road ● Clifton Park, New York 12065 ● (518) 348-6995 ● Fax (518) 348-6966
www.alphageoscience.com

ALPHA GEOSCIENCE

Geology

Hydrology

Remediation

Water Supply

QA/QC Review of Nitrate Data for Eurofins TestAmerica-Buffalo, Job No: 480-189543-1

5 Ground Water samples and 1 Field Duplicate Collected September 14, 2021

Prepared by: Donald Anné
October 18, 2021

Holding Times: Samples were analyzed within USEPA SW-846 holding times.

Blanks: The analyses of the method blanks reported nitrate-nitrite and nitrite as either not detected or below the RL, as required.

Spike Sample Recovery: The percent recoveries for nitrate-nitrite and nitrite were within QC limits (90-110%) for aqueous MS/MSD sample MW-18D and aqueous spike sample DUP A.

Laboratory Duplicates: The relative percent differences for nitrate-nitrite and nitrite were below the allowable maximum (20%) for aqueous MS/MSD sample MW-18D, as required.

Field Duplicates: The relative percent difference for nitrate was below the allowable maximum (20%) for aqueous field duplicate pair MW-29/DUP A (attached table), as required.

Laboratory Control Sample: The percent recoveries for nitrate-nitrite and nitrite were within QC limits (90-110%) for aqueous samples LCS 480-596536/28, LCS 480-596536/4, LCS 480-596530/29, and LCS 480-596530/5.

c:\users\andrea\validation\alpha\loudon-kem cleaners-11624\pdf\480-189543-1.no3.docx

ALPHA GEOSCIENCE
Geology
Hydrology
Remediation
Water Supply

QA/QC Review of Sulfate Data for Eurofins TestAmerica-Buffalo, Job No: 480-189543-1

5 Ground Water Samples and 1 Field Duplicate Collected September 14, 2021

Prepared by: Donald Anné
October 18, 2021

Holding Times: Samples were analyzed within USEPA holding times.

Initial and Continuing Calibration Verification: The percent recoveries for sulfate were within control limits (90-110%).

Blanks: The analyses of initial calibration and continuing calibration and method blanks reported sulfate as not detected.

Spike Sample Recovery: The percent recoveries for sulfate were within QC limits (80-120%) for aqueous MS/MSD sample MW-18D.

Laboratory Duplicates: The relative percent difference for sulfate was below the allowable maximum (20%) for aqueous MS/MSD sample MW-18D, as required.

Field Duplicates: The relative percent difference for sulfate was below the allowable maximum (20%) for aqueous field duplicate pair MW-29/DUP A (attached table), as required.

Laboratory Control Sample: The percent recovery for sulfate was within QC limits (90-110%) for aqueous sample LCS 480-596665/27.

c:\users\andrea\validation\alpha\loudon-kem cleaners-11624\pdf\480-189543-1.so4.docx

TOC Data Section

ALPHA GEOSCIENCE

Geology

Hydrology

Remediation

Water Supply

QA/QC Review of Total Organic Carbon (TOC) Data for
Eurofins TestAmerica-Buffalo, Job No: 480-189543-1

5 Ground Water samples and 1 Field Duplicate
Collected September 14, 2021

Prepared by: Donald Anné
October 18, 2021

Holding Times: Samples were analyzed within USEPA SW-846 holding times.

Initial and Continuing Calibration Verification: The percent recoveries for TOC were within control limits (90-110%).

Blanks: The analyses of initial calibration and continuing calibration, and method blanks reported TOC as not detected.

Spike Sample Recovery: The percent recoveries for TOC were within QC limits (54-131%) for aqueous MS/MSD sample MW-18D.

Laboratory Duplicates: The relative percent difference for TOC was below the allowable maximum (20%) for aqueous MS/MSD sample MW-18D, as required.

Field Duplicates: The relative percent difference for TOC was below the allowable maximum (20%) for aqueous field duplicate pair MW-29/DUP-A (attached table), as required.

Laboratory Control Sample: The percent recovery for TOC was within QC limits (90-110%) for aqueous sample LCS 480-597622/29.

c:\users\andrea\validation\alpha\loudon-kem cleaners-11624\pdf\480-189543-1.toc.docx

Field Duplicate Calculation Section

Volatiles

Calculations for Field Duplicate Relative Percent Difference (RPD)
SDG No. 480-189543-1

S1= MW-29 **S2=** DUP A

Analyte	S1	S2	RPD (%)
cis-1,2-Dichloroethene	12	10	18%
Tetrachloroethene	150	150	0%
Trichloroethene	66	65	2%

* RPD is above the allowable maximum 20%.
Results are in units of ug/L.

Bold numbers were values that are below the CRQL or above the high standard.
ND - Not detected.
NC - Not calculated, both results must be within the linear range for valid RPDs to be calculated.

Metals

Calculations for Field Duplicate Relative Percent Difference (RPD)
SDG No. 480-189543-1

S1= MW-29 **S2=** DUP A

Analyte	S1	S2	RPD (%)	
iron	ND	ND	NC	
manganese	0.025	0.039	44%	*

* RPD is above the allowable maximum 20%

All results are in units of mg/L.

Bold numbers were values that are below the CRDL.
ND - Not detected.
NC - Not calculated, both results must be above the CRDL for valid RPDs to be calculated.

General Chemistry

Calculations for Field Duplicate Relative Percent Difference (RPD)
SDG No. 480-189543-1

S1= MW-29 **S2=** DUP A

Analyte	S1	S2	RPD (%)
Sulfate	103	102	1%
Alkalinity, Total	237	221	7%
Total Organic Carbon	1.6	1.6	0%
Nitrate as N	0.064	0.07	14%

* RPD is above the allowable maximum 20%

All results are in units of mg/L.

Bold numbers were values that are below the CRDL.
ND - Not detected.
NC - Not calculated, both results must be above the CRDL for valid RPDs to be calculated.

Alpha Geoscience: Acronyms and Definitions

Data Validation Acronyms

AA	Atomic absorption, flame technique
BHC	Hexachlorocyclohexane
BFB	Bromofluorobenzene
CCB	Continuing calibration blank
CCC	Calibration check compound
CCV	Continuing calibration verification
CN	Cyanide
CRDL	Contract required detection limit
CRQL	Contract required quantitation limit
CVAA	Atomic adsorption, cold vapor technique
DCAA	2,4-Dichlophenylacetic acid
DCB	Decachlorobiphenyl
DFTPP	Decafluorotriphenyl phosphine
ECD	Electron capture detector
FAA	Atomic absorption, furnace technique
FID	Flame ionization detector
FNP	1-Fluoronaphthalene
GC	Gas chromatography
GC/MS	Gas chromatography/mass spectrometry
GPC	Gel permeation chromatography
ICB	Initial calibration blank
ICP	Inductively coupled plasma-atomic emission spectrometer
ICV	Initial calibration verification
IDL	Instrument detection limit
IS	Internal standard
LCS	Laboratory control sample
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate
MSA	Method of standard additions
MS/MSD	Matrix spike/matrix spike duplicate
PID	Photo ionization detector
PCB	Polychlorinated biphenyl
PCDD	Polychlorinated dibenzodioxins
PCDF	Polychlorinated dibenzofurans
QA	Quality assurance
QC	Quality control
RF	Response factor
RPD	Relative percent difference
RRF	Relative response factor
RRF(number)	Relative response factor at concentration of the number following
RT	Retention time
RRT	Relative retention time
SDG	Sample delivery group
SPCC	System performance check compound
TCX	Tetrachloro-m-xylene
%D	Percent difference
%R	Percent recovery
%RSD	Percent relative standard deviation

Data Validation Qualifiers Used in the QA/QC Reviews for USEPA Region II

U	=	Not detected. The associated number indicates the approximate sample concentration necessary to be detected significantly greater than the level of the highest associated blank.
R	=	Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data or information is necessary to confirm the result.
N	=	Tentative identification. Analyte is considered present. Special methods may be needed to confirm its presence or absence during future sampling efforts.
J	=	Analyte is present. Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method.
J-	=	Analyte is present. Reported value may be biased low and associated with a higher level of uncertainty than is normally expected with the analytical method.
J+	=	Analyte is present. Reported value may be biased high andassociated with a higher level of uncertainty than is normally expected with the analytical method.
UJ	=	Not detected, quantitation limit may be inaccurate or imprecise.

Note: These qualifiers are used for data validation purposes. The data validation qualifiers may differ from the qualifiers that the laboratory assigns to the data. Refer to the laboratory analytical report for the definitions of the laboratory qualifiers.