Sterling Environmental Engineering, P.C.

August 8, 2018

Mr. Daniel Lanners
Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7014

Subject: Former M. Argueso and Company, Inc.
441 & 442 Waverly Avenue, Mamaroneck, NY
Site #C360108
1st Biannual 2018 Groundwater Monitoring Report
STERLING File #28012 (Task 995)

Dear Mr. Lanners,

The first 2018 groundwater sampling event for the above-referenced site was conducted by Sterling Environmental Engineering, P.C. (STERLING) on May 16, 2018. This sampling was conducted in accordance with the approved Site Management Plan (SMP) dated October 2013, and the modifications approved by the New York State Department of Environmental Conservation (NYSDEC) dated March 7, 2014 and April 29, 2015.

Background

In June 2013, Hydrogen Release Compound (HRC) was injected into the subsurface in the area surrounding wells GZ-22D and GZ-23D. Quarterly groundwater monitoring was conducted for one (1) year after the injections were completed. Biannual monitoring was approved by the NYSDEC starting in 2015.

This report presents the first biannual groundwater monitoring results for 2018.

Groundwater Flow

Groundwater flow in the deep overburden hydrogeologic unit is to the north and northeast at the Waverly Avenue site and is consistent with historical groundwater flow patterns (Figure 1). Overall, the deep overburden groundwater elevation increased an average of 0.73 feet when compared to measurements obtained in November 2017.

Groundwater Monitoring

During the prior sampling event in November 2017, it was observed that the J-plug for well B6-OWD was missing, potentially exposing the monitoring well to inflow from surface water. A J-plug is a well plug designed to provide a watertight, tamper proof seal at the top of flush mount monitoring wells. STERLING installed a replacement J-plug to keep surface water from entering the monitoring well. The monitoring well was redeveloped prior to the current sampling round by purging ten (10) well volumes to

provide representative groundwater flow, gradients, and quality data. During this activity, an obstruction was observed at less than four (4) feet below grade that prevented lowering of the bladder pump into well. The monitoring well remains functional as the water level meter and bailer are still able to be lowered down to the screened interval of the subject monitoring well.

Four (4) onsite monitoring wells (GZ-21D, GZ-22D, GZ-23D, and B6-OWD) and two (2) offsite monitoring wells (OSMW-3 and OSMW-4) were sampled on May 16, 2018. Figure 1 presents the location of the monitoring wells. Groundwater samples were analyzed for TCL Volatile Organic Compounds (VOCs) via USEPA Method 8260C. The Daily Field Report (DFR) and Sampling Data Sheets are attached. It should be noted that the flush mount cover at onsite monitoring well GZ-21D was cracked and no bolts for the flush mount covers were evident at onsite monitoring wells GZ-21D and GZ-22D and offsite monitoring well OSMW-4. The data collected from all onsite and offsite monitoring wells is deemed to be representative of existing conditions although it is recommended that minor repairs be made to secure monitoring wells GZ-21D, GZ-22D, and OSMW-4.

Results of the laboratory analyses are summarized in Table 1 and the analytical results are compared to Part 703.5 Groundwater Standards and NYSDEC TOGS 1.1.1 Water Quality Standards and Guidance Values. The Analytical Report and Data Usability Summary Report (DUSR) are attached.

Since the 2013 injections, levels of total VOCs have decreased in five (5) of the monitoring wells as shown on the chart in Figure 1.

The following discussion details the trends in each deep zone monitoring well:

Onsite Wells

GZ-21D

Initially following treatment, levels of several VOCs increased in this monitoring well. Since 2014, levels of all VOCs steadily decreased to below standards with the exception of 1,2-Dichloroethane (1,2-DCA). During this event, concentrations of the following VOCs have increased to levels above standards: 1,2-Dichloroethane (1,2-DCA), cis- 1,2-DCE, benzene, and vinyl chloride (VC).

GZ-22D

PCE and TCE levels in groundwater at this monitoring well have decreased to below standards for the last seven (7) sampling events (Table 1). All other VOCs have decreased to levels below standards with the exception of 1,2-DCA, cis-1,2-DCE, trans-1,2-Dichloroethene (trans-1,2-DCE), benzene, and VC (Table 1). Concentrations of these VOCs have remained relatively stable for the past six (6) events or last 2.5 years.

GZ-23D

PCE and TCE concentrations in groundwater have decreased significantly since early 2014. TCE concentrations have gradually increased since the end of 2014 and PCE concentrations have fluctuated (Table 1). VC, a degradation product of PCE and TCE, increased following the 2013 injections and has consistently decreased since late 2015 (Table 1). Cis-1,2-DCE concentrations increased following the injections and concentrations have been stable since May 2016 (Table 1).

B6-OWD

Initially following treatment, levels of several VOCs increased in this monitoring well. During the six (6) subsequent sampling events (2014 through June 2017), concentrations of all VOCs in this well decreased to below groundwater standards. However, during the 2018 event and the previous event (November 2017), select chlorinated VOCs (cVOCs) have markedly increased. PCE, TCE and cis-1,2-Dichloroethene (cis-1,2-DCE) concentrations have significantly increased in this monitoring well compared to prior events (Table 1).

Offsite Wells

Offsite wells OSMW-3 and OSMW-4 were installed upgradient of the site wells to determine upgradient groundwater quality. These well installations are upgradient of the treatment zone and may not reflect the same decreasing levels of VOCs observed onsite.

OSMW-3

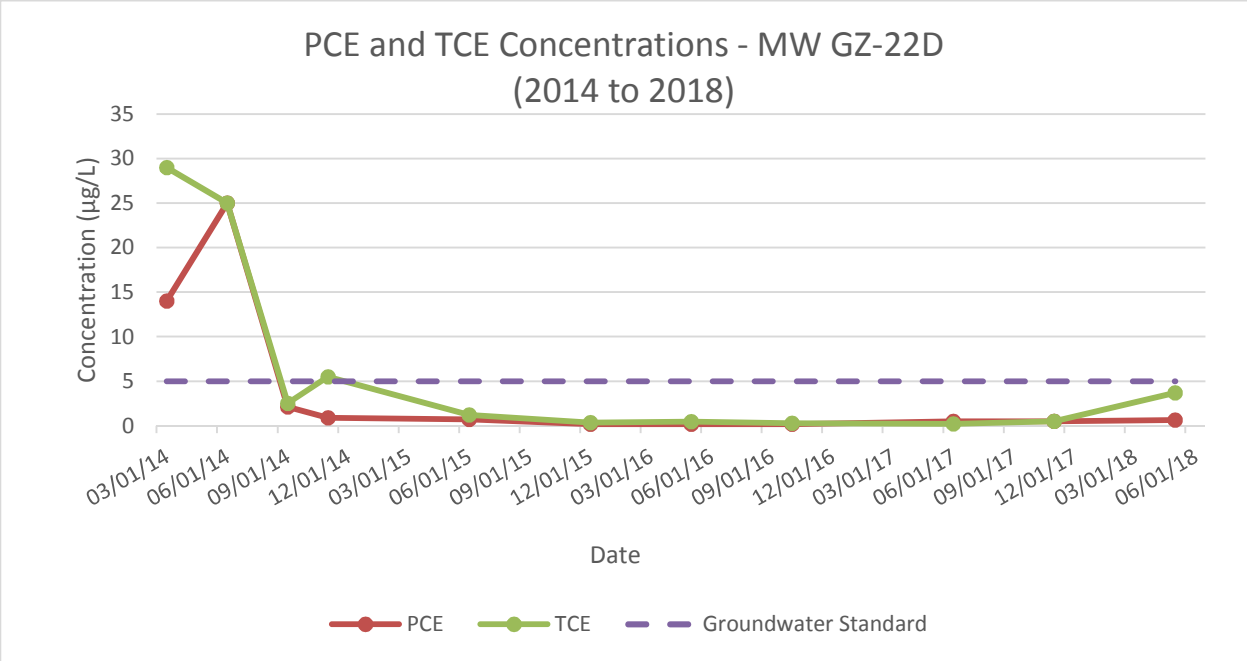
Both PCE and TCE concentrations increased following the 2013 injections and have been steadily decreasing since 2014. The concentrations of PCE and TCE are at their lowest respective levels since 2012 (Table 1). The same trend is evident for 1,2-DCA and cis-1,2-DCE (Table 1).

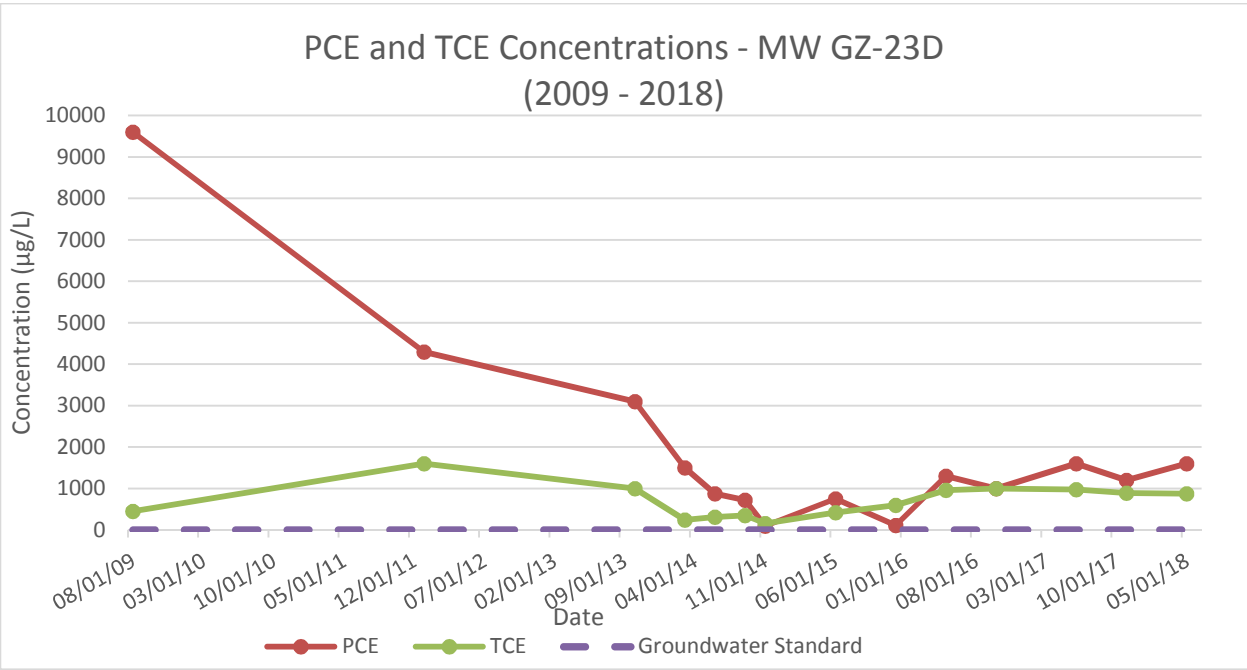
OSMW-4

All VOCs have been below groundwater standards since 2014 with the exception of a May 2016 exceedance of benzene at 1.2 µg/L, which was slightly above the 1.0 µg/L groundwater standard (Table 1).

The graphs below depict PCE and TCE concentrations in monitoring wells GZ-22D and GZ-23D over time (2014 - 2018).

Initially, monitoring wells GZ-22D and GZ-23D contained the highest concentrations of PCE and TCE in onsite groundwater and were therefore selected for remediation.





Conclusions and Recommendations

- OSMW-4 has consistently been reported at levels below groundwater standards; therefore, STERLING recommends that sampling of this well be discontinued.

- VOC concentrations in monitoring well B6-OWD increased during the two most recent monitoring events after being below standards for six (6) consecutive events. This monitoring well is

downgradient from monitoring well GZ-23D, which has experienced the highest Total VOC concentrations since 2013 (10,192 µg/L) and has consistently reported the highest concentrations of chlorinated VOCs since 2014.

- Groundwater monitoring data collected subsequent to the 2013 HRC injections indicates an overall decrease in the concentration of VOCs at five (5) of the monitoring wells. Therefore, the remedy continues to be effective at this site.

- It is recommended that a new flush mount cover be installed at onsite monitoring well GZ-21D and bolts be fastened to the flush mount cover at onsite monitoring well GZ-22D and offsite monitoring well OSMW-4 to secure these monitoring wells and reduce the potential exposure to inflow from surface water.

- STERLING will conduct the next biannual sampling event in the 4th Quarter of 2018.

Please contact me should you have any questions.

Very truly yours,

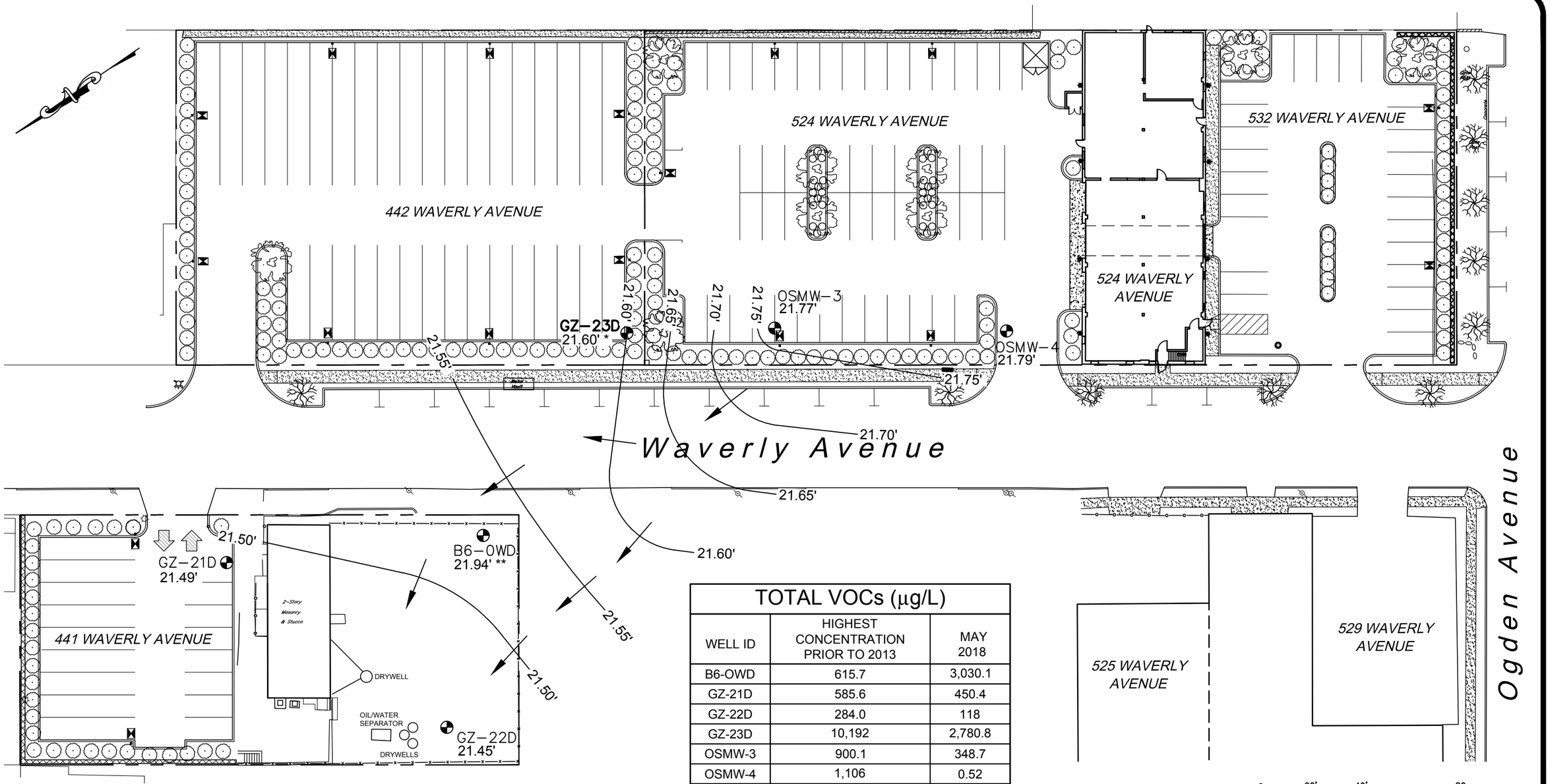
STERLING ENVIRONMENTAL ENGINEERING, P.C.

Mark P. Millspaugh, P.E.
President
mark.millspaugh@sterlingenvironmental.com

MPM/bc
Email/First Class Mail
Attachments

cc: T.J. Milo, New Waverly Avenue Associates, LLC
Kevin Young, Young Sommer, LLC
Amen Omorogbe, P.E., NYSDEC

FIGURE



TOTAL VOCs (µg/L)		
WELL ID	HIGHEST CONCENTRATION PRIOR TO 2013	MAY 2018
B6-OWD	615.7	3,030.1
GZ-21D	585.6	450.4
GZ-22D	284.0	118
GZ-23D	10,192	2,780.8
OSMW-3	900.1	348.7
OSMW-4	1,106	0.52

* MEASURED GW ELEVATION ADJUSTED +0.31' TO ACCOUNT FOR 30° BEND IN MONITORING WELL GZ–23D

** DEPTH TO GROUNDWATER MEASUREMENT COLLECTED PRIOR TO REDEVELOPMENT. CORRESPONDING ELEVATION NOT CONSIDERED REPRESENTATIVE OF STATIC CONDITIONS.

LEGEND:

- 21.50' — GROUNDWATER CONTOUR MAY 16, 2018 (DASHED WHERE INFERRED)
- GZ-22D 21.45' — MONITORING WELL WITH CORRESPONDING GROUNDWATER ELEVATION
- PROPERTY BOUNDARY
- LIGHT POLE
- CONCRETE SIDEWALK
- FENCE
- GROUNDWATER FLOW DIRECTION

BASE MAP PROVIDED BY SITE DESIGN CONSULTANTS, DATED FEBRUARY 22, 2010.

FIGURE 1

STERLING
Sterling Environmental Engineering, P.C.
24 Wade Road • Latham, New York 12110

GROUNDWATER CONTOUR MAP
MAY 16, 2018
SITE# C360108
NEW WAVERLY AVENUE ASSOCIATES, LLC
V/T OF MAMARONECK WESTCHESTER CO., N.Y.

PROJ. No.:	28012	DATE:	2018–06–12	SCALE:	1" = 40'	DWG. NO.	28012102	FIGURE	1

S:\Drawings\28012 – 441 & 442 Waverly Avenue\28012102_F-1 – GW Elev 5–2018.dwg CAD 7/17/2018 3:59 PM

TABLES

Table 1
Summary of Groundwater Analytical Data Results to Title 6 Part 703.5 Groundwater Standards and NYSDEC TOGS 1.1.1 Guidance Values
441 and 442 Waverly Avenue
Volatile Organic Compounds
Site #C360108

Location		441 Waverly Avenue															
Sample ID	Water Quality Standard*	GZ-21D														DUP-1 [4]	DUP-1 [10]
Unit	µg/L	µg/L														µg/L	µg/L
Sample Date		08/20/09	01/11/12	10/15/13	03/24/14	06/18/14	09/24/14	11/05/14	06/23/15	12/16/15	05/12/16	10/12/16	06/13/17	11/14/17	05/16/18	06/18/14	10/12/16
Parameter																	
Volatile Organic Compounds:																	
1,1-Dichloroethane	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<10	<4.0	<2.5
1,1-Dichloroethene	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<4.0	<0.50
1,2,3-Trichlorobenzene	5.0	<5.0	NA	NA	NA	NA	NA	NA	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<10	NA	<2.5
1,2,4-Trichlorobenzene	5.0	<5.0	NA	NA	NA	NA	NA	NA	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<10	NA	<2.5
1,2-Dichloroethane	0.6	**170** D	**5.3**	<5.0	**190** D	**190**	**4.1**	0.4 J	**54**	**55**	**28**	**48**	**11**	**11**	**140**	**190**	**56**
cis-1,2-Dichloroethene	5.0	**270** D	**10**	**7.6**	**310** D	**290**	**5.6**	<1.0	**100**	<2.5	0.83 J	3.5	<2.5	1.7 J	**270**	**350**	2.9
trans-1,2-Dichloroethene	5.0	**6.6**	<5.0	<5.0	3.8	<5.0	<1.0	<1.0	0.99 J	0.86 J	<2.5	0.81 J	<2.5	<2.5	3.4 J	<4.0	0.75 J
2-Butanone (MEK)	50 GV	<5.0	<5.0	<5.0	<10	<50	<10	<10	2.5 J	<5.0	<5.0	<5.0	<5.0	<5.0	<20	<40	<5.0
Acetone	50 GV	<50.0	<5.0	<5.0	<10	<50	<10	<10	20	4.4 J	<5.0	<7	<5.0	<5.0	<20	<40	<4.5 J
Benzene	1.0	**61**	<5.0	<5.0	**8.2**	<5.0	<1.0	<1.0	**1.2**	1.0	<0.50	0.84	<0.50	<0.50	**18**	<4.0	0.79
n-Butylbenzene	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	<4.0	NA
sec-Butylbenzene	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	<4.0	NA
tert-Butylbenzene	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	<4.0	NA
Carbon disulfide	---	<5.0	NA	NA	NA	NA	NA	NA	4.2 J	2.0 J	<5.0	<5.0	<5.0	<5.0	<20	NA	<5.0
Ethylbenzene	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<10	<4.0	<2.5
Hexachlorobutadiene	0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	5.0	<5.0	NA	NA	NA	NA	NA	NA	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<10	NA	<2.5
Methyl tert-butyl ether (MTBE)	10 GV	<5.0	<5.0	<5.0	0.27 J	<5.0	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<10	<4.0	<2.5
n-Propylbenzene	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	<4.0	NA
Tetrachloroethene	5.0	**41**	1.7 J	<5.0	**9.8**	3.4 J	0.89 J	1.0	0.18 J	<0.50	<0.50	<0.50	<0.50	0.19 J	<2.0 J	2.9 J	<0.50
Trichloroethene	5.0	**33**	0.58 J	<5.0	**7.8**	**15**	0.82 J	2.3	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	**13**	<0.50
Toluene	5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<10	<4.0	<2.5
Vinyl chloride	2.0	**4** J	<5.0	<5.0	**4.3**	<5.0	<1.0	<1.0	1.7	<1.0	0.43 J	<2.3	<1.0	0.59 J	**19**	<4.0	**2.8**
TOTAL VOCs		585.6	17.58	7.6	498.4	498.4	11.41	3.7	184.77	63.3	29.3	53.2	11	13.5	450.4	555.9	63.24

Notes:

BOLD Indicates exceedance of groundwater standard

* Groundwater Standards are obtained from Title 6 Part 703.5 and Guidance Values (GV) are obtained from NYSDEC TOGS (1.1.1) "Ambient Water Quality Standards and Guidance Values".

< Indicates the parameter was not detected at or above laboratory's reporting limit, shown.

NA Not Analyzed.

--- No standard or not applicable.

[1], [2] DUP-1 samples collected from monitoring well location GZ-22D.

[3] DUP-1 samples collected from offsite monitoring well location OSMW-4.

[4] DUP-1 samples collected from monitoring well location GZ-21D.

[5] DUP-1 samples collected from monitoring well location OSMW-4.

[6] DUP-1 samples collected from monitoring well location OSMW-3

[7] DUP-1 samples collected from monitoring well location OSMW-4.

[8] DUP-1 samples collected from monitoring well location B6-OWD.

[9] DUP-1 samples collected from monitoring well location OSMW-4.

[10] DUP-1 samples collected from monitoring well location GZ-21D.

[11] DUP-1 samples collected from monitoring well location GZ-23D.

[12] DUP-1 samples collected from monitoring well location OSMW-3.

[13] DUP-1 samples collected from monitoring well location B6-OWD.

Laboratory Qualifiers:

D Indicates the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.

J Indicates the concentration shown is an estimated value because the compound was detected below the reporting limit.

Data Usability Summary Report (DUSR) Qualifiers:

j Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method.

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.

J- The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.

UJ The analyte was analzyed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.

Table 1, Cont.
Summary of Groundwater Analytical Data Results to Title 6 Part 703.5 Groundwater Standards and NYSDEC TOGS 1.1.1 Guidance Values
441 and 442 Waverly Avenue
Volatile Organic Compounds
Site #C360108

Location		441 Waverly Avenue																
Sample ID	Water Quality Standard*	GZ-22D															DUP-1 [2]	DUP-1 [1]
Unit	µg/L	µg/L															ug/L	µg/L
Sample Date		08/19/09	01/11/12	10/15/13	03/24/14	06/18/14	09/24/14	11/05/14	06/23/15	12/16/15	05/12/16	10/12/16	06/13/17	11/14/17	05/16/18		03/24/14	10/15/13
Parameter																		
Volatile Organic Compounds:																		
1,1-Dichloroethane	5.0	<5.0	<5.0	<5.0	<25	<25	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5		<25	<0.5
1,1-Dichloroethene	5.0	<5.0	<5.0	<5.0	<25	<25	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		<25	<0.5
1,2,3-Trichlorobenzene	5.0	<5.0	NA	NA	NA	NA	NA	NA	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5		NA	NA
1,2,4-Trichlorobenzene	5.0	<5.0	NA	NA	NA	NA	NA	NA	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5		NA	NA
1,2-Dichloroethane	0.6	**22**	**17**	**16**	**24** J	<25	**1.3**	**0.64** J	**5.4**	**14**	**15**	**18**	**18**	**16**	**21**		**22** J	**16**
cis-1,2-Dichloroethene	5.0	**8.4**	**6.5**	**12**	**110**	<25	1.9	1.7	4.5	**6.8**	**5.2**	3.5	4.2	2.4 J	**12**		**100**	**12**
trans-1,2-Dichloroethene	5.0	<5.0	1.3 J	4.2 J	<25	<25	**5.8**	**5.5**	**9.4**	**21**	**28**	**40**	**50**	**54**	**66**		<25	4.4 J
2-Butanone (MEK)	50 GV	<5.0	<5.0	<5.0	<250	**1,400**	**190**	12	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0		<250	<5.0
Acetone	50 GV	<50.0	<5.0	<5.0	<250	**370** J	**270**	**51**	2.4 J	2.0 J	<5.0	<8.3	<5.0	<5.0	<5.0		<250	<5.0
Benzene	1.0	**2.6** J	**1.3** J	**1.2** J	<25	<25	**1.6**	**1.7**	**2.2**	**1.9**	**2.3**	**2.2**	**2.1**	**2.0**	**2.7**		<25	**1.2** J
n-Butylbenzene	5.0	<5.0	<5.0	<5.0	<25	<25	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA		<25	<5.0
sec-Butylbenzene	5.0	1.2 J	<5.0	<5.0	<25	<25	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA		<25	<5.0
tert-Butylbenzene	5.0	<5.0	<5.0	<5.0	<25	<25	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA		<25	<5.0
Carbon disulfide	---	<5.0	NA	NA	<25	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0		NA	NA
Ethylbenzene	5.0	<5.0	<5.0	<5.0	<25	<25	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5		<25	<5.0
Hexachlorobutadiene	0.5	<5.0	NA	NA	<25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA
Isopropylbenzene	5.0	1.5 J	NA	NA	<25	NA	NA	NA	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5		NA	NA
Methyl tert-butyl ether (MTBE)	10 GV	**14**	**31**	**42**	**34**	**25**	**33**	**25**	**16**	**14**	**12**	7.7	6.1	3.0	6		**36**	**43**
n-Propylbenzene	5.0	4.4 J	<5.0	<5.0	<25	<25	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA		<25	<5.0
Tetrachloroethene	5.0	**120**	**97**	**62**	**14** J	<25	2.1	0.88 J	0.69	<0.50	<0.50	<0.50	<0.50	<0.50	0.62 J-		**21** J	**60**
Trichloroethene	5.0	**110**	**92**	**89**	**29**	<25	2.5	**5.5**	1.2	0.33 J	0.46 J	0.29 J	0.2 J	<0.50	3.7		**34**	**88**
Toluene	5.0	<5.0	<5.0	<5.0	<25	<25	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5		<25	<5.0
Vinyl chloride	2.0	<5.0	<5.0	<5.0	<25	<25	<1.0	<1.0	1.8	**6.5**	**5.7**	**3.1**	**3.8** j	**2.9**	**5.9**		<25	<5.0
TOTAL VOCs		282.6	246.1	226.4	211	1,795	508.2	103.92	43.59	66.5	68.66	74.8	84.4	80.3	118		213	224.6

Notes:

BOLD Indicates exceedance of groundwater standard

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[1], [2] DUP-1 samples collected from monitoring well location GZ-22D.

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[12] DUP-1 samples collected from monitoring well location OSMW-3.

[13] DUP-1 samples collected from monitoring well location B6-OWD.

Laboratory Qualifiers:

D Indicates the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.

J Indicates the concentration shown is an estimated value because the compound was detected below the reporting limit.

Data Usability Summary Report (DUSR) Qualifiers:

j Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method.

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.

J- The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.

UJ The analyte was analzyed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.

Table 1, Cont.
Summary of Groundwater Analytical Data Results to Title 6 Part 703.5 Groundwater Standards and NYSDEC TOGS 1.1.1 Guidance Values
441 and 442 Waverly Avenue
Volatile Organic Compounds
Site #C360108

Location		442 Waverly Avenue														
Well ID	Water Quality Standard*	GZ-23D														DUP-1 [11]
Unit	µg/L	µg/L														µg/L
Sample Date		08/20/09	01/11/12	10/15/13	03/25/14	06/19/14	09/25/14	11/05/14	06/24/15	12/17/15	05/12/16	10/12/16	06/13/17	11/14/17	05/16/18	06/13/17
Parameter *Volatile Organic Compounds*																
1,1-Dichloroethane	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<20	<25	<50	<25	<62	<50	<50	<25	<50
1,1-Dichloroethene	5.0	**5.5**	1.6 J	<100	1.7	<20	<20	<20	1.9 J	<10	<5.0	<12	<10	<10	<5.0	<10
1,2,3-Trichlorobenzene	5.0	<5.0	NA	NA	NA	NA	NA	NA	<25	<50	<25	<62	<50	<50	<25	<50
1,2,4-Trichlorobenzene	5.0	<5.0	NA	NA	NA	NA	NA	NA	<25	<50	<25	<62	<50	<50	<25	<50
1,2-Dichloroethane	0.6	**13**	**9**	<100	**7.8**	**6.6** J	**7.6** J	<20	**3.6** J	<10	**4.3** J	**4.2** J	**3.9** J	**3.3** D,J	**1.8** J	**4.1** D,J
cis-1,2-Dichloroethene	5.0	**10**	**780** D	**380**	**2,200** D	**930**	**1,100**	**1,100**	**780**	**1,000** j	**400**	**320**	**280**	**220** D	**240**	**290** D
trans-1,2-Dichloroethene	5.0	<5.0	**9.1**	<100	**41**	<20	<20	**18** J	**22** J	**37** J,j	**32**	**36** J	**22** J	**18** D,J	**19** J	**21** D,J
2-Butanone (MEK)	50 GV	<5.0	<5.0	**260**	46	**190** J	**770**	37 J	20 J	<100	<50	<120	<100	<100	<50	<100
Acetone	50 GV	<50.0	**200**	<100	9.8 J	**81** J	**480**	<200	19 J	<100	<50	<120	<100	<100	<50	<100
Benzene	1.0	**11**	**4** J	<100	**2.7**	<20	<20	<20	**3.2** J	<10	**2.8** J	<12	<10	<10	<5.0	<10
n-Butylbenzene	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	---	<5.0	NA	NA	NA	NA	NA	NA	<50	<100	<50	<120	<100	<100	<50	<100
Ethylbenzene	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<20	<25	<50	<25	<62	<50	<50	<25	<50
Hexachlorobutadiene	0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	5.0	<5.0	NA	NA	NA	NA	NA	NA	<25	<50	<25	<62	<50	<50	<25	<50
Methyl tert-butyl ether (MTBE)	10 GV	2.1 J	1.6 J	<100	<1.0	<20	<20	<20	<25	<50	<25	<62	<50	<50	<25	<50
n-Propylbenzene	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	5.0	**9,700** D	**4,300** D	**3,100**	**1,500** D	**880**	**720**	**94**	**750**	**110** j	**1,300**	**1,000**	**1,600**	**1,200** D	**1,600**	**1,500** D
Trichloroethene	5.0	**450** DJ	**1,600** D	**1,000**	**240** D	**310**	**350**	**160**	**420**	**600** j	**960**	**1,000**	**980**	**890** D	**880**	**950** D
Toluene	5.0	<5.0	<5.0	<100	<1.0	<20	<20	<20	<25	<50	<25	<62	<50	<50	<25	<50
Vinyl chloride	2.0	<5.0	1.2 J	**28** J	**200** D	**250**	**390**	**320**	**230** j	<20	**200**	**82**	**72**	**58** D	**40**	**71** D
TOTAL VOCs		10,191.6	6,906.5	4,768	4,249	2,647.6	3,817.6	1,729	2,229.7	1,747	2,899.1	2,442.2	2,957.9	2,389.3	2,780.8	2,836.1

Notes:

BOLD Indicates exceedance of groundwater standard
* Groundwater Standards are obtained from Title 6 Part 703.5 and Guidance Values (GV) are obtained from NYSDEC TOGS (1.1.1) "Ambient Water Quality Standards and Guidance Values".
< Indicates the parameter was not detected at or above laboratory's reporting limit, shown.
NA Not Analyzed.
--- No standard or not applicable.

[1], [2] DUP-1 samples collected from monitoring well location GZ-22D.
[3] DUP-1 samples collected from offsite monitoring well location OSMW-4.
[4] DUP-1 samples collected from monitoring well location GZ-21D.
[5] DUP-1 samples collected from monitoring well location OSMW-4.
[6] DUP-1 samples collected from monitoring well location OSMW-3
[7] DUP-1 samples collected from monitoring well location OSMW-4.
[8] DUP-1 samples collected from monitoring well location B6-OWD.
[9] DUP-1 samples collected from monitoring well location OSMW-4.
[10] DUP-1 samples collected from monitoring well location GZ-21D.
[11] DUP-1 samples collected from monitoring well location GZ-23D.
[12] DUP-1 samples collected from monitoring well location OSMW-3.
[13] DUP-1 samples collected from monitoring well location B6-OWD.

Laboratory Qualifiers:

D Indicates the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.
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Data Usability Summary Report (DUSR) Qualifiers:

j Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method.
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.
J- The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
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Table 1, Cont.
Summary of Groundwater Analytical Data Results to Title 6 Part 703.5 Groundwater Standards and NYSDEC TOGS 1.1.1 Guidance Values
441 and 442 Waverly Avenue
Volatile Organic Compounds
Site #C360108

Location		441 Waverly Avenue															
Well ID	Water Quality Standard*	B6-OWD														DUP-1 [8]	DUP-1 [13]
Unit	µg/L	µg/L														µg/L	µg/L
Sample Date		08/21/09	01/11/12	10/15/13	03/24/14	06/18/14	09/24/14	11/05/14	06/23/15	12/16/15	05/12/16	10/12/16	06/13/17	11/14/17	05/16/18	12/16/15	05/16/18
Parameter *Volatile Organic Compounds*																	
1,1-Dichloroethane	5.0	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<8.0	<2.5	<2.5	<2.5	<2.5	<5.0	<12	<50	<2.5	<50
1,1-Dichloroethene	5.0	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<8.0	<0.50	<0.50	<0.50	<0.50	<1.0	<2.5	<10	<0.50	<10
1,2,3-Trichlorobenzene	5.0	NA	NA	NA	NA	NA	NA	NA	<2.5	<2.5	<2.5	<2.5	<5.0	<12	<50	<2.5	<50
1,2,4-Trichlorobenzene	5.0	NA	NA	NA	NA	NA	NA	NA	<2.5	<2.5	<2.5	<2.5	<5.0	<12	<50	<2.5	<50
1,2-Dichloroethane	0.6	**9.7**	<5.0	**1.9** J	**2.8**	**8.0**	**9.1**	<8.0	0.36 J	<0.50	0.31 J	0.32 J	0.29 J	**3.7** D	**11**	<0.50	**9.1** J
cis-1,2-Dichloroethene	5.0	**390** D	1.5 J	**76**	**180** D	**330**	**430** D	<8.0	1.3 J	1.1 J	2.4 J	2.1 J	1.8 J	**150** D	**390**	1.2 J	**330**
trans-1,2-Dichloroethene	5.0	**150**	<5.0	**6.8**	**7.2**	**8.4**	**14**	<8.0	<2.5	<2.5	<2.5	<2.5	<5.0	**6.0** J,D	**22** J	<2.5	**20** J
2-Butanone (MEK)	50 GV	<5.0	<5.0	<5.0	<10	<40	<40	<80	<5.0	<5.0	<5.0	<5.0	<10	<25	<100	<5.0	<100
Acetone	50 GV	<50.0	<5.0	<5.0	<10	<40	<40	<80	<5.0	<5.0	<5.0	<6.7	<10	<25	<100	<5.0	<100
Benzene	1.0	<5.0	0.51 J	<5.0	<1.0	<4.0	<4.0	<8.0	0.38 J	0.28 J	0.28 J	0.65	0.56 J	<2.5	**5.3** J	0.29 J	**4.3** J
n-Butylbenzene	5.0	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<8.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	5.0	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<8.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	5.0	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<8.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	---	NA	NA	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<10	<25	<100	<5.0	<100
Ethylbenzene	5.0	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<8.0	<2.5	<2.5	<2.5	<2.5	<5.0	<12	<50	<2.5	<50
Hexachlorobutadiene	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	5.0	NA	NA	NA	NA	NA	NA	NA	<2.5	<2.5	<2.5	<2.5	<5.0	<12	<50	<2.5	<50
Methyl tert-butyl ether (MTBE)	10 GV	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<8.0	<2.5	<2.5	<2.5	<2.5	<5.0	<12	<50	<2.5	<50
n-Propylbenzene	5.0	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<8.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	5.0	**23**	**6.2**	**18**	**59**	**47**	**110**	<8.0	2.4	2.1	2.4	2.6	2.6	**190** D	**1,200** J-	2.2	**1,100** J-
Trichloroethene	5.0	**43**	2.1 J	**41**	**170** D	**180**	**330**	<8.0	1.3	1.4	1.7	1.7	1.4	**470** D	**1,400**	1.4	**1,400**
Toluene	5.0	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<8.0	<2.5	<2.5	<2.5	<2.5	<5.0	<12	<50	<2.5	<50
Vinyl chloride	2.0	<5.0	<5.0	<5.0	<1.0	<4.0	<4.0	<8.0	<1.0	<1.0	0.27 J	0.28 J	0.2 j	<5.0	1.8 J	<1.0	1.8 J
TOTAL VOCs		615.7	10.31	143.7	419	573.4	893.1	ND	5.74	4.88	7.36	7.65	6.85	819.7	3,030.1	5.09	2,865.2

Notes:

BOLD Indicates exceedance of groundwater standard

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[1], [2] DUP-1 samples collected from monitoring well location GZ-22D.

[3] DUP-1 samples collected from offsite monitoring well location OSMW-4.

[4] DUP-1 samples collected from monitoring well location GZ-21D.

[5] DUP-1 samples collected from monitoring well location OSMW-4.

[6] DUP-1 samples collected from monitoring well location OSMW-3

[7] DUP-1 samples collected from monitoring well location OSMW-4.

[8] DUP-1 samples collected from monitoring well location B6-OWD.

[9] DUP-1 samples collected from monitoring well location OSMW-4.

[10] DUP-1 samples collected from monitoring well location GZ-21D.

[11] DUP-1 samples collected from monitoring well location GZ-23D.

[12] DUP-1 samples collected from monitoring well location OSMW-3.

[13] DUP-1 samples collected from monitoring well location B6-OWD.

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Table 1, Cont.
Summary of Groundwater Analytical Data Results to Title 6 Part 703.5 Groundwater Standards and NYSDEC TOGS 1.1.1 Guidance Values
441 and 442 Waverly Avenue
Volatile Organic Compounds
Site #C360108

Location		Offsite Monitoring Well														
Well ID	Water Quality Standard*	OSMW-3													DUP-1 [12]	DUP-1 [6]
Unit	µg/L	µg/L													µg/L	µg/L
Sample Date		01/10/12	10/16/13	03/24/14	06/19/14	09/24/14	11/05/14	06/24/15	12/17/15	05/12/16	10/12/16	06/13/17	11/14/17	05/16/18	11/14/17	11/05/14
Parameter *Volatile Organic Compounds*																
1,1-Dichloroethane	5.0	<5.0	<80	<1.0	<20	<20	<50	<50	<100	<12	<25	<2.5	<25	<5.0	<25	<1.0
1,1-Dichloroethene	5.0	<5.0	<80	<1.0	<20	<20	<50	<10	<20	<2.5	<5.0	0.46 J	<5.0	<1.0	<5.0	1.4
1,2,3-Trichlorobenzene	5.0	NA	NA	NA	NA	NA	NA	<50	<100	<12	<25	<2.5	<25	<5.0	<25	NA
1,2,4-Trichlorobenzene	5.0	NA	NA	NA	NA	NA	NA	<50	<100	<12	<25	<2.5	<25	<5.0	<25	NA
1,2-Dichloroethane	0.6	**4.4** J	<80	**4.7**	<20	<20	<50	<10	<20	**3.8**	**4.2** J	**5.2**	**4.5** J,D	**1.7**	**4.3** J,D	**3.5**
cis-1,2-Dichloroethene	5.0	**14**	**31** J	**46**	**100**	**220**	**210**	**180**	**120** j	**92**	**63**	**40**	**39** D	**17**	**39** D	**210** D
trans-1,2-Dichloroethene	5.0	1.7 J	<80	3.7	<20	**28**	<50	**25** J	<100	**21**	**14** J	**7.4**	<25	<5.0	**7.1** J,D	**26**
2-Butanone (MEK)	50 GV	<5.0	<5.0	<10	<200	<200	<500	46 J	<200	<25	<50	<5.0	<50	<10	<50	<10
Acetone	50 GV	<5.0	<80	<10	<200	<200	<500	39 J	<200	<25	<50	<5.0	<50	<3.8 J	<50	<10
Benzene	1.0	<5.0	<80	1	<20	<20	<50	<10	<20	<2.5	<5.0	0.43 J	<5.0	<1.0	<5.0	**1.6**
n-Butylbenzene	5.0	<5.0	<80	<1.0	<20	<20	<50	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
sec-Butylbenzene	5.0	<5.0	<80	<1.0	<20	<20	<50	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
tert-Butylbenzene	5.0	<5.0	<80	<1.0	<20	<20	<50	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
Carbon disulfide	---	NA	NA	NA	NA	NA	NA	<100	<200	<25	<50	<5.0	<50	<10	<50	NA
Ethylbenzene	5.0	<5.0	<80	<1.0	<20	<20	<50	<50	<100	<12	<25	<2.5	<25	<5.0	<25	<1.0
Hexachlorobutadiene	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	5.0	NA	NA	NA	NA	NA	NA	<50	<100	<12	<25	<2.5	<25	<5.0	<25	NA
Methyl tert-butyl ether (MTBE)	10 GV	<5.0	<80	0.4 J	<20	<20	<50	<50	<100	<12	<25	<2.5	<25	<5.0	<25	0.48 J
n-Propylbenzene	5.0	<5.0	<80	<1.0	<20	<20	<50	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
Tetrachloroethene	5.0	**760** D	**1,900**	**2,400** D	**1,300**	**2,600** D	**3,400**	**1,500**	**1,200** j	**670**	**470**	**620** D	**750** D	**220** J-	**760** D	**2,900** D
Trichloroethene	5.0	**120**	**280**	**330** D	**440**	**1,000**	**1,000**	**610**	**480** j	**290**	**230**	**170** D	**220** D	**110**	**220** D	**900** D
Toluene	5.0	<5.0	<80	<1.0	<20	<20	<50	<50	<100	<12	<25	<2.5	<25	<5.0	<25	<1.0
Vinyl chloride	2.0	<5.0	<80	<1.0	<20	<20	<50	<1.4 j	<40	0.44 J	<10	0.14 J	<10	<2.0	<10	<1.0
TOTAL VOCs		900.1	2,211	2,786	1,840	3,848	4,610	2,400	1,800	1,077	781.2	843.6	1,014	348.7	1,030	4,043

Notes:

BOLD Indicates exceedance of groundwater standard

* Groundwater Standards are obtained from Title 6 Part 703.5 and Guidance Values (GV) are obtained from NYSDEC TOGS (1.1.1) "Ambient Water Quality Standards and Guidance Values".

< Indicates the parameter was not detected at or above laboratory's reporting limit, shown.

NA Not Analyzed.

--- No standard or not applicable.

[1], [2] DUP-1 samples collected from monitoring well location GZ-22D.

[3] DUP-1 samples collected from offsite monitoring well location OSMW-4.

[4] DUP-1 samples collected from monitoring well location GZ-21D.

[5] DUP-1 samples collected from monitoring well location OSMW-4.

[6] DUP-1 samples collected from monitoring well location OSMW-3

[7] DUP-1 samples collected from monitoring well location OSMW-4.

[8] DUP-1 samples collected from monitoring well location B6-OWD.

[9] DUP-1 samples collected from monitoring well location OSMW-4.

[10] DUP-1 samples collected from monitoring well location GZ-21D.

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[13] DUP-1 samples collected from monitoring well location B6-OWD.

Laboratory Qualifiers:

D Indicates the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.

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Data Usability Summary Report (DUSR) Qualifiers:

j Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method.

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.

J- The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.

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Table 1, Cont.
Summary of Groundwater Analytical Data Results to Title 6 Part 703.5 Groundwater Standards and NYSDEC TOGS 1.1.1 Guidance Values
441 and 442 Waverly Avenue
Volatile Organic Compounds
Site #C360108

Location		Offsite Monitoring Well																
Well ID	Water Quality Standard*	OSMW-4													DUP-1 [9]	DUP-1 [5]	DUP-1 [3]	DUP-1 [7]
Unit	µg/L	µg/L													µg/L	µg/L	µg/L	µg/L
Sample Date		01/10/12	10/16/13	03/25/14	06/18/14	09/24/14	11/05/14	06/24/15	12/17/15	05/12/16	10/12/16	06/13/17	11/14/17	05/16/18	05/12/16	09/24/14	01/10/12	06/24/15
Parameter																		
Volatile Organic Compounds																		
1,1-Dichloroethane	5.0	<5.0	<5.0	<25	<25	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<1.0	<5.0	<2.5
1,1-Dichloroethene	5.0	<5.0	<5.0	<25	<25	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<5.0	<0.50
1,2,3-Trichlorobenzene	5.0	NA	NA	NA	NA	NA	NA	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	NA	NA	<2.5
1,2,4-Trichlorobenzene	5.0	NA	NA	NA	NA	NA	NA	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	NA	NA	<2.5
1,2-Dichloroethane	0.6	**1.1** J	<5.0	<25	<25	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	**1.1** J	<0.50
cis-1,2-Dichloroethene	5.0	**29**	3.8 J	<25	<25	**6.2**	**6.0**	1.2 J	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	**5.2**	**29**	1.2 J
trans-1,2-Dichloroethene	5.0	**6.9**	1 J	<25	<25	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<1.0	**7.2**	<2.5
2-Butanone (MEK)	50 GV	<5.0	<5.0	<250	<250	<1.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0
Acetone	50 GV	<5.0	<5.0	<250	<250	3.2 J	<10	<5.0	<5.0	<5.0	<6.6	<5.0	<5.0	<10	<5.0	3.0 J	<5.0	<5.0
Benzene	1.0	**45**	<5.0	<25	<25	**2.8**	0.86 J	<0.50	0.38 J,j	**1.2**	<0.50	0.3 J	0.18 J	0.52 J	**1.2**	**2.9**	**47**	<0.50
n-Butylbenzene	5.0	<5.0	<5.0	<25	<25	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	<5.0	NA
sec-Butylbenzene	5.0	1.5 J	<5.0	<25	<25	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	1.5 J	NA
tert-Butylbenzene	5.0	<5.0	<5.0	<25	<25	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	<5.0	NA
Carbon disulfide	---	NA	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	NA	<5.0
Ethylbenzene	5.0	<5.0	<5.0	<25	<25	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<10	<2.5	<1.0	<5.0	<2.5
Hexachlorobutadiene	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	5.0	NA	NA	NA	NA	NA	NA	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	NA	NA	<2.5
Methyl tert-butyl ether (MTBE)	10 GV	0.78 J	<5.0	<25	<25	0.57 J	0.59 J	<2.5	<2.5	<2.5	0.73 J	<2.5	<2.5	<5.0	<2.5	0.63 J	<5.0	<2.5
n-Propylbenzene	5.0	1.6 J	<5.0	<25	<25	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	1.7 J	NA
Tetrachloroethene	5.0	**790** D	**11**	<25	<25	3.4	3.2	0.44 J	<0.50	0.2 J,j	2.0	1.1	0.25 J	<1.0 J	0.19 J,j	3.4	**730** D	0.48 J
Trichloroethene	5.0	**230** D	**15**	<25	<25	**6.0**	4.5	1.0	0.56	0.53	1.1	0.57	<0.50	<1.0	0.58	**5.5**	**220** D	1.1
Toluene	5.0	<5.0	<5.0	<25	<25	<1.0	<1.0	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<1.0	0.67 J	<2.5
Vinyl chloride	2.0	<5.0	<5.0	<25	<25	<1.0	<1.0	<0.07 j	<1.0	<1.0	<1.0	<1.0 j	<1.0	<2.0	<1.0	<1.0	<5.0	<1.0 j
TOTAL VOCs		1,106	30.8	ND	ND	22.2	2.6	2.6	0.94	1.93	3.8	1.97	0.43	0.52	1.97	20.6	1,038	2.78

Notes:

BOLD Indicates exceedance of groundwater standard

* Groundwater Standards are obtained from Title 6 Part 703.5 and Guidance Values (GV) are obtained from NYSDEC TOGS (1.1.1) "Ambient Water Quality Standards and Guidance Values".

< Indicates the parameter was not detected at or above laboratory's reporting limit, shown.

NA Not Analyzed.

--- No standard or not applicable.

[1], [2] DUP-1 samples collected from monitoring well location GZ-22D.

[3] DUP-1 samples collected from offsite monitoring well location OSMW-4.

[4] DUP-1 samples collected from monitoring well location GZ-21D.

[5] DUP-1 samples collected from monitoring well location OSMW-4.

[6] DUP-1 samples collected from monitoring well location OSMW-3

[7] DUP-1 samples collected from monitoring well location OSMW-4.

[8] DUP-1 samples collected from monitoring well location B6-OWD.

[9] DUP-1 samples collected from monitoring well location OSMW-4.

[10] DUP-1 samples collected from monitoring well location GZ-21D.

[11] DUP-1 samples collected from monitoring well location GZ-23D.

[12] DUP-1 samples collected from monitoring well location OSMW-3.

[13] DUP-1 samples collected from monitoring well location B6-OWD.

Laboratory Qualifiers:

D Indicates the undiluted analysis exceeded the equipment calibration range. The concentration shown is obtained from a diluted analysis.

J Indicates the concentration shown is an estimated value because the compound was detected below the reporting limit.

Data Usability Summary Report (DUSR) Qualifiers:

j Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method.

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.

J- The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.

UJ The analyte was analzyed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.

DAILY FIELD REPORT

STERLING
Sterling Environmental Engineering, P.C.

DAILY FIELD REPORT

Project Name: 441/442 Waverly Avenue **Project No.:** 28012

Client Name: New Waverly Avenue Associates, LLC **Date:** May 16, 2018

Location: 441/442 Waverly Avenue, Mamaroneck, NY **Weather:** 60°F, Cloudy/Rain, W/NW Wind <5 MPH

Inspector: Stefan R. Truex; Sterling Environmental Engineering, P.C. (Sterling)

Task: Perform well re-development at onsite monitoring well B6-OWD and conduct groundwater sampling of two (2) offsite monitoring wells OSMW-3 and OSMW-4 and four (4) existing onsite deep monitoring wells GZ-21D, GZ-22D, GZ-23D and B6-OWD.

5:45 AM Travel to site from Sterling office.
8:30 AM: Arrive at site, receive delivery from UPS (bladder pump).
8:40 AM: Complete tailgate health and safety meeting.
8:50 AM: Initiate well development at onsite monitoring well B6-OWD; 10 well volumes (44 gallons) were removed.
NOTE: No padlock is affixed to j-plug. Monitoring well appears to be damaged due to frost heave. An obstruction at < 4 feet below ground prevented lowering of bladder pump into well. Bailer and water level meter are still able to be lowered down the monitoring well.
10:15 AM: Collect OSMW-4 sample and multi-meter readings.
10:20 AM: Collect OSMW-4 MS.
10:25 AM: Collect OSMW-4 MSD, decontaminate equipment, move to next location.
NOTE: No padlock is affixed to j-plug. Flush mount cover missing bolts.
12:20 PM: Collect GZ-21D sample/multi meter readings, decontaminate equipment, and move to next location.
NOTE: 2/3 of inner flush mount cover is completely missing. No padlock is affixed to j-plug. Flush mount cover missing bolts.
1:55 PM: Collect GZ-22D sample/Multi-meter readings, decontaminate equipment, and move to next location.
NOTE: No padlock is affixed to j-plug. Flush mount cover missing bolts.
2:20 PM: Collect B6-OWD sample/multi-meter readings, decontaminate equipment, and move to next location.
3:15 PM: Collect OSMW-3 sample/multi-meter readings, decontaminate equipment, and move to next location.
NOTE: No padlock is affixed to j-plug.
5:00 PM: Collect GZ-23D sample/multi-meter readings, decontaminate equipment, close/seal monitoring well.
NOTE: No padlock is affixed to j-plug.
5:25 PM: Load vehicle, conference call with Mark Williams and Thomas Johnson.
5:35 PM: Stefan Truex offsite.
8:45 PM: Relinquish samples at Alpha Analytical distribution center in Albany, New York.

Recommendations:

1) Replace missing bolts at onsite monitoring wells GZ-21D and GZ-22D and offsite monitoring well OSMW-4.
2) Apply new flush mount cover to onsite monitoring well GZ-21D.
3) Repair existing j-plugs and apply dedicated padlock to each onsite and offsite monitoring well.

Visitors (Name, Affiliation): T.J. Milo (New Waverly Avenue Associates, LLC (914) 907-2385))

Signature:

PURGING/SAMPLING DATA SHEETS

Purging / Sampling Data Sheet

Project:	28012	Site:	441 Waverly Avenue, Mamaroneck, NY
Well No.:	GZ-21D	Date:	May 16, 2018
Well Depth:	44.21 feet	Screen Length:	5 feet
Well Diameter:	2 inches	Casing Type:	PVC
Sampling Device:	Bladder Pump	Tubing Type:	¼ LDPE Air/1/4" HDPE Water
Static Water Level:	7.89 feet	Measuring Point:	Top of PVC

Sampling Personnel: Stefan R. Truex, Sterling Environmental Engineering, P.C

Time	Pump Rate (L/min.)	Depth to Water (ft.)	Drawdown (< 0.33ft)	pH (± 0.1)	Temp. (°C) (± 3%)	SC (mS/cm^{C}) (± 3%)	ORP (mV) (± 10)	DO (mg/L) (± 10%)	Turbidity (nTu)(± 10%)	Notes
11:35		7.89	Static							
11:40	0.300	7.92	0.03	7.06	14.17	0.674	155	12.39	33.5	
11:45	0.300	8.10	0.21	7.01	14.35	0.680	141	12.24	25.7	Light Brown/Green
11:50	0.300	8.18	0.29	6.94	14.47	1.56	-56	4.61	24.2	No Odor
11:55	0.300	8.27	0.38	7.13	14.79	1.88	-109	2.65	10.8	
12:00	0.250	8.32	0.43	7.22	14.85	1.95	-135	216	4.9	
12:05	0.250	8.37	0.48	7.28	14.88	1.99	-144	1.62	1.8	
12:10	0.250	8.39	0.50	7.32	14.90	2.01	-151	1.50	4.8	
12:15	0.250	8.40	0.51	7.33	14.86	2.04	-156	1.42	1.6	
12:20	Sample @ 12:20									

Observations: Flush mount cover is cracked. No padlock is affixed to j-plug. Flush mount cover missing bolts.

Total: 4 Gallons Purged (1 well volume = ~6 gallons)

Types of Samples Collected: TCL VOCs

Information: 2 in. = 617 ml/ft., 4 in. = 2,470 ml/ft.: $Vol_{cyl} = \pi r^2 h$

Purging / Sampling Data Sheet

Project: 28012 Site: 441 Waverly Avenue, Mamaroneck, NY
Well No.: GZ-22D Date: May 16, 2018

Well Depth: 45.35 feet Screen Length: 5 feet
Well Diameter: 2 inches Casing Type: PVC

Sampling Device: Bladder Pump Tubing Type: ¼" O.D. Plastic
Static Water Level: 9.03 feet Measuring Point: Top of PVC

Sampling Personnel: Stefan R. Truex, Sterling Environmental Engineering, P.C.

Time	Pump Rate (L/min.)	Depth to Water (ft.)	Drawdown (< 0.33ft)	pH (± 0.1)	Temp. (°C) (± 3%)	SC (mS/cm^{C}) (± 3%)	ORP (mV) (± 10)	DO (mg/L) (± 10%)	Turbidity (nTu) (± 10%)	Notes
13:05		9.03	Static							
13:10	0.250	9.07	0.04	7.14	15.00	0.875	-117	0.96	388	
13:15	0.250	9.07	0.04	7.16	15.03	0.878	-121	0.88	252	Light Brown
13:20	0.250	9.08	0.05	7.13	15.03	0.879	-120	0.85	135	No Odor
13:25	0.250	9.09	0.06	7.15	15.03	0.879	-122	0.78	113	No Sheen
13:30	0.250	9.10	0.07	7.15	15.03	0.879	-125	0.77	57.2	
13:35	0.250	9.12	0.09	7.13	15.04	0.880	-125	0.76	54.1	
13.40	0.250	9.13	0.10	7.12	15.04	0.881	-124	0.75	30.9	
13:45	0.250	9.18	0.15	7.15	15.04	0.881	-124	0.72	32.7	
13:50	0.250	9.20	0.17	7.14	15.05	0.881	-124	0.70	31.40	
13:55	Sample at 13:55									

Observations: No padlock is affixed to j-plug. Flush mount cover missing bolts.

Total: 3 Gallons Purged (1 well volume = 6 gallons)

Types of Samples Collected: TCL VOCs

Information: 2 in. = 617 ml/ft., 4 in. = 2,470 ml/ft.: $Vol_{cyl} = \pi r^2 h$

Purging / Sampling Data Sheet

Project:	28012	Site:	442 Waverly Avenue, Mamaroneck, NY
Well No.:	GZ-23D	Date:	May 16, 2018
Well Depth:	44.86 feet	Screen Length:	5.0 feet
Well Diameter:	2 inches	Casing Type:	PVC
Sampling Device:	Waterra	Tubing Type:	5/8" Plastic
Static Water Level:	9.73 feet	Measuring Point:	Top of Casing

Sampling Personnel: Stefan R. Truex, Sterling Environmental Engineering, P.C.

Time	Pump Rate (L/min.)	Depth to Water (ft.)	Drawdown (< 0.33ft)	pH (± 0.1)	Temp. (°C) (± 3%)	SC (mS/cm^c) (± 3%)	ORP (mV) (± 10)	DO (mg/L) (± 10%)	Turbidity (nTu) (± 10%)	Notes
16:30		9.73								
Well Volume 1	<0.2	9.81	0.08	7.10	14.37	2.14	-72	3.14	942	
Well Volume 2	<0.2	9.80	0.07	7.12	14.19	2.10	-77	2.71	1009	Black
17:00 Well Volume 3	<0.2	10.01	0.28	7.06	14.45	2.07	-57	1.30	825	Sweet Odor. No Sheen.

Observations: No padlock is affixed to j-plug.

Total: 17 Gallons Purged (1 well volume = 5.75 gallons)

Types of Samples Collected: TCL VOCs

Information: 2 in. = 617 ml/ft., 4 in. = 2,470 ml/ft.: $Vol_{cyl} = \pi r^2 h$

Purging / Sampling Data Sheet

Project:	28012	Site:	441 Waverly Avenue, Mamaroneck, NY
Well No.:	B6-OWD	Date:	May 16, 2018
Well Depth:	35.30 feet	Screen Length:	10’
Well Diameter:	2 inches (broken/heaved)	Casing Type:	PVC
Sampling Device:	Bailer (1”)	Tubing Type:	Bailer
Static Water Level:	8.42 feet	Measuring Point:	Top of PVC

Sampling Personnel: Stefan R. Truex, Sterling Environmental Engineering, P.C.

Time	Pump Rate (gal/min.)	Depth to Water (ft.)	Drawdown (< 0.33ft)	pH (± 0.1)	Temp. (ºC) (± 3%)	SC (mS/cm^c) (± 3%)	ORP (mV) (± 10)	DO (mg/L) (± 10%)	Turbidity (nTu)(± 10%)
14:00*		8.42	Static						
1 gallon	0.2	8.49	0.07	7.05	14.01	1.41	42	14.50	57.8
2 gallons	0.2	8.51	0.09	7.03	14.37	1.52	46	12.47	74.9
3.5 gallons	0.2	8.51	0.09	7.03	14.14	1.53	48	15.53	24.7
14:20	Sample @ 14:20								

Observations: No padlock is affixed to j-plug. Monitoring well appears to be damaged due to frost heave. An obstruction at < 4 feet below ground prevented lowering of bladder pump into well. Bailer and water level meter are still able to be lowered down the monitoring well.

*Ten well volumes (44 gallons) removed during re-development of B6-OWD between 08:50 and 09:30. (1 well volume = 4.4 gallons)

Total: 3.5 gallons purged prior to sampling

Types of Samples Collected: TCL VOCs [Duplicate sample (DUP-1) collected at B6-OWD]

Information: 2 in. = 617 ml/ft., 4 in. = 2,470 ml/ft.: $Vol_{cyl} = \pi r^2 h$

Purging / Sampling Data Sheet

Project: 28012 Site: 524 Waverly Avenue, Mamaroneck, NY
Well No.: OSMW-3 Date: May 16, 2018

Well Depth: 39.4 feet Screen Length: 10'
Well Diameter: 1 inch Casing Type: PVC

Sampling Device: Bailer Tubing Type: Bailer
Static Water Level: 8.73 feet Measuring Point: Top of PVC

Sampling Personnel: Stefan R. Truex, Sterling Environmental Engineering, P.C.

Time	Pump Rate (L/min.)	Depth to Water (ft.)	Drawdown (< 0.33ft)	pH (± 0.1)	Temp. (°C) (± 3%)	SC (mS/cm^{c}) (± 3%)	ORP (mV) (± 10)	DO (mg/L) (± 10%)	Turbidity (nTu) (± 10%)	Notes
15:00		8.73	Static							
Well Volume 1	<0.2	_____	N/A	7.37	14.51	0.391	64	3.79	32.4	Light Brown
Well Volume 2	<0.2	_____	N/A	7.19	14.37	0.344	57	9.81	51.9	No Odor
Well Volume 3 15:15	<0.2	8.75	0.02	7.24	14.34	0.378	118	10.14	19.9	No Sheen

Observations: No padlock is affixed to j-plug.

N/A = No drawdown observed

Total: 3.75 Gallons Purged

Types of Samples Collected: TCL VOCs.

Purging / Sampling Data Sheet

Project: 28012 Site: 524 Waverly Avenue, Mamaroneck, NY
Well No.: OSMW-4 Date: May 16, 2018

Well Depth: 35.62 feet Screen Length: 10 Feet
Well Diameter: 1 Inch Casing Type: PVC

Sampling Device: 1" Bailer Tubing Type: 1" Bailer

Static Water Level: 9.05 feet Measuring Point: Top of PVC

Sampling Personnel: Stefan R. Truex, Sterling Environmental Engineering, P.C.

Time	Pump Rate (L/min.)	Depth to Water (ft.)	Drawdown (< 0.33ft)	pH (± 0.1)	Temp. (°C) (± 3%)	SC (mS/cm^c) (± 3%)	ORP (mV) (± 10)	DO (mg/L) (± 10%)	Turbidity (nTu) (± 10%)	Notes
9:40	9.05	Static								Light Brown
Well Volume #1	<0.2	9.09	0.04	7.09	16.92	1.12	85	7.10	39.0	No Odor
Well Volume #2	<0.2	9.06	0.02	7.07	16.87	1.13	22	7.04	49.4	No Sheen
Well Volume #3	<0.2	9.08	0.03	7.07	16.85	1.13	-19	6.61	44.9	
10:15	Sample @ 10:15									
10:20	10:20 MS									
10:25	10:25 MSD									

Observations: No padlock is affixed to j-plug. Flush mount cover missing bolts.

Total: 3.5 Gallons Purged 3.25 Gals = 3 well volumes

Types of Samples Collected: TCL VOCs [QA/QC (Matrix Spike (MS)/Matrix Spike Duplicate (MSD)) sample collected @ OSMW-4]

LABORATORY ANALYSIS REPORT
AND
DATA USABILITY SUMMARY REPORT (DUSR)

Data Validation Services

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

Phone 518-251-4429
harry@frontiernet.net

June 6, 2018

Mark Williams
Sterling Environmental and Restoration, P.C.
24 Wade Rd
Latham, NY 12110

RE: Validation of the 441-442 Waverly Avenue Site Laboratory Analytical Data
Data Usability Summary Report (DUSR)
Alpha SDG No. L1818003

Dear Mr. Williams:

Review has been completed for the data package noted above, generated by Alpha Laboratories, that pertains to samples collected 05/16/18 at the Waverly Avenue site. Six aqueous samples, a field duplicate, and a trip blank was processed for TCL volatile analytes by USEPA method 8260C.

The data packages submitted contain full deliverables for validation, and this DUSR is generated from review of the summary form information, with full validation review of sample raw data, and limited review of associated QC raw data. The reported summary forms have been reviewed for application of validation qualifiers, using guidance from the USEPA Region 2 validation SOPs, the USEPA National Functional Guidelines for Data Review, the specific laboratory methodologies, and professional judgment. The following items were reviewed:

* Laboratory Narrative Discussion
* Custody Documentation
* Holding Times
* Surrogate and Internal Standard Recoveries
* Matrix Spike Recoveries/Duplicate Correlations
* Field Duplicate Correlations
* Trip and Method Blanks
* Laboratory Control Samples (LCSs)
* Instrumental Tunes
* Calibration Standards
* Instrument MDLs
* Sample Result Verification

The data review includes evaluation of the specific items noted in The NYS DER-10 Appendix B section 2.0 (c). The items listed above that show deficiencies are discussed within the text of this narrative. The laboratory QC forms illustrating the excursions can be found within the laboratory data packages.

In summary, sample processing was primarily conducted in compliance with the analytical protocol requirements. Most sample results are usable either as reported or with qualification or edit. 1,4-dioxane results are not usable due issues inherent in the methodology.

Data completeness, representativeness, comparability, sensitivity, accuracy, and precision are acceptable.

Validation qualifier definitions and client sample identifications are attached to this text, and should be reviewed in conjunction with this report. Also included with the submission is the client EDDs, with validation qualifiers applied in red.

Blind Field Duplicates

Blind field duplicate evaluations were performed on B6-OWD. All correlations fall within validation guidelines.

TCL Volatiles by EPA 82760C

The result for acetone in OSMW-3 is considered external contamination and edited to reflect non-detection due to presence in the associated trip blank.

Surrogate and internal standard recoveries are within required ranges. LCS recoveries are within validation guidelines.

Matrix spikes of OSMW-4 show recoveries and correlations within validation guidelines, with the exception of the recoveries for cyclohexane (165% and 175%), the result for which is qualified as estimated, with a high bias, in the parent sample.

Results for 1,4-dioxane in the samples are rejected due to low calibration responses inherent in the methodology. Other analytes show acceptable responses, with the exception of the following, results for which are qualified as estimated in the indicated associated samples: bromomethane and tetrachloroethene (3%D and 22%D) in all samples except GZ-23D.

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

Very truly yours,

Judy Harry

Att: Validation Qualifier Definitions
Sample Identifications
Qualified Client EDDs

VALIDATION DATA QUALIFIER DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
J+	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
UJ	The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
NJ	The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.
EMPC	The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

Client and Laboratory Sample Identifications

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1818003-01	OSMW-4	WATER	441-442 WAVERLY AVENUE	05/16/18 10:15	05/16/18
L1818003-02	GZ-21D	WATER	441-442 WAVERLY AVENUE	05/16/18 12:20	05/16/18
L1818003-03	GZ-22D	WATER	441-442 WAVERLY AVENUE	05/16/18 13:55	05/16/18
L1818003-04	B6-OWD	WATER	441-442 WAVERLY AVENUE	05/16/18 14:20	05/16/18
L1818003-05	OSMW-3	WATER	441-442 WAVERLY AVENUE	05/16/18 15:15	05/16/18
L1818003-06	GZ-23D	WATER	441-442 WAVERLY AVENUE	05/16/18 17:00	05/16/18
L1818003-07	DUP051618	WATER	441-442 WAVERLY AVENUE	05/16/18 00:00	05/16/18
L1818003-08	TB051618	WATER	441-442 WAVERLY AVENUE	05/16/18 00:00	05/16/18

ANALYTICAL REPORT

Lab Number:	L1818003
Client:	Sterling Environmental Eng 24 Wade Road Latham, NY 12110
ATTN:	Stefan Truex
Phone:	(518) 456-4900
Project Name:	WAVERLY
Project Number:	28012
Report Date:	05/23/18

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1818003-01	OSMW-4	WATER	441-442 WAVERLY AVENUE	05/16/18 10:15	05/16/18
L1818003-02	GZ-21D	WATER	441-442 WAVERLY AVENUE	05/16/18 12:20	05/16/18
L1818003-03	GZ-22D	WATER	441-442 WAVERLY AVENUE	05/16/18 13:55	05/16/18
L1818003-04	B6-OWD	WATER	441-442 WAVERLY AVENUE	05/16/18 14:20	05/16/18
L1818003-05	OSMW-3	WATER	441-442 WAVERLY AVENUE	05/16/18 15:15	05/16/18
L1818003-06	GZ-23D	WATER	441-442 WAVERLY AVENUE	05/16/18 17:00	05/16/18
L1818003-07	DUP051618	WATER	441-442 WAVERLY AVENUE	05/16/18 00:00	05/16/18
L1818003-08	TB051618	WATER	441-442 WAVERLY AVENUE	05/16/18 00:00	05/16/18

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L1818003-01: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

L1818003-06: The pH of the sample was greater than two; however, the sample was analyzed within the method required holding time.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative

Date: 05/23/18

ORGANICS

VOLATILES

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-01 D
Client ID: OSMW-4
Sample Location: 441-442 WAVERLY AVENUE

Date Collected: 05/16/18 10:15
Date Received: 05/16/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/18 15:08
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	5.0	1.4	2
1,1-Dichloroethane	ND		ug/l	5.0	1.4	2
Chloroform	ND		ug/l	5.0	1.4	2
Carbon tetrachloride	ND		ug/l	1.0	0.27	2
1,2-Dichloropropane	ND		ug/l	2.0	0.27	2
Dibromochloromethane	ND		ug/l	1.0	0.30	2
1,1,2-Trichloroethane	ND		ug/l	3.0	1.0	2
Tetrachloroethene	ND		ug/l	1.0	0.36	2
Chlorobenzene	ND		ug/l	5.0	1.4	2
Trichlorofluoromethane	ND		ug/l	5.0	1.4	2
1,2-Dichloroethane	ND		ug/l	1.0	0.26	2
1,1,1-Trichloroethane	ND		ug/l	5.0	1.4	2
Bromodichloromethane	ND		ug/l	1.0	0.38	2
trans-1,3-Dichloropropene	ND		ug/l	1.0	0.33	2
cis-1,3-Dichloropropene	ND		ug/l	1.0	0.29	2
Bromoform	ND		ug/l	4.0	1.3	2
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	0.33	2
Benzene	0.52	J	ug/l	1.0	0.32	2
Toluene	ND		ug/l	5.0	1.4	2
Ethylbenzene	ND		ug/l	5.0	1.4	2
Chloromethane	ND		ug/l	5.0	1.4	2
Bromomethane	ND		ug/l	5.0	1.4	2
Vinyl chloride	ND		ug/l	2.0	0.14	2
Chloroethane	ND		ug/l	5.0	1.4	2
1,1-Dichloroethene	ND		ug/l	1.0	0.34	2
trans-1,2-Dichloroethene	ND		ug/l	5.0	1.4	2
Trichloroethene	ND		ug/l	1.0	0.35	2
1,2-Dichlorobenzene	ND		ug/l	5.0	1.4	2

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-01 D Date Collected: 05/16/18 10:15

Client ID: OSMW-4 Date Received: 05/16/18

Sample Location: 441-442 WAVERLY AVENUE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	5.0	1.4	2
1,4-Dichlorobenzene	ND		ug/l	5.0	1.4	2
Methyl tert butyl ether	ND		ug/l	5.0	1.4	2
p/m-Xylene	ND		ug/l	5.0	1.4	2
o-Xylene	ND		ug/l	5.0	1.4	2
cis-1,2-Dichloroethene	ND		ug/l	5.0	1.4	2
Styrene	ND		ug/l	5.0	1.4	2
Dichlorodifluoromethane	ND		ug/l	10	2.0	2
Acetone	ND		ug/l	10	2.9	2
Carbon disulfide	ND		ug/l	10	2.0	2
2-Butanone	ND		ug/l	10	3.9	2
4-Methyl-2-pentanone	ND		ug/l	10	2.0	2
2-Hexanone	ND		ug/l	10	2.0	2
Bromochloromethane	ND		ug/l	5.0	1.4	2
1,2-Dibromoethane	ND		ug/l	4.0	1.3	2
1,2-Dibromo-3-chloropropane	ND		ug/l	5.0	1.4	2
Isopropylbenzene	ND		ug/l	5.0	1.4	2
1,2,3-Trichlorobenzene	ND		ug/l	5.0	1.4	2
1,2,4-Trichlorobenzene	ND		ug/l	5.0	1.4	2
Methyl Acetate	ND		ug/l	4.0	0.47	2
Cyclohexane	14	J	ug/l	20	0.54	2
1,4-Dioxane	ND		ug/l	500	120	2
Freon-113	ND		ug/l	5.0	1.4	2
Methyl cyclohexane	3.0	J	ug/l	20	0.79	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	93		70-130

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-02 D
Client ID: GZ-21D
Sample Location: 441-442 WAVERLY AVENUE

Date Collected: 05/16/18 12:20
Date Received: 05/16/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/18 15:37
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	10	2.8	4
1,1-Dichloroethane	ND		ug/l	10	2.8	4
Chloroform	ND		ug/l	10	2.8	4
Carbon tetrachloride	ND		ug/l	2.0	0.54	4
1,2-Dichloropropane	ND		ug/l	4.0	0.55	4
Dibromochloromethane	ND		ug/l	2.0	0.60	4
1,1,2-Trichloroethane	ND		ug/l	6.0	2.0	4
Tetrachloroethene	ND		ug/l	2.0	0.72	4
Chlorobenzene	ND		ug/l	10	2.8	4
Trichlorofluoromethane	ND		ug/l	10	2.8	4
1,2-Dichloroethane	140		ug/l	2.0	0.53	4
1,1,1-Trichloroethane	ND		ug/l	10	2.8	4
Bromodichloromethane	ND		ug/l	2.0	0.77	4
trans-1,3-Dichloropropene	ND		ug/l	2.0	0.66	4
cis-1,3-Dichloropropene	ND		ug/l	2.0	0.58	4
Bromoform	ND		ug/l	8.0	2.6	4
1,1,2,2-Tetrachloroethane	ND		ug/l	2.0	0.67	4
Benzene	18		ug/l	2.0	0.64	4
Toluene	ND		ug/l	10	2.8	4
Ethylbenzene	ND		ug/l	10	2.8	4
Chloromethane	ND		ug/l	10	2.8	4
Bromomethane	ND		ug/l	10	2.8	4
Vinyl chloride	19		ug/l	4.0	0.28	4
Chloroethane	ND		ug/l	10	2.8	4
1,1-Dichloroethene	ND		ug/l	2.0	0.68	4
trans-1,2-Dichloroethene	3.4	J	ug/l	10	2.8	4
Trichloroethene	ND		ug/l	2.0	0.70	4
1,2-Dichlorobenzene	ND		ug/l	10	2.8	4

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-02 D Date Collected: 05/16/18 12:20

Client ID: GZ-21D Date Received: 05/16/18

Sample Location: 441-442 WAVERLY AVENUE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	10	2.8	4
1,4-Dichlorobenzene	ND		ug/l	10	2.8	4
Methyl tert butyl ether	ND		ug/l	10	2.8	4
p/m-Xylene	ND		ug/l	10	2.8	4
o-Xylene	ND		ug/l	10	2.8	4
cis-1,2-Dichloroethene	270		ug/l	10	2.8	4
Styrene	ND		ug/l	10	2.8	4
Dichlorodifluoromethane	ND		ug/l	20	4.0	4
Acetone	ND		ug/l	20	5.8	4
Carbon disulfide	ND		ug/l	20	4.0	4
2-Butanone	ND		ug/l	20	7.8	4
4-Methyl-2-pentanone	ND		ug/l	20	4.0	4
2-Hexanone	ND		ug/l	20	4.0	4
Bromochloromethane	ND		ug/l	10	2.8	4
1,2-Dibromoethane	ND		ug/l	8.0	2.6	4
1,2-Dibromo-3-chloropropane	ND		ug/l	10	2.8	4
Isopropylbenzene	ND		ug/l	10	2.8	4
1,2,3-Trichlorobenzene	ND		ug/l	10	2.8	4
1,2,4-Trichlorobenzene	ND		ug/l	10	2.8	4
Methyl Acetate	ND		ug/l	8.0	0.94	4
Cyclohexane	ND		ug/l	40	1.1	4
1,4-Dioxane	ND		ug/l	1000	240	4
Freon-113	ND		ug/l	10	2.8	4
Methyl cyclohexane	ND		ug/l	40	1.6	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	99		70-130

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-03 Date Collected: 05/16/18 13:55
Client ID: GZ-22D Date Received: 05/16/18
Sample Location: 441-442 WAVERLY AVENUE Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/18 13:42
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.62		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	21		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	2.7		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	5.9		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	66		ug/l	2.5	0.70	1
Trichloroethene	3.7		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-03 Date Collected: 05/16/18 13:55

Client ID: GZ-22D Date Received: 05/16/18

Sample Location: 441-442 WAVERLY AVENUE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	6.0		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	12		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	1.4	J	ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	1.2	J	ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	92		70-130

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-04 D
Client ID: B6-OWD
Sample Location: 441-442 WAVERLY AVENUE

Date Collected: 05/16/18 14:20
Date Received: 05/16/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/18 16:06
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	50	14.	20
1,1-Dichloroethane	ND		ug/l	50	14.	20
Chloroform	ND		ug/l	50	14.	20
Carbon tetrachloride	ND		ug/l	10	2.7	20
1,2-Dichloropropane	ND		ug/l	20	2.7	20
Dibromochloromethane	ND		ug/l	10	3.0	20
1,1,2-Trichloroethane	ND		ug/l	30	10.	20
Tetrachloroethene	1200		ug/l	10	3.6	20
Chlorobenzene	ND		ug/l	50	14.	20
Trichlorofluoromethane	ND		ug/l	50	14.	20
1,2-Dichloroethane	11		ug/l	10	2.6	20
1,1,1-Trichloroethane	ND		ug/l	50	14.	20
Bromodichloromethane	ND		ug/l	10	3.8	20
trans-1,3-Dichloropropene	ND		ug/l	10	3.3	20
cis-1,3-Dichloropropene	ND		ug/l	10	2.9	20
Bromoform	ND		ug/l	40	13.	20
1,1,2,2-Tetrachloroethane	ND		ug/l	10	3.3	20
Benzene	5.3	J	ug/l	10	3.2	20
Toluene	ND		ug/l	50	14.	20
Ethylbenzene	ND		ug/l	50	14.	20
Chloromethane	ND		ug/l	50	14.	20
Bromomethane	ND		ug/l	50	14.	20
Vinyl chloride	1.8	J	ug/l	20	1.4	20
Chloroethane	ND		ug/l	50	14.	20
1,1-Dichloroethene	ND		ug/l	10	3.4	20
trans-1,2-Dichloroethene	22	J	ug/l	50	14.	20
Trichloroethene	1400		ug/l	10	3.5	20
1,2-Dichlorobenzene	ND		ug/l	50	14.	20

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-04 D
Client ID: B6-OWD
Sample Location: 441-442 WAVERLY AVENUE

Date Collected: 05/16/18 14:20
Date Received: 05/16/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	50	14.	20
1,4-Dichlorobenzene	ND		ug/l	50	14.	20
Methyl tert butyl ether	ND		ug/l	50	14.	20
p/m-Xylene	ND		ug/l	50	14.	20
o-Xylene	ND		ug/l	50	14.	20
cis-1,2-Dichloroethene	390		ug/l	50	14.	20
Styrene	ND		ug/l	50	14.	20
Dichlorodifluoromethane	ND		ug/l	100	20.	20
Acetone	ND		ug/l	100	29.	20
Carbon disulfide	ND		ug/l	100	20.	20
2-Butanone	ND		ug/l	100	39.	20
4-Methyl-2-pentanone	ND		ug/l	100	20.	20
2-Hexanone	ND		ug/l	100	20.	20
Bromochloromethane	ND		ug/l	50	14.	20
1,2-Dibromoethane	ND		ug/l	40	13.	20
1,2-Dibromo-3-chloropropane	ND		ug/l	50	14.	20
Isopropylbenzene	ND		ug/l	50	14.	20
1,2,3-Trichlorobenzene	ND		ug/l	50	14.	20
1,2,4-Trichlorobenzene	ND		ug/l	50	14.	20
Methyl Acetate	ND		ug/l	40	4.7	20
Cyclohexane	ND		ug/l	200	5.4	20
1,4-Dioxane	ND		ug/l	5000	1200	20
Freon-113	ND		ug/l	50	14.	20
Methyl cyclohexane	ND		ug/l	200	7.9	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	98		70-130

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-05 D
Client ID: OSMW-3
Sample Location: 441-442 WAVERLY AVENUE

Date Collected: 05/16/18 15:15
Date Received: 05/16/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/18 16:34
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	5.0	1.4	2
1,1-Dichloroethane	ND		ug/l	5.0	1.4	2
Chloroform	ND		ug/l	5.0	1.4	2
Carbon tetrachloride	ND		ug/l	1.0	0.27	2
1,2-Dichloropropane	ND		ug/l	2.0	0.27	2
Dibromochloromethane	ND		ug/l	1.0	0.30	2
1,1,2-Trichloroethane	ND		ug/l	3.0	1.0	2
Tetrachloroethene	220		ug/l	1.0	0.36	2
Chlorobenzene	ND		ug/l	5.0	1.4	2
Trichlorofluoromethane	ND		ug/l	5.0	1.4	2
1,2-Dichloroethane	1.7		ug/l	1.0	0.26	2
1,1,1-Trichloroethane	ND		ug/l	5.0	1.4	2
Bromodichloromethane	ND		ug/l	1.0	0.38	2
trans-1,3-Dichloropropene	ND		ug/l	1.0	0.33	2
cis-1,3-Dichloropropene	ND		ug/l	1.0	0.29	2
Bromoform	ND		ug/l	4.0	1.3	2
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	0.33	2
Benzene	ND		ug/l	1.0	0.32	2
Toluene	ND		ug/l	5.0	1.4	2
Ethylbenzene	ND		ug/l	5.0	1.4	2
Chloromethane	ND		ug/l	5.0	1.4	2
Bromomethane	ND		ug/l	5.0	1.4	2
Vinyl chloride	ND		ug/l	2.0	0.14	2
Chloroethane	ND		ug/l	5.0	1.4	2
1,1-Dichloroethene	ND		ug/l	1.0	0.34	2
trans-1,2-Dichloroethene	ND		ug/l	5.0	1.4	2
Trichloroethene	110		ug/l	1.0	0.35	2
1,2-Dichlorobenzene	ND		ug/l	5.0	1.4	2

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-05 D Date Collected: 05/16/18 15:15

Client ID: OSMW-3 Date Received: 05/16/18

Sample Location: 441-442 WAVERLY AVENUE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	5.0	1.4	2
1,4-Dichlorobenzene	ND		ug/l	5.0	1.4	2
Methyl tert butyl ether	ND		ug/l	5.0	1.4	2
p/m-Xylene	ND		ug/l	5.0	1.4	2
o-Xylene	ND		ug/l	5.0	1.4	2
cis-1,2-Dichloroethene	17		ug/l	5.0	1.4	2
Styrene	ND		ug/l	5.0	1.4	2
Dichlorodifluoromethane	ND		ug/l	10	2.0	2
Acetone	3.8	J	ug/l	10	2.9	2
Carbon disulfide	ND		ug/l	10	2.0	2
2-Butanone	ND		ug/l	10	3.9	2
4-Methyl-2-pentanone	ND		ug/l	10	2.0	2
2-Hexanone	ND		ug/l	10	2.0	2
Bromochloromethane	ND		ug/l	5.0	1.4	2
1,2-Dibromoethane	ND		ug/l	4.0	1.3	2
1,2-Dibromo-3-chloropropane	ND		ug/l	5.0	1.4	2
Isopropylbenzene	ND		ug/l	5.0	1.4	2
1,2,3-Trichlorobenzene	ND		ug/l	5.0	1.4	2
1,2,4-Trichlorobenzene	ND		ug/l	5.0	1.4	2
Methyl Acetate	ND		ug/l	4.0	0.47	2
Cyclohexane	ND		ug/l	20	0.54	2
1,4-Dioxane	ND		ug/l	500	120	2
Freon-113	ND		ug/l	5.0	1.4	2
Methyl cyclohexane	ND		ug/l	20	0.79	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	98		70-130

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-06 D
Client ID: GZ-23D
Sample Location: 441-442 WAVERLY AVENUE

Date Collected: 05/16/18 17:00
Date Received: 05/16/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/22/18 19:56
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	25	7.0	10
1,1-Dichloroethane	ND		ug/l	25	7.0	10
Chloroform	ND		ug/l	25	7.0	10
Carbon tetrachloride	ND		ug/l	5.0	1.3	10
1,2-Dichloropropane	ND		ug/l	10	1.4	10
Dibromochloromethane	ND		ug/l	5.0	1.5	10
1,1,2-Trichloroethane	ND		ug/l	15	5.0	10
Tetrachloroethene	1600		ug/l	5.0	1.8	10
Chlorobenzene	ND		ug/l	25	7.0	10
Trichlorofluoromethane	ND		ug/l	25	7.0	10
1,2-Dichloroethane	1.8	J	ug/l	5.0	1.3	10
1,1,1-Trichloroethane	ND		ug/l	25	7.0	10
Bromodichloromethane	ND		ug/l	5.0	1.9	10
trans-1,3-Dichloropropene	ND		ug/l	5.0	1.6	10
cis-1,3-Dichloropropene	ND		ug/l	5.0	1.4	10
Bromoform	ND		ug/l	20	6.5	10
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	1.7	10
Benzene	ND		ug/l	5.0	1.6	10
Toluene	ND		ug/l	25	7.0	10
Ethylbenzene	ND		ug/l	25	7.0	10
Chloromethane	ND		ug/l	25	7.0	10
Bromomethane	ND		ug/l	25	7.0	10
Vinyl chloride	40		ug/l	10	0.71	10
Chloroethane	ND		ug/l	25	7.0	10
1,1-Dichloroethene	ND		ug/l	5.0	1.7	10
trans-1,2-Dichloroethene	19	J	ug/l	25	7.0	10
Trichloroethene	880		ug/l	5.0	1.8	10
1,2-Dichlorobenzene	ND		ug/l	25	7.0	10

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-06 D Date Collected: 05/16/18 17:00

Client ID: GZ-23D Date Received: 05/16/18

Sample Location: 441-442 WAVERLY AVENUE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	25	7.0	10
1,4-Dichlorobenzene	ND		ug/l	25	7.0	10
Methyl tert butyl ether	ND		ug/l	25	7.0	10
p/m-Xylene	ND		ug/l	25	7.0	10
o-Xylene	ND		ug/l	25	7.0	10
cis-1,2-Dichloroethene	240		ug/l	25	7.0	10
Styrene	ND		ug/l	25	7.0	10
Dichlorodifluoromethane	ND		ug/l	50	10.	10
Acetone	ND		ug/l	50	15.	10
Carbon disulfide	ND		ug/l	50	10.	10
2-Butanone	ND		ug/l	50	19.	10
4-Methyl-2-pentanone	ND		ug/l	50	10.	10
2-Hexanone	ND		ug/l	50	10.	10
Bromochloromethane	ND		ug/l	25	7.0	10
1,2-Dibromoethane	ND		ug/l	20	6.5	10
1,2-Dibromo-3-chloropropane	ND		ug/l	25	7.0	10
Isopropylbenzene	ND		ug/l	25	7.0	10
1,2,3-Trichlorobenzene	ND		ug/l	25	7.0	10
1,2,4-Trichlorobenzene	ND		ug/l	25	7.0	10
Methyl Acetate	ND		ug/l	20	2.3	10
Cyclohexane	ND		ug/l	100	2.7	10
1,4-Dioxane	ND		ug/l	2500	610	10
Freon-113	ND		ug/l	25	7.0	10
Methyl cyclohexane	6.0	J	ug/l	100	4.0	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	81		70-130
Dibromofluoromethane	102		70-130

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-07 D
Client ID: DUP051618
Sample Location: 441-442 WAVERLY AVENUE

Date Collected: 05/16/18 00:00
Date Received: 05/16/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/18 17:31
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	50	14.	20
1,1-Dichloroethane	ND		ug/l	50	14.	20
Chloroform	ND		ug/l	50	14.	20
Carbon tetrachloride	ND		ug/l	10	2.7	20
1,2-Dichloropropane	ND		ug/l	20	2.7	20
Dibromochloromethane	ND		ug/l	10	3.0	20
1,1,2-Trichloroethane	ND		ug/l	30	10.	20
Tetrachloroethene	1100		ug/l	10	3.6	20
Chlorobenzene	ND		ug/l	50	14.	20
Trichlorofluoromethane	ND		ug/l	50	14.	20
1,2-Dichloroethane	9.1	J	ug/l	10	2.6	20
1,1,1-Trichloroethane	ND		ug/l	50	14.	20
Bromodichloromethane	ND		ug/l	10	3.8	20
trans-1,3-Dichloropropene	ND		ug/l	10	3.3	20
cis-1,3-Dichloropropene	ND		ug/l	10	2.9	20
Bromoform	ND		ug/l	40	13.	20
1,1,2,2-Tetrachloroethane	ND		ug/l	10	3.3	20
Benzene	4.3	J	ug/l	10	3.2	20
Toluene	ND		ug/l	50	14.	20
Ethylbenzene	ND		ug/l	50	14.	20
Chloromethane	ND		ug/l	50	14.	20
Bromomethane	ND		ug/l	50	14.	20
Vinyl chloride	1.8	J	ug/l	20	1.4	20
Chloroethane	ND		ug/l	50	14.	20
1,1-Dichloroethene	ND		ug/l	10	3.4	20
trans-1,2-Dichloroethene	20	J	ug/l	50	14.	20
Trichloroethene	1400		ug/l	10	3.5	20
1,2-Dichlorobenzene	ND		ug/l	50	14.	20

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-07 D Date Collected: 05/16/18 00:00

Client ID: DUP051618 Date Received: 05/16/18

Sample Location: 441-442 WAVERLY AVENUE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	50	14.	20
1,4-Dichlorobenzene	ND		ug/l	50	14.	20
Methyl tert butyl ether	ND		ug/l	50	14.	20
p/m-Xylene	ND		ug/l	50	14.	20
o-Xylene	ND		ug/l	50	14.	20
cis-1,2-Dichloroethene	330		ug/l	50	14.	20
Styrene	ND		ug/l	50	14.	20
Dichlorodifluoromethane	ND		ug/l	100	20.	20
Acetone	ND		ug/l	100	29.	20
Carbon disulfide	ND		ug/l	100	20.	20
2-Butanone	ND		ug/l	100	39.	20
4-Methyl-2-pentanone	ND		ug/l	100	20.	20
2-Hexanone	ND		ug/l	100	20.	20
Bromochloromethane	ND		ug/l	50	14.	20
1,2-Dibromoethane	ND		ug/l	40	13.	20
1,2-Dibromo-3-chloropropane	ND		ug/l	50	14.	20
Isopropylbenzene	ND		ug/l	50	14.	20
1,2,3-Trichlorobenzene	ND		ug/l	50	14.	20
1,2,4-Trichlorobenzene	ND		ug/l	50	14.	20
Methyl Acetate	ND		ug/l	40	4.7	20
Cyclohexane	ND		ug/l	200	5.4	20
1,4-Dioxane	ND		ug/l	5000	1200	20
Freon-113	ND		ug/l	50	14.	20
Methyl cyclohexane	ND		ug/l	200	7.9	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	93		70-130

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-08 Date Collected: 05/16/18 00:00
Client ID: TB051618 Date Received: 05/16/18
Sample Location: 441-442 WAVERLY AVENUE Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/18 14:40
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: WAVERLY **Lab Number:** L1818003

Project Number: 28012 **Report Date:** 05/23/18

SAMPLE RESULTS

Lab ID: L1818003-08 Date Collected: 05/16/18 00:00

Client ID: TB051618 Date Received: 05/16/18

Sample Location: 441-442 WAVERLY AVENUE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	2.0	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	98		70-130

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/21/18 08:57
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05,07-08 Batch: WG1118296-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/21/18 08:57
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05,07-08 Batch: WG1118296-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/21/18 08:57
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05,07-08 Batch: WG1118296-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	94		70-130

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/22/18 14:25
Analyst: KD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 06 Batch: WG1118356-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	0.20	J	ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/22/18 14:25
Analyst: KD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 06 Batch: WG1118356-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40
Tentatively Identified Compounds					
No Tentatively Identified Compounds	ND		ug/l		

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/22/18 14:25
Analyst: KD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 06 Batch: WG1118356-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	84		70-130
Dibromofluoromethane	102		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: WAVERLY

Project Number: 28012

Lab Number: L1818003

Report Date: 05/23/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05,07-08 Batch: WG1118296-3 WG1118296-4								
Methylene chloride	95		100		70-130	5		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	98		97		70-130	1		20
Carbon tetrachloride	91		99		63-132	8		20
1,2-Dichloropropane	98		100		70-130	2		20
Dibromochloromethane	85		97		63-130	13		20
1,1,2-Trichloroethane	88		98		70-130	11		20
Tetrachloroethene	78		84		70-130	7		20
Chlorobenzene	95		100		75-130	5		20
Trichlorofluoromethane	91		98		62-150	7		20
1,2-Dichloroethane	100		110		70-130	10		20
1,1,1-Trichloroethane	94		100		67-130	6		20
Bromodichloromethane	95		100		67-130	5		20
trans-1,3-Dichloropropene	92		100		70-130	8		20
cis-1,3-Dichloropropene	99		110		70-130	11		20
Bromoform	91		100		54-136	9		20
1,1,2,2-Tetrachloroethane	110		120		67-130	9		20
Benzene	96		100		70-130	4		20
Toluene	83		91		70-130	9		20
Ethylbenzene	96		100		70-130	4		20
Chloromethane	93		100		64-130	7		20
Bromomethane	64		70		39-139	9		20
Vinyl chloride	92		100		55-140	8		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: WAVERLY

Project Number: 28012

Lab Number: L1818003

Report Date: 05/23/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05,07-08 Batch: WG1118296-3 WG1118296-4								
Chloroethane	69		73		55-138	6		20
1,1-Dichloroethene	84		100		61-145	17		20
trans-1,2-Dichloroethene	98		100		70-130	2		20
Trichloroethene	92		99		70-130	7		20
1,2-Dichlorobenzene	97		110		70-130	13		20
1,3-Dichlorobenzene	98		100		70-130	2		20
1,4-Dichlorobenzene	96		100		70-130	4		20
Methyl tert butyl ether	110		120		63-130	9		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		100		70-130	5		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Styrene	95		100		70-130	5		20
Dichlorodifluoromethane	96		100		36-147	4		20
Acetone	120		110		58-148	9		20
Carbon disulfide	87		100		51-130	14		20
2-Butanone	97		110		63-138	13		20
4-Methyl-2-pentanone	91		110		59-130	19		20
2-Hexanone	120		**140**	Q	57-130	15		20
Bromochloromethane	96		100		70-130	4		20
1,2-Dibromoethane	86		110		70-130	**24**	Q	20
1,2-Dibromo-3-chloropropane	97		120		41-144	**21**	Q	20
Isopropylbenzene	100		110		70-130	10		20
1,2,3-Trichlorobenzene	82		100		70-130	20		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05,07-08 Batch: WG1118296-3 WG1118296-4								
1,2,4-Trichlorobenzene	90		100		70-130	11		20
Methyl Acetate	120		130		70-130	8		20
Cyclohexane	110		120		70-130	9		20
1,4-Dioxane	146		138		56-162	6		20
Freon-113	84		98		70-130	15		20
Methyl cyclohexane	90		94		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	117		115		70-130
Toluene-d8	89		92		70-130
4-Bromofluorobenzene	115		115		70-130
Dibromofluoromethane	95		94		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06 Batch: WG1118356-3 WG1118356-4								
Methylene chloride	99		98		70-130	1		20
1,1-Dichloroethane	91		91		70-130	0		20
Chloroform	97		96		70-130	1		20
Carbon tetrachloride	99		95		63-132	4		20
1,2-Dichloropropane	93		92		70-130	1		20
Dibromochloromethane	100		100		63-130	0		20
1,1,2-Trichloroethane	99		95		70-130	4		20
Tetrachloroethene	110		110		70-130	0		20
Chlorobenzene	98		99		75-130	1		20
Trichlorofluoromethane	100		100		62-150	0		20
1,2-Dichloroethane	98		96		70-130	2		20
1,1,1-Trichloroethane	99		100		67-130	1		20
Bromodichloromethane	99		98		67-130	1		20
trans-1,3-Dichloropropene	93		92		70-130	1		20
cis-1,3-Dichloropropene	99		98		70-130	1		20
Bromoform	110		100		54-136	10		20
1,1,2,2-Tetrachloroethane	94		88		67-130	7		20
Benzene	95		95		70-130	0		20
Toluene	95		94		70-130	1		20
Ethylbenzene	94		93		70-130	1		20
Chloromethane	95		94		64-130	1		20
Bromomethane	110		110		39-139	0		20
Vinyl chloride	94		94		55-140	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: WAVERLY

Project Number: 28012

Lab Number: L1818003

Report Date: 05/23/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06 Batch: WG1118356-3 WG1118356-4								
Chloroethane	94		92		55-138	2		20
1,1-Dichloroethene	100		97		61-145	3		20
trans-1,2-Dichloroethene	99		98		70-130	1		20
Trichloroethene	110		110		70-130	0		20
1,2-Dichlorobenzene	95		95		70-130	0		20
1,3-Dichlorobenzene	97		94		70-130	3		20
1,4-Dichlorobenzene	94		94		70-130	0		20
Methyl tert butyl ether	110		100		63-130	10		20
p/m-Xylene	105		100		70-130	5		20
o-Xylene	105		105		70-130	0		20
cis-1,2-Dichloroethene	98		98		70-130	0		20
Styrene	105		105		70-130	0		20
Dichlorodifluoromethane	100		100		36-147	0		20
Acetone	120		110		58-148	9		20
Carbon disulfide	96		93		51-130	3		20
2-Butanone	110		110		63-138	0		20
4-Methyl-2-pentanone	100		99		59-130	1		20
2-Hexanone	100		98		57-130	2		20
Bromochloromethane	110		110		70-130	0		20
1,2-Dibromoethane	100		99		70-130	1		20
1,2-Dibromo-3-chloropropane	110		110		41-144	0		20
Isopropylbenzene	92		90		70-130	2		20
1,2,3-Trichlorobenzene	98		94		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06 Batch: WG1118356-3 WG1118356-4								
1,2,4-Trichlorobenzene	97		94		70-130	3		20
Methyl Acetate	110		100		70-130	10		20
Cyclohexane	100		100		70-130	0		20
1,4-Dioxane	**172**	Q	140		56-162	**21**	Q	20
Freon-113	110		110		70-130	0		20
Methyl cyclohexane	110		110		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		89		70-130
Toluene-d8	93		92		70-130
4-Bromofluorobenzene	81		79		70-130
Dibromofluoromethane	102		102		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: WAVERLY
Project Number: 28012
Lab Number: L1818003
Report Date: 05/23/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05,07-08 QC Batch ID: WG1118296-6 WG1118296-7 QC Sample: L1818003-01 Client ID: OSMW-4												
Methylene chloride	ND	20	19	95		22	110		70-130	15		20
1,1-Dichloroethane	ND	20	22	110		25	125		70-130	13		20
Chloroform	ND	20	20	100		23	115		70-130	14		20
Carbon tetrachloride	ND	20	21	105		23	115		63-132	9		20
1,2-Dichloropropane	ND	20	21	105		24	120		70-130	13		20
Dibromochloromethane	ND	20	20	100		23	115		63-130	14		20
1,1,2-Trichloroethane	ND	20	24	120		26	130		70-130	8		20
Tetrachloroethene	ND	20	20	100		21	105		70-130	5		20
Chlorobenzene	ND	20	20	100		22	110		75-130	10		20
Trichlorofluoromethane	ND	20	22	110		23	115		62-150	4		20
1,2-Dichloroethane	ND	20	23	115		26	130		70-130	12		20
1,1,1-Trichloroethane	ND	20	21	105		24	120		67-130	13		20
Bromodichloromethane	ND	20	21	105		23	115		67-130	9		20
trans-1,3-Dichloropropene	ND	20	22	110		24	120		70-130	9		20
cis-1,3-Dichloropropene	ND	20	21	105		23	115		70-130	9		20
Bromoform	ND	20	19	95		20	100		54-136	5		20
1,1,2,2-Tetrachloroethane	ND	20	24	120		24	120		67-130	0		20
Benzene	0.52J	20	21	105		24	120		70-130	13		20
Toluene	ND	20	19	95		22	110		70-130	15		20
Ethylbenzene	ND	20	21	105		22	110		70-130	5		20
Chloromethane	ND	20	23	115		24	120		64-130	4		20
Bromomethane	ND	20	11	55		15	75		39-139	**31**	Q	20
Vinyl chloride	ND	20	22	110		24	120		55-140	9		20

Matrix Spike Analysis
Batch Quality Control

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05,07-08 QC Batch ID: WG1118296-6 WG1118296-7 QC Sample: L1818003-01 Client ID: OSMW-4												
Chloroethane	ND	20	16	80		19	95		55-138	17		20
1,1-Dichloroethene	ND	20	21	105		23	115		61-145	9		20
trans-1,2-Dichloroethene	ND	20	21	105		23	115		70-130	9		20
Trichloroethene	ND	20	21	105		23	115		70-130	9		20
1,2-Dichlorobenzene	ND	20	21	105		23	115		70-130	9		20
1,3-Dichlorobenzene	ND	20	20	100		22	110		70-130	10		20
1,4-Dichlorobenzene	ND	20	20	100		22	110		70-130	10		20
Methyl tert butyl ether	ND	20	23	115		26	130		63-130	12		20
p/m-Xylene	ND	40	41	103		42	105		70-130	2		20
o-Xylene	ND	40	41	103		43	108		70-130	5		20
cis-1,2-Dichloroethene	ND	20	20	100		24	120		70-130	18		20
Styrene	ND	40	40	100		42	105		70-130	5		20
Dichlorodifluoromethane	ND	20	22	110		23	115		36-147	4		20
Acetone	ND	20	26	130		28	140		58-148	7		20
Carbon disulfide	ND	20	21	105		23	115		51-130	9		20
2-Butanone	ND	20	26	130		29	**145**	Q	63-138	11		20
4-Methyl-2-pentanone	ND	20	23	115		25	125		59-130	8		20
2-Hexanone	ND	20	28	**140**	Q	30	**150**	Q	57-130	7		20
Bromochloromethane	ND	20	19	95		22	110		70-130	15		20
1,2-Dibromoethane	ND	20	22	110		24	120		70-130	9		20
1,2-Dibromo-3-chloropropane	ND	20	21	105		24	120		41-144	13		20
Isopropylbenzene	ND	20	22	110		22	110		70-130	0		20
1,2,3-Trichlorobenzene	ND	20	19	95		21	105		70-130	10		20

Matrix Spike Analysis

Batch Quality Control

Project Name: WAVERLY
Project Number: 28012
Lab Number: L1818003
Report Date: 05/23/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05,07-08 QC Batch ID: WG1118296-6 WG1118296-7 QC Sample: L1818003-01 Client ID: OSMW-4												
1,2,4-Trichlorobenzene	ND	20	20	100		22	110		70-130	10		20
Methyl Acetate	ND	20	23	115		25	125		70-130	8		20
Cyclohexane	14.J	20	33	**165**	Q	35	**175**	Q	70-130	6		20
1,4-Dioxane	ND	1000	1100	110		1200	120		56-162	9		20
Freon-113	ND	20	20	100		21	105		70-130	5		20
Methyl cyclohexane	3.0J	20	23	115		23	115		70-130	0		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		113		70-130
4-Bromofluorobenzene	114		107		70-130
Dibromofluoromethane	94		99		70-130
Toluene-d8	95		102		70-130

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1818003-01A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-01A1	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-01A2	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-01B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-01B1	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-01B2	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-01C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-01C1	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-01C2	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-02A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-02B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-02C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-03A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-03B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-03C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-04A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-04B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-04C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-05A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-05B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-05C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-06A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-06B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)

*Values in parentheses indicate holding time in days

Project Name: WAVERLY
Project Number: 28012

Lab Number: L1818003
Report Date: 05/23/18

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1818003-06C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-07A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-07B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-07C	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-08A	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-08B	Vial HCl preserved	A	NA		2.7	Y	Absent		NYTCL-8260-R2(14)
L1818003-08C	Vial HCl preserved	A	NA		2.7	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	WAVERLY	**Lab Number:**	L1818003
Project Number:	28012	**Report Date:**	05/23/18

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: DU Report with 'J' Qualifiers

Project Name:	WAVERLY	**Lab Number:**	L1818003
Project Number:	28012	**Report Date:**	05/23/18

Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name: WAVERLY
Project Number: 28012
Lab Number: L1818003
Report Date: 05/23/18

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 5/17/18

ALPHA Job #: L1818003

Client Information

Client: STERLING ENVIRONMENTAL
Address: 24 WADE ROAD
LATHAM, NEW YORK, 12110
Phone: 518-456-4900
Fax: 518-456-3532
Email: SEE BELOW

Project Information

Project Name: WAVERLY
Project Location: 441-442 WAVERLY AVENUE
Project # 28012
(Use Project name as Project #) ☐
Project Manager: JENNIFER DECERBO/CANDACE FOX
ALPHAQuote #: N/A

Turn-Around Time

Standard ☒ Due Date: STANDARD
Rush (only if pre approved) ☐ # of Days: TAT

Deliverables

☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☒ EQuIS (4 File)
☐ Other

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirement

☒ NY TOGS ☒ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☒

Other project specific requirements/comments:
STEFAN.TREX@STERLINGENVIRONMENTAL.COM
JENNIFER.DICERBO@STERLINGENVIRONMENTAL.COM

Please specify Metals or TAL.

ANALYSIS: NYTCL-8260

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments	Total Bottle
18003-01	OSMW-4	5/16/18	10:15	WATER	ST		3
	OSMW-4 MS		10:20				
	OSMW-4 MSD		10:25				
02	GZ-21D		12:20 PM				
03	GZ-22D		13:55				
04	B6-OWD		14:20				
05	OSMW-3		15:15				
06	GZ-23D		17:00				
07	DUPOS1618		—				
08	TBOS1618		—				2

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type: V
Preservative: B

Relinquished By:	Date/Time	Received By:	Date/Time
	5/16/18 8:45 AM		5/16/18 2100
	5/16/18 2115		5/17/18 0030

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)